



RADAR AGTECH

MAP OF THE BRAZILIAN STARTUPS OF THE AGRICULTURAL SECTOR
BRAZIL 2020/2021



*Brazilian Agricultural Research Corporation
Embrapa, Innovation and Business Division
Ministry of Agriculture, Livestock and Food Supply*

*SP ventures
Homo Ludens*

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**MAP OF THE BRAZILIAN STARTUPS OF THE AGRICULTURAL SECTOR
BRAZIL 2020/2021**

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Foreword

In four decades, Brazil was able to create a sustainable and competitive model of tropical agriculture, unlike any other in the world, based on science, innovation and entrepreneurship. Formerly known as an importer of a wide range of food produces, the country became one of the biggest producers and exporters in various productive chains, such as of soy, corn, sugarcane, pork, poultry, coffee, orange, and many other assets of our rich agriculture and livestock industry.

In order to overcome the contemporary challenges, in the last two years, Brazil has been developing a vibrant agriculture and livestock innovation ecosystem. This environment relies on the agility of the private sector, the solid foundations of science and technology institutions and the strategic guidance of the Ministry of Agriculture, Livestock and Food Supply (MAPA), with public policies steering innovation efforts to generate impacts in the industry and for the society.

Keeping an eye on the evolving aspects of agriculture, MAPA, through the Innovation, Rural Development and Irrigation Secretariat, supported the elaboration of Radar Agtech 2020/2021. It is the broadest and most thorough map of startups operating in the agribusiness, in segments before, during and after the farm, in the most diverse productive chains and in their links.

Radar Agtech Brasil 2020/2021 features 1574 Agtechs in this new edition, which shows that the Brazilian agriculture and livestock innovation ecosystem is certainly one of the most dynamic ecosystems in the world. Currently, we host more than 20 agriculture and livestock innovation hubs distributed throughout the national territory.

These advances are part of MAPA's efforts focused on five strategic innovation axes, as materialized in the Federal Strategy of Development (EFD 2020-2031). Such axes aim at placing the Brazilian agribusiness as reference in the promotion of health and quality of life for the global society, through the efficient production and effective delivery of products, services, processes and their derivatives, based on sustainability, bioeconomics, digital agriculture, open innovation and contemporary food systems.

We are overcoming the challenges of the continuous transformation that have been occurring in farming. The scenario presented by Radar Agtech shows that this path is being treaded in a solid and consistent manner. Thus, the purpose is to intensify the transformation in the agribusiness by developing and incorporating new biological, digital and innovation-bearing technologies, allowing the growth of agriculture and livestock, with economic, social and environmental sustainability.

We are very pleased to present the Edition 2020/2021 of Radar Agtech. In a challenging year for the whole world, we saw that the Agribusiness didn't stop, as well as the growth and maturing dynamics of agtechs in Brazil. We are certain that we still have a long road ahead of us, but the path so far has shown us that we are on the right track.

Fernando Silveira Camargo

Innovation, Rural Development and Irrigation Secretary from of Ministry of Agriculture, Livestock and Food Supply (MAPA) and President of the Board of Directors of Embrapa – Brazilian Agricultural Research Corporation

Preface

Brazil leads the way in terms of digitalization in agriculture, and, according to studies conducted by McKinsey, in 2019, the Brazilian agriculturists were, in average, the heaviest users of digital media for their transactions. During the covid-19 pandemic, in 2020, Brazil has grown 10 percentage points, moving from 36% to 46% of agriculturists who use some digital media, surpassing American and European producers who presented a usage rate of 31% and 22%, respectively.

The growth of digitalization in agriculture places our country in a distinguished position that can facilitate competitiveness and the future of the agriculture and livestock industry, bringing new tools and approaches to the diversity of Brazilian agriculture and food systems, which have growing demands regarding sustainability and food safety. In this context, new technologies, such as robotics, gene editing, artificial intelligence, blockchain, nanotechnology, synthetic protein, cellular agriculture and machine learning bring the future agriculture into our current days, opening a vast market for technology-based companies.

Despite being the second largest food producer of the planet, our country is the sole tropical agriculture world power. Differently from what occurs in temperate climates, our agronomic practice requires distinguished techniques and technologies. Our climate allows two to three harvests per year, but also significantly increases the occurrence of plagues, diseases and weeds. Our territorial extension and the average size of our productive farms represent an agriculture size that cannot be compared to the practices of other countries. There are even more differences in the variability of soils and infrastructure in the field. These particular features mean that it is inefficient to import technologies and innovations.

This context gives room to the heroes of our times: entrepreneurs who turn adversities into opportunities. The history of our agribusiness has many examples like these. The miracle of Cerrado reminds us what we are capable of when we join the entrepreneurship vocation of the Brazilian producer and the locomotive of Embrapa's technological innovation. A new miracle is happening in our agriculture. This time, by adopting a business model born and perfected in the Silicon Valley. In the last few years, Brazil has become a unicorn barn by building large technology companies led by bold entrepreneurs and venture capital funds. Radar Agtech Brasil 2020/2021 seeks to continuously shine a light on this new age: the age of future agribusiness unicorns.

Therefore, to better understand the national overview of this group of companies, Brazilian Agricultural Research Corporation (Embrapa), SP Ventures and Homo Ludens Research and Consulting elaborated Radar Agtech Brasil 2020/2021, presenting a map of the Brazilian Agribusiness Industry startups, also called Agtechs, and their main investors (radaragtech.com.br). In its previous edition, called Radar Agtech Brasil 2019, the map was an important source of information for the public sector in establishing public policies, for the private sector and for renowned national and international communication vehicles. The new edition maintains its purpose of introducing Brazilian agtechs to the agriculture industry and to entrepreneurs, universities and research institutions, governments and investors, which compose an innovation ecosystem that is becoming strategic for the Brazilian agribusiness.

The Radar Agtech Brasil 2020/2021, presents agtechs categorized according to internationally adopted standards and the data collected during the year of 2020 and in the first quarter of 2021 indicate that, even during a pandemic, the number of agtechs and investors

in the Brazilian agriculture and livestock industry has kept growing. Radar Agtech Brazil 2020/2021 expanded its sources and perfected its methods, which allowed the project to follow the evolution of the ecosystem in the last two years and provide more details regarding the activities of investment in agtechs and better accuracy in the validation of agtechs.

The results illustrate an increasingly mature and complete ecosystem, especially in the state of São Paulo, which is distinguished by the quantity and quality of the agtechs and investment activities, and, at the same time, the emergence of new cities in the radar. With a higher number of agtechs, the difference between profiles in the cities and Federative Units is also more evident, helping the players in the decision-making process. The ecosystem appeared aligned with the international technological and market trends, because the taxonomy was updated with the evolution of the international classifications and it was not difficult to allocate agtechs in these categories.

In the message of the 2019 edition, we characterized Radar Agtech Brazil as a device that enables us to detect distant objects and infer their distances and speeds, which is used to monitor and predict their movements, providing the information needed for planning, organization, coordination, direction, risk control and management in various situations.

With this metaphor, Embrapa, SP Ventures and Homo Ludens seek to provide a map of the agtechs to support entrepreneurs, public policies managers, investors, researchers and organizations interested in collaborating with startups to make the decisions in their organizations. The purpose of the map is also to support the public policies debates and/or the coordination of actions between different players.

The Embrapa, as a public research company, prioritizes themes such as digital agriculture, traceability and logistics associated to the farming productive systems. In this sense, it has sought to provide complementarity and strength to the innovation ecosystems, including agtechs and investors, through partnerships for the development of new solutions or considering the ecosystem as an important and efficient segment to transfer technologies for agriculturists and end users, that is, the society. This strategy of joint actions, including the new edition of Radar Agtech Brasil 2020/2021 mapping the Brazilian agtechs, shows that Embrapa acknowledges the strategic role of these actors – startups and investors – of the ecosystem in the farming industry and in strengthening Brazil's role as a major protagonist of the global agribusiness and as the main producer of food for the world.

SP Ventures was one of the authors of this study, which couldn't be more appropriate, since it seeks to be the major investor in Agtechs in the Brazilian ecosystem; therefore, it is highly important for SP Ventures position to take part in such initiative, since the duty of the venture capital industry is not to encourage businesses, but to serve as fuel for humanity's greatest leaps. For the first time, the current scenario allows Brazil and its agriculture to feature as epicenters of one of these transformations. The challenge of increasing food production in more than 60% considering the scenario of global warming and adverse climatic conditions represents one of the most difficult tasks ever faced by our species. Lastly, it is worth mentioning that this study is particularly important to generate knowledge concerning the ecosystem of technological entrepreneurship for the agribusiness.

Also co-author of this study, the Homo Ludens has already participated in and/or carried out other studies that contributed greatly to the articulation of the actors, such as the FEP Games project, funded by the Brazilian Development Bank (BNDES), and the II Census of Brazilian Digital Games Industry, with financial support by Ministry of Culture. We are convinced that the Radar Agtech Brazil project complements other studies in the area and

contributes to the development of the entrepreneurship and innovation ecosystem of the agricultural sector.

Additionally, to making available the study and a chart containing all the startups in the map, the website radaragtech.com.br also started to provide interactive tools for the analysis of the agtechs database. The project Radar Agtech Brazil will continue to improve and increase its scope, and it will require partnerships to do so. If you are interested, contact us

Adriana Regina Martin
Chief Executive Officer of
Innovation and Technology

Francisco Jardim
Chief Executive Officer

Luiz Ojima Sakuda
Co-founder and partner

Summary

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Introduction

In the context of innovative economy, characterized by business models with high potential for quick scalability, the main innovation ecosystems focused on agribusiness in the national scope are being monitored. By mapping the Brazilian agtechs, it is possible to gather quantitative and qualitative information which are essential to follow up the main movements of the national agriculture and livestock innovation environment. The map also allows us to identify the main innovation ecosystems and its different players, as well as how they relate to each other.

Understanding this emerging and vibrating dynamics will increasingly enable a positive impact in the Brazilian agribusiness, qualifying and strengthening the open innovation initiatives to generate value and economic prosperity for Brazil, collaborating with the sustainability in several agricultural productive chains. In this perspective, potential results include having a higher number of qualified startups, strengthening existing innovative companies, proposing innovative technological assets, attracting and qualifying talents, generating jobs and income, and other benefits (Brasil, 2021a).

The intense process of digital transformation in the farming industry (Embrapa, 2018) shows that digital technologies and connectivity infrastructure became essential for the communication, commerce, services, financial transactions industries and other daily activities, also in rural areas (OECD,2020b; UNCTAD, 2020). Even at the distance, the adaptation and acceleration of digital transformation allows farmers to access and prospect numerous opportunities, contents and connections.

In the domestic market, for instance, digital applications, platforms and marketplaces facilitate the provision, demand and delivery of farming and food products. Generally speaking, the agtech enterprises raised US\$70 million, featuring as a promising field for investors (Startups..., 2021). In this sense, in the current scenario of uncertainties, challenges become opportunities for the agribusiness and, consequently, for agtechs, with a perspective of repositioning in the national and international markets, as well as of reinforcing the relationships between the players in the innovation ecosystem. This fact is probably due to the capacity of reinventing and adapting to the new unexpected scenario, which shows a strong resilience of the Brazilian farming industry, through managerial actions increasing flexibility, redundancy effects, collaboration, visibility and speed (Sneider; Singhal, 2020).

Radar Agtech Brasil 2020/2021 was developed within this context. This document is organized as follows: after the introduction, three chapters provide the context of the research: (i) Brazilian agribusiness and the covid-19 pandemic, (ii) Overview of the agtech ecosystem and investments in Brazilian agtechs, and (iii) Cooperation and complementarities between Brazil and China in the agricultural and food markets and agricultural innovation and entrepreneurship. Next, there are chapters concerning the research: (i) Methodology, (ii) Mapping of Brazilian agtechs, (iii) Investments in Brazilian agtechs; and (iv) List of agtechs. The work is concluded with the chapter of final comments and perspectives, followed by the references.

The initial chapter “Brazilian agribusiness and the covid-19 pandemic” addresses aspects of this challenging moment in the Brazilian context. Despite the negative impact of the covid-19 pandemic in the global and Brazilian economies, during 2020 and 2021, even with a decrease in

the Brazilian Gross Domestic Product (GDP), there has been a growth in the agricultural and livestock industry, which recorded unprecedented high in the harvest of beans in 2020 (Brasil, 2020b), emphasizing the power of the Brazilian agribusiness (Confederação da Agricultura e Pecuária do Brasil, 2021).

The subsequent chapter, “Overview of the agtech ecosystem and investments in Brazilian agtechs”, addresses the current overview of how the Brazilian agribusiness is being impacted by the generation and adoption of intelligent technologies, and analyzes the Brazilian environment of investments in agtech, considering the transformation process of the Brazilian farming industry and presenting examples of successful startups. The agtechs ecosystem uses new operating concepts that have been contributing to the development of technological solutions capable of increasing sustainability and competitiveness of the Brazilian agribusiness (Romani et al., 2020). Among the most appealing actions there are many innovation challenges, such as hackathons, demodays, business rounds, matchmaking events and bootcamps (Romani et al., 2020). Regarding global investments destined to the agtech segment, the Agfunder (2020) report points out that, in general, the covid-19 pandemic had little influence in the agtech investment activity until mid-2020, recording a 16% decrease in the amount of money invested so far. There is a lack of balance between the ecosystems of stimulation and investment in agtechs and the size of the Brazilian and Latin American agribusiness and food industries.

Considering the important commercial relationship between Brazil and China, the chapter “Cooperation and complementarities between Brazil and China in the agricultural and food markets and agricultural innovation and entrepreneurship” analyzes the agriculture innovation ecosystems in each nation based on the main characteristics of the farming market, the innovative structure and the agtech enterprise movement. Through this diagnosis, the focus is also the internationalization of the operations, including raising more funds for the Brazilian agribusiness.

The “Methodology” chapter shows details of the mapping process of agtechs and investments in Brazilian agtechs, informing which data was collected. The traditional approach of Agribusiness was taken into consideration to analyze the productive system, from the suppliers to the end customer, leading to a distinction in three segments: (i) before the farm, (ii) inside the farm, and (iii) after the farm. The chapter describes the 33 categories, especially considering the market and technological field involved, among which (i) 7 categories are in the segment before the farm, (ii) 13 categories are inside the farm, and (iii) 13 are after the farm.

The mapping results are analyzed in “Map of Brazilian agtechs”, which highlights geographic aspects and categories of the agtechs mapped, as well as tracked events related to investment in agtechs. This part of the study collected data concerning events related to incubation, acceleration and investment institutions. The distribution of events in relation to the technological and geographical distributions of the startups in the ecosystem was analyzed in order to assess whether or not the attractiveness of stimulation institutions and investors is similar to the distribution of technologies provided and to the geography of national agtechs.

Next, the “List of agtechs” organizes the agtechs mapped by segment, category, federative unit (state) and city, providing a link for each of the agtechs.

Lastly, the final chapter “Final comments and perspectives” summarizes the results and reflects on the perspectives of Radar Agtech Brazil and the Brazilian agtech ecosystem. Considering the need for more sustainable practices to face an emerging scenario of

high consumption of food, changes in diet composition, climate changes and limitation of natural resources (FAO, 2018a), it will be essential to generate and adopt innovative technologies to make the agribusiness even more sustainable under the economic, social and environmental aspects.

It is worth mentioning the many terms used to refer to the agribusiness startups: AgTech and AgriTech, acronyms of “agriculture technology”, generally more related to the segments before and inside the farm; FoodTech, acronym of “food technology”, usually more connected to the segments after the farm; and AgriFoodTech, acronym that emphasizes the inclusion of the entire chain.

Radar Agtech Brazil 2020/2021 maintains the standard of the 2019 edition, using only the term “agtech”, in lowercase letters, but with the same scope of AgriFoodTech: startups of the agribusiness in all categories before, inside and after the farm.

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PART 1

Contextual aspects

Agricultural production in Brazil: past, present and future

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Brazil has been experiencing a true revolution in the agricultural industry in the last four decades. In the mid-1970's, the country lived an extremely precarious situation of food insecurity, and was a major importer of basic food and products. During the following decades, Brazil went through a deep transformation and, today, it is one of the biggest players in the global food production market, producing enough to feed its population and to export for more than 150 markets in the world. We shifted from a production of 38 million tons of grains, in 1975, to more than 262 million tons of grains in the 2020/2021 crop (Acompanhamento da safra brasileira [de] grãos, 2021).

In order to understand this transformation, it is necessary to look at the scenario of the 1970's decade, when the Brazilian agricultural production was rudimentary, inefficient and centered in a few cultures that were appropriate to the country's conditions of soil and climate. The bovine herds already had a significant presence, with about 90 million head of cattle, but with inefficient production and productivity. At that time, the agricultural scenario contrasted with the context with a recent industrialization of the country in the 1950's-1970's. The growth of urban population and the rise in the income of the general population have contributed to increase the demand for higher value-added food, such as meat, fruits and vegetables, expanding the scenario of dependence from the foreign food production.

In order to face the challenge posed at that time, Brazil invested heavily in agricultural research to create the conditions to increase production and productivity in the field, thus ensuring the internal market supply and generating new credits through product export. In this scenario, Embrapa, the Brazilian Agricultural Research Corporation, was created, and, in partnership with state-owned research institutions and universities, has launched the basis to update the Brazilian agriculture, adapting new forms of handling, developing agricultural practices and production systems, as well as promoting the genetic selection and improvement adapted to the Brazilian reality, providing the society with new varieties of crops.

This transformation process is more evident in the Brazilian Midwest, a region with acid soils, with high levels of aluminum and, until then, seen as infertile. Through research, it was possible to gain a better understanding of the soil characteristics and to create handling and correction practices that, combined with the development of new crops, mainly of soy, has moved Brazil from an estimated production of 1.5 million tons of soy, in 1970, to more than 135 million in 2021, becoming the biggest producer of this grain in the world. Generally, Brazil has increased nearly seven times its production of grains from 1975 to 2021, whereas the area used for planting only doubled its size, which shows the explosion in productivity assessed in the period.

Genetic selection, aligned with appropriate agricultural practices and with nutrition specifically designed for the Brazilian herd's characteristics and conditions has led the Brazilian meat production to a significant growth in the last few decades. Bovine production increased from 1.8 million tons to 10.1 million tons equivalent to carcass in 2020¹. Pork meat production has grown from 0.7 million tons in 1970 to 4.4 million tons in 2020, and poultry production has increased exponentially, from 0.2 million tons in 1970 to 13.8 million tons in 2020². Today, Brazil is the 3rd largest producer (after the USA and China) and the biggest poultry exporter in the world. Still in the scenario of the Brazilian agriculture, the production of biofuels stands out, mainly through the production of sugarcane which has grown from 79 million tons to 654 million tons from 1970 to 2020³.

By analyzing the Brazilian production and productivity, we find out that the main factors for this increase were the intensive adoption of technology (59%), the labor force (25%) and the land (16%). As previously noted, technological update was the main responsible for this revolution, leading to a huge production growth without the need to use land and labor in the same proportion.

The recent history of the Brazilian agriculture is very successful, but there is still a lot of progress to make. Export is focused on primary products, with lower value added. In many segments, Brazil exports the raw product and imports processed products, not capturing the value generated by these products. The technological gap between the small and large-sized producers is still a challenge to be taken into consideration. Costs of adoption, access to technology and technological maturity of small-sized producers have been significant obstacles.

Brazil has successfully faced the challenges of the last few decades, managed to be self-sufficient in the production of food and became a global player in the food supply. Now, it is time to look into the future and get ready to supply the emerging demands. In the next years, the global demand for food will be the main challenge to overcome and numerous factors will influence the increase in this demand. With the expected population growth until 2030, reaching 8.5 billion people in the world, a significant increase in the global middle-class is also anticipated, reaching 60% of the population, which will demand higher value-added food, such as fruits, vegetables and meat. The increased demand will occur in a time of reduced water availability, higher pressure for sustainable means of production and higher environmental protection.

In this context, Brazil is in a privileged position and is capable of leading the world's food supply, providing a major share of the additional demand. Among the biggest producers in the world, USA and China are reaching their productive limit and don't rely on new large areas to add to their production. Without such areas, it will be necessary to invest in intensive production, with more than one harvest per year, which is very difficult in temperate climates. In this sense, the tropics have the advantage of relying on a massive environmental supply and Brazil is one of the only countries with the technology and arable lands capable of increasing the production. Additionally, Brazil has a large portion of degraded areas with potential for recovery, with an estimated size between 60 and 100 million hectares, larger than Spain (50 million ha), which can be included in the productive area without opening new native

1 Source: USDA. Available at: https://apps.fas.usda.gov/psdonline/circulars/livestock_poultry.pdf.

2 Source: Central de inteligência em Suínos e Aves. Available at: <https://www.embrapa.br/suinos-e-aves/cias/estatísticas>.

3 Source: Conab. Available at: <https://www.conab.gov.br/info-agro/safras/cana/boletim-da-safra-de-cana-de-acucar>.

areas.

The challenges that will come in the next few years are significant and many factors can impact this scenario. To better understand these factors, Embrapa put together a network of observatories aimed at agriculture, in a system called Agropensa, and, through its assessments, published the book *Visão 2030: o futuro da agricultura brasileira*, presenting a set of the megatrends that will impact the Brazilian agricultural development in the next few years. These megatrends serve as a basis to elaborate public policies and to plan future actions. The full version is available at embrapa.br/futuro. The list of these seven megatrends is presented as follows:

Socioeconomic and Spatial Changes in Agriculture; Intensification and Sustainability of Agricultural Production Systems; Climate Change; Risks in Agriculture; Value-Adding in Agricultural Productive Chains; Consumer Protagonism; Technological and Knowledge Convergence in Agriculture.

The increase in global demand for food, water and energy supply is a phenomenon that has been occurring for decades, and which is becoming more intense in the last few years, due to population growth in developing countries, higher longevity, increment of the middle class, extensive urbanization and changes in consumer behavior (Embrapa, 2018).

Internationally, many efforts are being made to establish a more balanced relationship between the population, the environment and the components of food and energy production. These include the Sustainable Development Goals (SDG) established under the coordination of the United Nations (UN), aiming at ensuring, until 2030, a more thriving, equitable and healthy world. Agriculture and food supply are at the center of this global agenda. Brazil has the natural resources needed to achieve such goals, and the public policies, technical and scientific competences and entrepreneurship of Brazilian farmers were fundamental for the agricultural development of the country, enabling the achievement of the goals established by the member states of the UN (Embrapa, 2018).

The document *Visão 2014-2034: o futuro do desenvolvimento tecnológico da agricultura brasileira* (in English, “Vision 2014-2034: the future of technological development in the Brazilian agriculture”) (Embrapa, 2014) emphasized that the information and communication technologies (ICT) reduce physical, political and cultural barriers between the nations, globalizing the access to raw materials, goods and services, and providing people with power to influence the paths of technological development and formatting of products and services. Regarding the future agriculture, the main advances derive from new technologies, such as hyper connectivity and access to the Internet, automation and robotics, better understanding the relationship between food-consumption-human health, the most advanced systems of resource management, biotechnology and new technologies applied to the vegetable and animal improvement (Langridge, 2018). Additionally, Seixas (2019) highlights that future innovations that may affect vegetable and animal improvement will make use of biocomputing, intelligent agriculture, biotechnology and genetic technology, synthetic technology, protein transition, food design, vertical agriculture and preservation technology.

In this context, Brazil has an important contribution to make, as well as a great challenge to face in order to show that it is possible to become an agroforestry power, preserving and expanding its valuable environmental heritage. The country is one of the largest economies in the planet, mostly due to the agriculture and livestock industry, capable of creating work and income opportunities, both in the field and in the cities. In the last decades, Brazil shifted from

importer to one of the largest agricultural producers and exporters in the world.

Embrapa has performed future studies through an internal network of experts, the Agropensa, seeking to connect with the transformations and their implications in Science, Technology and Innovation (ST&I) for agriculture. The most recent set of global and national signs and trends about the changes in agriculture was gathered and analyzed by Embrapa and its network of partners, resulting in a group of integrated megatrends, which point out to challenges for the country's agriculture, detailed in the book "Visão 2030: o Futuro da Agricultura Brasileira" (in English, "Vision 2030: the future of Brazilian agriculture"). Thus, the seven megatrends are (see Figure 1): i) Socioeconomic and Spatial Changes in Agriculture; ii) Intensification and Sustainability of Agricultural Production Systems; iii) Climate Change; iv) Risks in Agriculture; v) Value-Adding in Agricultural Productive Chains; vi) Consumer Protagonism; and vii) Technological and Knowledge Convergence in Agriculture (Embrapa, 2018).

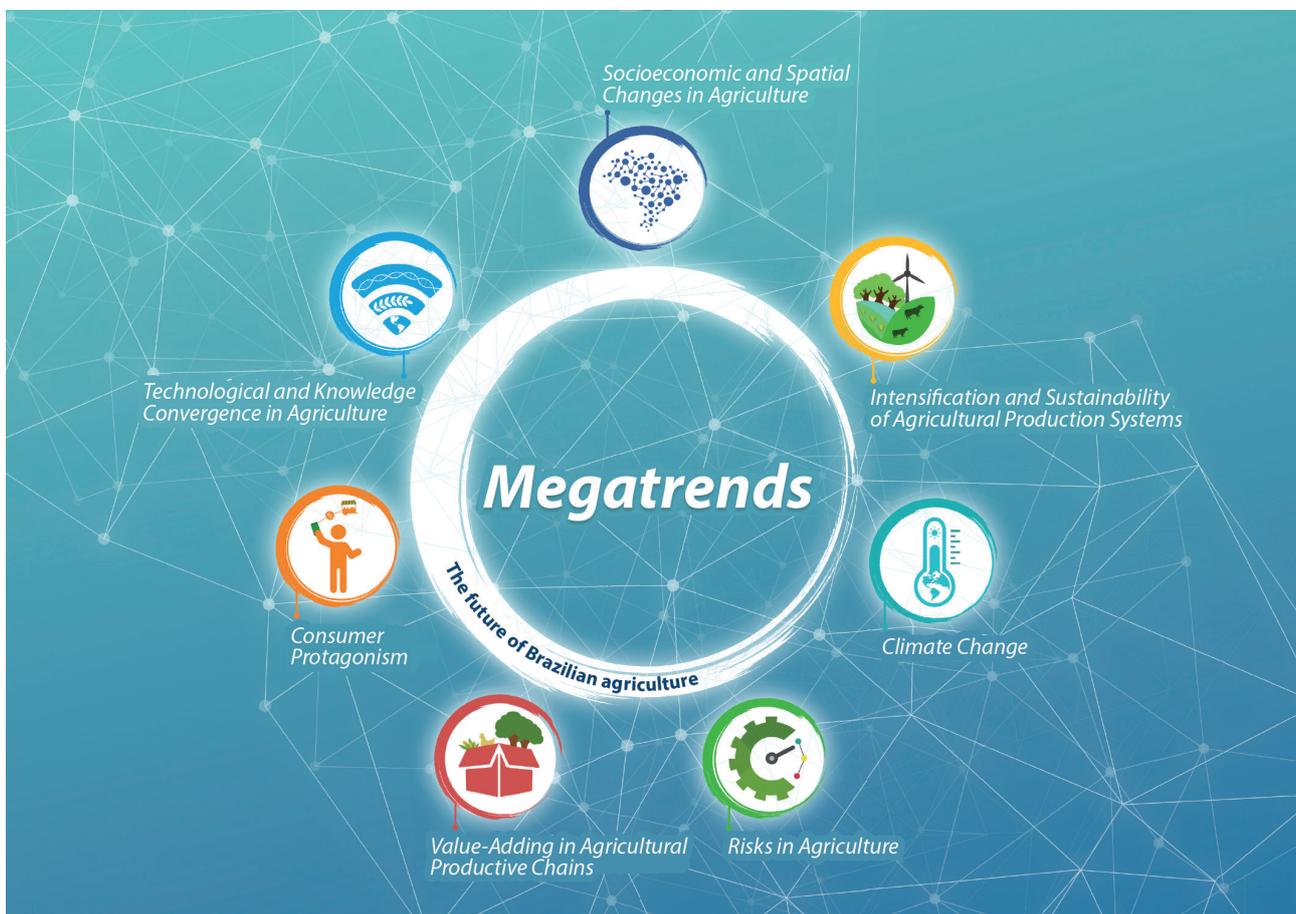


Figure 1. Megatrends for the future of the Agriculture in Brazil.

Source: Embrapa, 2018.

Additionally, according to long-term forecasts performed by the study carried out by the Ministry of Agriculture, Livestock and Food Supply (Mapa), harvest 2019/2020 to 2020/2030, the most dynamic products of the Brazilian agribusiness most likely will be pork, soybeans, cotton plume, cellulose, corn, poultry and sugar. In addition to these, mango, melon and apple will be the main fruits, since the internal market and the international demand will be the

main growth factors for most of these products, and, consequently, they indicate the highest growth potential in terms of production in the next ten years (Mapa, 2020).

According to MAPA, a fundamental aspect to be considered in the current scenario of the forecasts of Brazilian agribusiness is the impact of the covid-19 pandemic, which deeply impacted the trajectory of the global and Brazilian economy throughout 2020 and 2021. This pandemic quickly spread throughout the world, causing a great number of deaths, resulting in measurements to restrain economic activities and, consequently, decrease in the rhythm of economic growth. However, despite the decrease in the Gross Domestic Product (GDP) in Brazil, there was growth for the Agriculture and Livestock industry, with unprecedented high in the harvest of grains in 2020 (Projeções..., 2020).

Some terms have been created to assign events with low probability of occurrence, unexpected, high-impact events, which create unlikely futures, such as: Wild Card (Petersen, 1997) and black swan⁴ (Taleb, 2007). Due to the low probability of occurrence, this kind of event is often not considered by the future studies, even if experience shows that unexpected and disruptive events cause major effects in the dynamics of the human life.

In the beginning of 2020, the pandemic caused by the new coronavirus (Sars-CoV-2) was a big black swan, gaining global dimensions in a short period of time and causing global, transversal impacts to several countries, economic sectors and social classes. It is worth noting that the term “pandemic” is more related to the large geographic range of dissemination of a disease rather than to its severity (Organização Pan-Americana de Saúde, 2020). Nonetheless, covid-19 is a highly severe emergence that, up to the moment, has caused more than 4 million deaths worldwide (World Health Organization, 2021). In Brazil alone, there were more than 600 thousand deaths up to the month of Oct, 2021 (Conselho Nacional de Secretários da Saúde, 2021).

The recent retrospective analysis identifies evidences and mentions to the risk of a pandemic affecting the human species⁵. A brief research leads to lectures given by authorities such as the President Barack Obama, in 2014, and Bill Gates, in 2015, highlighting the need to create a health structure to prepare for the spread of a deadly airborne virus, with high impact potential. Prospective studies carried out by the Central Intelligence Agency (CIA) of the United States of America also identified the possibility of a sanitary crisis (O Relatório..., 2006; Adler, 2009). Still, the recent future analysis chose not to strongly consider the possibility of such an event.

As a black swan, the covid-19 pandemic has been causing an extreme impact, not only in sanitary aspects, but in all sectors of the global economy, even though it is unequally impacting the countries and its economic sectors. Even though, at first, it is impossible to identify the overall dimension of the effects of a black swan, it is necessary to assess the event and adapt to it, identifying opportunities and benefiting from them. The covid-19 pandemic has been a catalyst for many sorts of changes – economic, social, individual, technological, sanitary and

4 The term refers to an abnormal event, which occurs outside the ordinary expectations and clear possibility of prediction. Established by the researcher Taleb (2007), it is inspired by the European belief from the XVII century that said there were only white swans in the world, which was the general thinking until a black swan was first spotted in Australia. Thus, the black swan represents the unexpected, the unknown, which can come to the surface.

5 A few examples are: the TED Talks lecture given in 2015 by Bill Gates called: *The next outbreak? We're not ready*, available at: https://www.ted.com/talks/bill_gates_the_next_outbreak_we_re_not_ready; and Barack Obama's speech, right after the epidemic of the Ebola virus, in 2014, during his second mandate as President of the United States of America, emphasizing how relevant it would be, for the humanity, to create a structure to prepare for the spread of an airborne lethal virus, with high impact potential, available at: <https://www.nytimes.com/2014/09/27/world/africa/after-ebola-outbreak-obama-calls--for-global-effort-to-help-prevent-epidemics.html>.

corporate changes, to mention a few – in a global scale (Fitzpatrick et al., 2020).

The sanitary emergence caused by the new coronavirus was faced through hygiene measures and transit restrictions, including social isolation and social distancing and travel restrictions. With such mobility restraints, there has been an unprecedented increase in demand for communication networks throughout the world (OECD, 2020a). In this period, digital technologies and the connectivity infrastructure in the households were essential to provide information and maintain the daily activities through: remote work, distance learning, online shopping, online payments and financial transactions, telemedicine, as well as entertainment and physical activities via streaming (OECD, 2020b; UNCTAD, 2020).

This process has accelerated the Digital Transformation of many industries, in various countries, but has also made evident the digital inequalities, even in developed nations. Despite the fact that technology was critical to face the pandemic, not everyone had quality access to obtain the expected benefits (UNCTAD, 2021).

A report published by the International Monetary Fund (IMF, 2020), in October/2020, already pointed towards a decrease in the global economic growth, marked by the protective measures and consequent change in consumption habits, leading many economic sectors to recession. Results recently published about the growth of the countries (CUCOLO; PUPO, 2021) show that the Brazilian Gross Domestic Product decreased 4.1%, standing in intermediate position between the nations with strong fall - such as Spain (-11%), United Kingdom (-9.9%) and France (-8,2%) – and countries with lower falls – such as the United States (-3.5%), South Korea (-1%) and Norway (-0.8%). Up to the moment, China was the only nation that presented positive results (+2,3%).

In Brazil, the economic incentives have contributed to prevent a deeper fall in 2020 economic performance (CUCOLO; PUPO, 2021), as well as to ensure a positive performance of the agriculture and livestock industry and real estate and financial sectors (Confederação da Agricultura e Pecuária do Brasil, 2021).

The results in agriculture and livestock in 2020 were positive, despite the adverse scenario. Adoption of digital technologies and good harvest of products such as soy, coffee and corn have contributed positive for this outcome, despite the adverse effects related to the increase in the Dollar exchange rates and to losses in crops such as of orange, and decrease in the bovine sector performance (Brasil, 2021). As a result, the industry expands its participation in the country's GDP.

Since the beginning of the pandemic, in March 2020, actions were taken in order to ensure food safety and maintenance and expansion of the exports, limited, at that time, by the restrictions of transit between the countries to contain the spread of the disease.

There was a possibility of limitation in supply, as well as in access and purchase of raw materials by the producers due to logistics, prices and lack of capitalization (Opazo et al., 2020).

The United Nations Food and Agriculture Organization (FAO) recommended, at the time, public interventions to ensure the progress of farming activities during the crisis. The Ministry of Agriculture, Livestock and Food Supply (MAPA) acted swiftly by releasing the Ordinance no. 6 of 03/27/2020, in order to specify products, services and activities that are essential for the productive chains of food, drinks and raw materials for farming during the pandemic, ensuring the production, processing and sale of the production to assure food safety both in domestic and international markets (Confederação da Agricultura e Pecuária do Brasil, 2021).

Furthermore, the ministry has established important institutional actions, such as: coordination between the Ministry and the State Secretariats of Agriculture to ensure the

population's food supply; creation of a Crisis Committee to monitor and propose strategies to mitigate the impacts of the new coronavirus in the farming production and food supply (Brasil, 2020a); and the development of actions to expand the commercial partnerships of the industry (Brasil, 2020b).

Information technology was an important instrument in this new context. In the internal market, digital platforms and applications provided mechanisms to connect supply and demand of farming products and food through virtual mechanisms, along with delivery, take out or drive-through strategies; transportation and truck driver's demands; supply of replacement parts and items, with delivery service. Other services implemented include digitalization of contracts and payments, digital financial operations such as the emission of CPR's (Cédula de Produto Rural, or Rural Product Bill) and government channels to report supply issues and animal contamination.

Negative impacts were verified in the segments that suffer the highest impact from mobility and transit restrictions, such as the products related to the hospitality sector, also called HoReCa (Hotel / Restaurant / Cafe), including bars, events, theme parks and transportation services (Bambini, 2020). The lockdown of this category of businesses led to a great disruption in the demand for products such as beverages and flowers. The consumption of food, also affected by restrictions, was partially supplied by digital marketplaces and other delivery services. Some non-food products also showed decrease, such as textiles, tobacco and rubber.

Positive indicators were found in the business environment, involving the creation of new companies. The Map of Companies, maintained by the Ministry of Economy (Brasil, 2021) has shown a 15% growth in the number of companies established in 2020, if compared to 2019. Regarding the technological enterprises, in 2020 the number of startups hosted by Cubo, the innovation hub of Itaú Unibanco in São Paulo, has shown a growth of more than 1,552% in revenue if compared to 2019 (Alves, 2021). This result occurred due to the increased demand for digital solutions, some of them crucial in the context of the pandemic, such as: home office solutions, telemedicine, education, electronic commerce, logistics and mobility, and finance. Since about 80% of the startups suffered liquidity issues, due to the low investments made during the crisis, the hub also promoted adjustments to mitigate potential adverse effects, such as adopting measures to reduce 85% of the management costs, including remote follow-up.

The perspectives of increase in global demand for food due to population growth and increase of income of Asian populations, along with the search for sustainable production methods aiming at preserving the environment and mitigating the effects of climate change create the perfect scenario for a revolution marked by the development of digital products and services to consolidate Brazil's role as a global power in the industry of food and fibers.

The Agribusiness and agtechs will have to face many challenges in 2021. In a scenario of uncertainties and ongoing sanitary crisis, with vaccination still in the beginning, it is essential to identify technological and market opportunities, as well as to establish relationships with other players in the agriculture and livestock innovation ecosystem.

The issue of food safety and quality shall motivate the development of solutions to ensure health and harmlessness also bringing up the important matter of traceability, specially understanding the alleged relation between the appearance of the coronavirus and the sanitary slaughtering and commercialization of live animals in public places such as street markets without proper conditions to ensure food safety and quality (Gruber, 2020). In this sense, public or private traceability, control and certification mechanisms will be important tools in both domestic and foreign markets, using digital technologies such as blockchain.

Other important uses shall be intensified, with productive decision-making systems based on data and analytics to monitor the production and harvest, traceability and also the creation of marketplaces to connect producers and buyers (Mari; Arbex, 2020).

Another significant aspect involves the inclusion of farmers in this technological revolution process, to prevent them from missing out on its possibilities. The relationship between startups and public players, such as universities, farming research institutes and rural extension companies is important to generate knowledge flows and exchange relevant experiences for the development of the industry, also attracting the attention of the investors.

In a context of uncertainties, a key factor is strengthening the resilience of the farming industry, which is understood as the ability to absorb a shock or sudden and impacting change and emerge from the crisis in a better situation than it was when the crisis started (Sneider; Singhal, 2020). Resilience is about strengthening competences to prepare for, respond to, recover from and adapt to unexpected high-impact events (Sá et al., 2019). According to the authors, managerial actions shall be in place to strengthen the flexibility, redundancy effects, collaboration, visibility and speed.

The agriculture and livestock industry included many stakeholders and perspectives – suppliers, producers, processors, logistics and distribution, wholesale, retail and consumption – which develop interdependence processes between the links of each productive chain and organizations related to it. The resilience of the sector is composed of the whole set of resiliences of the productive chains and the links that connect them.

In the current moment, there must be a coordination between the links of farming chains, through associations, cooperatives, government entities, agriculture secretariats and ministries, in order to assess their specificities and take them into consideration, and to represent stakeholders of each link in the chain to collaboratively strengthen their resilience, facing the challenges and taking the opportunities that may appear.

Therefore, during the pandemic, a growth trend is expected in the number of startups providing solutions inside the farm regarding Rural Property Management System and/or Integrating Platforms for Systems, Solutions and Data, as well as growth of agtechs with technology after the farm in the categories of Marketplaces and Trade and sales Platforms for agriculture and livestock; Storage, Infrastructure and Logistics; Online grocery and Online Restaurants and Meal kits, according to the results shown ahead in this study, under the topic Sector Analysis.

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Brazilian ecosystem of innovation and entrepreneurship: overview of the Agtech and Investments segment

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This chapter is comprised of three titles: Agricultural Innovation Ecosystem: i) participation of Embrapa and startups; and ii) overview of Investments in agtechs

Agricultural innovation ecosystem: participation of Embrapa and Startups

The 2020 Ranking of the Startup Ecosystem (StartupBlink, 2020) ranked the city of São Paulo in the 18th position in the global startups ecosystem. Additionally, the Global Startups Ecosystem Report (Startup Genome, 2020) ranks São Paulo in the 30th position, featured as the only city in Latin America among the 30 most relevant ecosystems in the world in both studies, taking into account the number of startups, quality of the ecosystem and business environment (StartupBlink, 2020), and also performance, funding, attraction of resources, market, connectivity, experience, talent, founder / entrepreneur and connection to the location (Startup Genome, 2020). In the analysis by country, the studies conducted by Startup Genome (2020) and StartupBlink (2020) achieved the results presented on Table 1:

Table 1. Ranking of the Startups Ecosystems in 2020.

| Position | Startup Genome | StartupBlink |
|----------|--------------------------|--------------------------|
| 1 | United States of America | United States of America |
| 2 | China | United Kingdom |
| 3 | Canada | Israel |
| 4 | Germany | Canada |
| 5 | India | Germany |
| 6 | Australia | Netherlands |

The United States of America stand out in these rankings, with various relevant ecosystems, including in the farming industry. In a global scale, Brazil is a power in the agriculture and livestock industry; therefore many startups start to perceive opportunities to develop innovating solutions for agriculture and livestock.

There are many national initiatives to foment startups, among which there is the Ordinance 10,122/2019, creating the National Committee of Initiatives to Support Startups, comprising 10 institutions, with the purpose of articulating the initiatives of the Federal Executive Power aimed at emerging technology-based companies that fall in the category of startups. Embrapa is one of the institutions participating in this committee, due to its robust experience with startups in its many innovation initiatives. Thus, through the website StartupPoint3, the innovative entrepreneurs have access to support programs from the Federal Government to create their startups, receive qualification and mentoring, and to connect to the domestic and international markets.

In this sense, it would be unwise to mention here all of the initiatives for agtechs in Brazil, since there would be a high risk of leaving out relevant programs in national, regional or local scales; therefore, in this work, we chose to exemplify such innovation initiatives through a few actions conducted by Embrapa and its partners, which stand out in the agriculture and livestock innovation ecosystem. For Romani et al. (2020. p. 285), the agtechs ecosystem is fundamental, because it uses “new operating concepts that have been contributing with the development of technological solutions which are able to increase sustainability and competitiveness in the Brazilian agribusiness, such as agile management, lean startup, gamification, self-managing teams and others” (our translation).

In many farming chains, the interaction between the players (ICTs, private companies, rural producers, consumers) is still inexpressive, and each link works individually. Then, a way to increase interaction and foment innovation ecosystems is through actions related to strengthening and development of startups. Among the most appealing actions there are many innovation challenges, such as hackathons, demodays, business rounds, matchmaking events and bootcamps (Romani et al., 2020).

Thus, amidst the actions that generate possibilities through which Embrapa has accessed external knowledge and generated new partnerships to implement its open innovation model, the initiatives in Table 2 can be mentioned.

Table 2. Embrapa’s open innovation initiatives.

| Name | Purpose |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agritech Semiárido | Challenge of innovation initiatives with the purpose to encourage the development of innovating solutions through startups aimed at solving farming problems, focused on the Brazilian semi-arid region. The initiative promotes mentoring with experts in the farming, technology and business industries, enabling the connection with the productive sector. |
| Avança Café | Avança Café is a startup pre-acceleration program with the purpose of stimulating the development of technological solutions for the coffee industry. |

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| Name | Purpose |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Camp de EcoInovação Agrotech | It is a challenge of ideas/startups aimed at ecological innovation, promoted by UN Environment Programme, Sebrae and Embrapa, with the purpose of seeking ecoinnovative solutions for agribusiness. In the first edition, the challenge was focused on the grains chain, and for the next edition the theme will be “food waste”. |
| Gado de Corte 4.0 | The event Gado de Corte 4.0 was an innovative action for the beef cattle chain in Brazil. From actual demands raised with companies within the chain, a call for proposals was promoted, open for startups and ICTs interested in working for the chain. |
| Hackathon Embrapa | Embrapa National Academic Hackathon is a contest destined to students and former students, focused on choosing the best technological solutions in development of mobile applications and/or hardware solutions and/or solutions of Internet of things (IoT) and/or educational pieces / games focused on technological innovation for agribusiness. |
| Horta & Escola | The purpose of this contest is to promote a competition between Elementary School, High School and Technical School students from the schools of Distrito Federal and cities near Goiás, encouraging them to perform team work, create new businesses, processes, services and innovative solutions with social and economic impact. Additionally, the contest is intended to enable the practice of innovation and spread the entrepreneurship culture. |
| Ideas for Farm | Ideas for Farm is a challenge for innovation that seeks technological solutions for the Brazilian farming industry, focused on the Middle-North region of Brazil. |
| Ideas for Milk | Ideas for Milk is a startup challenge that provides opportunities for young entrepreneurs to present their ideas to attract investments from large corporations that value innovation, leveraging the incorporation of digital technology into the milk industry. The purpose is to improve innovation in the milk chain, elevating the efficiency from the farm to the end customer, respecting the animals, the environment and society as a whole. |
| Inova AgroBrasília | The first technological solutions challenge held by the Secretariat of Agriculture of DF, Emater-DF, Embrapa, AgroBrasília and Coopa-DF. The purpose is to attract entrepreneurs, scholars or people with entrepreneurship skills with innovative ideas in any maturity stage and collaborating to turn these ideas into businesses with potential to solve the problems of the industry. |
| InovaAvi | InovaAvi is the first challenge of ideas in the poultry industry. The purpose is to stimulate high-impact innovation in the poultry industry and to attract innovating people with ideas in any maturity stage, collaborating to turn these ideas into businesses and solutions for the poultry productive chain. |
| InovaPork | InovaPork is the first challenge of ideas in the pork industry. The purpose is to stimulate high-impact innovation in the pork meat industry and to attract innovating people with ideas in any maturity stage, collaborating to turn these ideas into businesses and solutions for the pork productive chain. |

Continued...

| Name | Purpose |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InoveAqua | The purpose of InoveAqua is to offer a favorable environment to transfer knowledge to college students, the community and professionals of the contemplated fields concerning the various segments in the fishing industry chain. The initiative aims at developing skills and promoting innovations for the development of the Brazilian fishing industry, thus contributing to increase the production and enabling higher competitiveness, sustainability and innovation in the productive chain. |
| Pitch Deck AgTechs | Pitch Deck is a quick and visual presentation, used to capture the attention of investors and to show the public the main differences of the food, environment, waste management, plague control, phenotyping and cattle raising segments. |
| Pontes para Inovação | The program Pontes para Inovação (in English, Bridges for Innovation) is an initiative developed jointly between Embrapa and its partners, with the purpose to connect agtechs and investors, partners and clients, allowing them to access resources to accelerate their businesses. |
| Soilsplay | Initiative in which startups and companies are challenged to present proposals of games that include technical aspects, training and potential scenario simulations, in a fun and attractive way, with the purpose to foment solutions combining two of the largest chain values in the business world: agribusiness and digital games industry. |
| Open Innovation Soja | Open Innovation Soja is a public call for proposals to select startups interested in the development of open innovation projects, with Embrapa Soja as technical partner in the development and/or improvement of solutions in fields that are under the scope of priority research fields indicated in the text of the call. |
| Programa IA2 - MCTI-Softex | Acceleration program created by MCTI and Softex, in which Embrapa Digital Agriculture, in partnership with Instituto de Pesquisas Eldorado and Baita Acceleradora provide support, aid and mentoring to artificial intelligence startups in the agro area. |
| Campo Digital | Facebook program in partnership with Baita Acceleradora, Embrapa Digital Agriculture, Instituto de Pesquisas Eldorado, SP Ventures, CNA/SENAR and several other partners in the national agribusiness ecosystem. |
| TechStart Agro Digital | TechStart Agro Digital is an acceleration program created by Embrapa e Venture Hub®, supported by Anprotec, to help startups, big companies and institutions to accelerate businesses and technologies for the agribusiness. |
| Vacathon | A hackathon with the purpose of debating ideas for the development of software and hardware aimed at solving issues in the productive chain of milk. |

The innovation initiatives shown in Table 2 stimulate the ecosystem of the productive chains, and can be viewed at Embrapa's website¹. These initiatives yield results such as the following (Romani et al., 2020):

- Strengthening of Embrapa's partner agtechs, which are the companies that transfer Embrapa's technology into the market or the society;
- Mentoring with agribusiness, technology and business experts during the initiatives;
- Growth opportunities for key companies within the industry, contributing to amplify

¹ Available at: <https://www.gov.br/startuppoint/pt-br>. Accessed on: May 4th 2021.

the effect of technologies generated by institutions in the field of farming research and developed in partnership, adopted or being adopted by private companies established in the country;

- Opportunities for startups to present their ideas for representatives of the productive sector and investors, in which they receive feedback on their strengths and weaknesses;
- Partnerships with Embrapa through cooperating agreements for the development of technological solutions and assets, fueling open innovation and reimbursement to the Federal Government, through payment of royalties or profit sharing;
- Awards for startups and matchmaking with large companies of the productive sector, innovation hubs, accelerators and seed and venture capital investors; and
- Creation of an innovation ecosystem, gathering companies, universities, farming research and the productive sector, with ability not only to present solutions but also to undertake, transforming solutions in new startups for the productive chain.

The innovation challenges include Embrapa and also facilitate the connection between agtechs and investors, accelerators, innovation environments and big players in the agribusiness, enabling them to access financial, physical, management and knowledge resources in research and development to accelerate their businesses. Embrapa and its partners have created a platform to promote the interaction of the innovation ecosystem, in which can participate companies with technologies for the agribusiness and also those who adopt or are interested in adopting and developing technologies jointly with Embrapa.

Thus, aware of its role in the development of Brazilian agribusiness, Embrapa has impacted the society enabling growth opportunities for

key companies within the industry, contributing to amplify the effect of technologies generated by institutions in the field of farming research and developed in partnership, adopted or being adopted by private companies established in the country;

Additionally, a few barriers were broken, since it was possible to bring Embrapa's research areas, as well as their technologies, closer to the private companies, startups and technology-based companies. Furthermore, it was also possible to provide financial resources for innovation through venture capital for companies with innovative technologies for the agribusiness, which want to be technical collaborators or to adopt technologies from Embrapa, through millions of dollars invested in Embrapa's partner companies and/or finalists of innovation initiatives promoted by Embrapa and its partners.

Therefore, initiatives aimed at making connections to the ecosystem outside Embrapa are fundamental for the successful achievement of the company's mission, which is "to enable research, development and innovation solutions for sustainability of agriculture, in benefit of the Brazilian society". It is understood that no public institution can close the innovation cycle by itself. Partnerships and networking are fundamental for success. Knowing how to enter the ecosystems and strengthen the pro-innovation actions is important to enable new solutions to reach the market or the society.

Overview of investments in agtechs

This section starts with the analysis of global investment in new enterprises (Venture Capital - VC), moving to the overview of VC investment in agtechs, covering the sector of raw

materials, production, logistics and distribution, and consumption.

The report elaborated by Crunchbase (2020) shows that the amount of risk investment made in the 1st semester of 2020² globally - in all segments - had a 6% decrease compared to the 1st semester of 2019, with increased representativeness of investments destined to startups in growth stage and late stage.

The amount invested is distributed among the continents as follows: North America with 49%, Asia with 36% and Europe with 13%. The report does not establish a direct link between the losses caused by covid-19 in each nation and the amount of resources invested via Venture Capital, even if in cases such as in China and Spain this relationship has been more intense.

Despite the slight decrease in invested amounts, Crunchbase (2020) identified growth in funding in the following countries: India, Indonesia, Israel, Australia, New Zealand, France, Belgium and Brazil. Although it was the second country most affected by covid-19, Brazil has received 90 of the VC investments in Latin America, and nearly reached its record of investments in the 1st half of 2020.

In turn, a report elaborated by AgFunder (2021) shows that, in general, covid-19 pandemic had little influence in the global investments made in agtechs until mid-2020, with a 16% decrease in the amount invested so far.

Regarding the categories of the startups, the eGrocery segment maintained its position, with 20% of the investments, considering the fact that it was an extremely relevant service during social distancing required in many countries during the pandemic (Agfunder, 2021). Startups working with technologies related to logistics, distribution and traceability – known as midstream - were in second place in terms of global investments (Agfunder, 2021), possibly due to the higher relevance of these activities to ensure quality and safe food distribution for consumers, in a context of sanitary crisis. Innovative food was another category that received higher investments, surpassing the amount of funds obtained in the same period of 2019, along with the category agricultural biotechnology. It is worth noting that “Agricultural biotechnology” and “Innovative food” are categories with intensive capital and involving longer technological develop stages, and which are more attractive to VC investor due to demands related to consumption of food free from animal protein, with high nutritional value, and to the development of new crop varieties and treatments causing lower environmental impacts. Investments in startups working with digital technologies – such as property management software, remote sensing and Internet of things - represent, in 2020, a smaller percentage of the total. According to the analysis by Agfunder (2021), many investors have placed their bets in this category and now are more cautious, waiting for positive results and successful cases in this technological field.

Annual reports by AgFunder (2021) map the investment promoted in Agtech segments, highlighting the amount of the main nations that promote this type of investment. According to the report, Brazilian and even Latin American investments are still materially lower than those made in other regions such as North America, Europe, Australia and China. The global attention and interest of investors for the Agtech industry has been growing: global investments in agtechs estimated in 6.4 billion in 2014 increased to 30.5 billion in 2020.

Although the Brazilian and Latin American agribusiness and food industry are significant in a global scale, there is no proportional investment in the Agtech sector in Latin America.

² Data from the 2nd semester are not yet available in Crunchbase’s report (2020).

In the assessment of the 15 largest countries in terms of investment, four nations stand out with more than one billion dollars' worth of investments in 2020 (Agfunder, 2021): The United States of America, with US\$ 13.2 billion in 815 businesses, followed by China (US\$ 4.8 billion in 115 businesses), India (US\$ 1.8 billion in 164 businesses), Great Britain (US\$ 1.1 billion in 133 businesses). Table 3 shows the complete list with the 15 main countries.

Table 3. Ranking of countries with more investments in agtechs. (AGFUNDER, 2021)

| Position | Country | Volume (in millions of US\$) | Businesses |
|----------|--------------------------|------------------------------|------------|
| 1 | United States of America | 13200 | 815 |
| 2 | China | 4800 | 115 |
| 3 | India | 1800 | 164 |
| 4 | United Kingdom | 1100 | 133 |
| 5 | France | 660 | 39 |
| 6 | Israel | 482 | 57 |
| 7 | Canada | 407 | 130 |
| 8 | Colombia | 359 | 12 |
| 9 | Indonesia | 339 | 30 |
| 10 | Germany | 307 | 38 |
| 11 | Netherlands | 249 | 27 |
| 12 | Finland | 225 | 11 |
| 13 | Japan | 208 | 68 |
| 14 | Ireland | 196 | 18 |
| 15 | Singapore | 195 | 41 |

The only South American country included in the list of the 15 biggest investors in agtechs is Colombia, a market that developed after the success of the platform Rappi. Brazil, despite being a relevant country in the global agribusiness, is not included in this list.

Sollito (2020) states that the Brazilian market has been attracting new international investors, a trend identified since 2019 with the appearance of the Japanese group Softbank, which invested in promising startups from various sectors, including Agtech. Other cases also stand out: the work of the economist North American accelerator Yield Lab, focused on startups related to the agribusiness; the expansion of scope of Plug and Play, a North American accelerator which added to its investment platform a local office to encourage the entry of new investors in the Brazilian market; and Brasil Venture Capital, focused on startups in early stages, with pre-seed and seed investments.

The investment in new technological enterprises has grown 17% in 2020 in comparison to the previous year, reaching the amount of US\$ 3.5 billion, consolidating the importance of this type of investment for the Brazilian innovation environment (Montesanti, 2021). Agtech entrepreneurship has raised US\$ 70 million, around 2% of this amount, presenting itself as an important promise for the investors due to its characteristics: relevant market, history of technological adoption, large potential for creating specific knowledge applied to the industry and digital technologies that can be applied to the field (Startups, 2021). Some smaller funds have also been demonstrating interest for the Brazilian Agtech market, according to Sollito (2020), focused on seed capital, such as PoliAngels and GVAngels, investing in startups that work with digital technologies.

Agtech-specific investment clubs make up another category of investments that has been emerging, among which stand out Agroven, from Uberlândia, which seeks to be a catalyst of the new Brazilian agricultural innovation ecosystem, combining the expertise of agtech market leaders and families that have influence in the agribusiness, with the purpose of mapping promising startups and scaling their businesses.

Corporations have also been acting in a significant way, both towards creating high-risk investment funds to invest and accelerate startups and in the acquisition of startups that may add to their technological and innovation capabilities, in order to strengthen their market strategy and their products and services portfolio. The agile structure and mentality of the new emerging companies add to the new companies the flexibility and oxygenation needed to adapt to new market scenarios.

Many large corporations have branches of Corporate Venture Capital (CVC), which are aimed at building a relationship with the innovation ecosystem and establishing partnerships with foment institutions, or even directly with the startups, whether through cooperation agreements or via investments. The motivation of these corporations is staying ahead of the technological evolution, although indirectly. In this sense, companies evaluate the startup's technological differential, the business model and the existing team, in order to make a decision based on and aligned with the corporation's strategic goal.

Some examples of acquisitions of startups by large corporations of the farming industry (a movement called exits) involve the acquisition of emerging companies working with biotechnology and precision agriculture, made by Monsanto and Bayer since 2011, especially the acquisition of Climate Corporation, the first agtech unicorn, by Monsanto, in 2013. In 2015, IBM acquired Weather Company and, in 2017, John Deere purchased the startup Blue River, in the field of robotics.

We also have a few examples of exits in the Brazilian market, such as: in 2018, the purchase of Agtech Strider, from the segment of crop monitoring, by Syngenta; in 2020, the purchase of Agfintech Gira by Santander, considering the receivables market; and, in 2021, the acquisition of Brain Agriculture by Serasa Experian, focused on the credit market.

In Brazil, information about the number of rounds and momentum are not in the public domain, therefore it is not possible to make a detailed assessment of this process. Nevertheless, the next editions of Radar Agtech Brasil intend to monitor more exhaustively the exits in the Brazilian agtech sector, providing the best possible analysis of the Brazilian agtech investment ecosystem.

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Brazil-China cooperation and complementarities in the agricultural and food markets for agricultural innovation and entrepreneurship

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Considering the global trends on food supply and demand, Brazil and China certainly stand out. Both countries appear amongst the large agricultural producers in the world and are the main emerging markets of the East and West hemispheres, sharing a variety of common interests (Jank et al., 2020). China is Brazil's main commercial partner, responsible for 32.3% of the volume of Brazilian exports and 21% of the country's imports (Comex do Brasil, 2021). The Asian country is the main buyer of Brazilian agriculture and livestock products, mainly soy and meat.

Considering the important commercial relationship between Brazil and China and its impacts on the socioeconomic, spatial and productive dynamics of these countries, the ecosystems of agricultural innovation of each nation were analyzed, based on characteristics of the farming market, the innovative structure and the Agtech enterprising movement.

This section seeks to show the interfaces and complementarities between Brazil and China in the context of the farming industry, enabling the joint development of new opportunities and broadening the impact of cooperation initiatives promoted between these two countries on technology and economy.

Brazil and China in the production and trade of food

China and Brazil (along with United States, India and Russia) are part of a selected group of countries with the following characteristics: urban population of more than 80 million people, farming area higher than 30 million hectares and economies with gross domestic product (GDP) higher than US\$ 1 trillion (Barros, 2019). Such aspects provide conditions to allow these countries to establish themselves as farming powers. Additionally to being a large agriculture and livestock producer, China is currently one of the main importers of food, in order to feed its large population. Brazil, with a smaller population and a larger productive area, has conditions to produce food for its domestic market and also to meet international demands. In this sense, it is emphasized how relevant it is to adopt new technologies for the farming industry, in order to promote increased productivity with sustainability.

In the last four decades, Brazil has been promoting a revolution towards a tropical

sustainable agriculture, by inserting knowledge, innovation and technologies in the productive chains of the farming industry, building a competitive and effective system and establishing a solid path for the economic and social development (Paulinelli; Rodrigues, 2019). With this trajectory, the country was consolidated as a successful producer and exporter of food - both *in natura* and processed food - with emphasis on soy beans, corn and rice, animal protein, fruits and vegetables.

China stands out among the major global economies, with the largest population and the 4th largest territory in the world. Chinese represent approximately 20% of the world's population and their economy has presented an expressive growth in the last few years, also reflected on the food consumption patterns. China is one of Brazil's main economic partners, and the main destination of the Brazilian agribusiness.

Apart from being a major importer of farming and food products, China is also a major producer of food. According to the FAO (Food and Agriculture Organization of the United Nations - FAOSTAT), in 2019, Chinese agriculture was the global leader in wheat and rice production, becoming the second largest producer of corn and the fourth largest producer of soy and sugarcane. Regarding livestock production, in the same year, China was the world leader in pork production, also standing out in the production of bovine meat and poultry. This shows the country is paying attention to the technologies that can be applied to increase its domestic food production, contributing for the maintenance of the country's food safety structures.

These characteristics create an environment that allows the intensification of bilateral relations between Brazil and China regarding technological development for the entire productive and trade chain of farming products. Thus, the generation and dissemination of technological solutions applicable to the farming industries of both countries - considering the specificities of each nation and respecting the singularities of their productive sectors - present a vast potential to increase the agricultural and food production and to generate positive impacts for their productive and consumption chains.

Development, innovation and technological trajectory in agribusiness chains

China and Brazil have their singularities regarding their economic development process, activities associated to their agricultural chains and technologies applied to them.

Brazil is established as the world's barn, being responsible for an important share of the global production of food, and agribusiness has a significant share in its Gross Internal Product, in exports and labor employment. The country has been establishing a path to maintain its position as food supplier, as well as to consolidate as a major player in the global agriculture and livestock trade. In this sense, investments and programs are needed to keep evolving the industry, both concerning incentive and infrastructure for digitalization, transportation logistics and energy supply and for promoting practices which are increasingly ecologically sustainable (Gonçalves; Costa, 2019).

Productivity gains were responsible for about 80% of the growth in agricultural production in Brazil between the years of 1976 and 2016, according to Gasques et al. (2018). The adoption of new knowledge, technologies and productive processes by the Brazilian farming industry is an important path to face the challenges of this sector, with emphasis on the intense

digital transformation process in the field (Embrapa, 2018).

China, in turn, is a country with rural roots, since the beginning of its history, 2,000 years ago. Ensuring Food Safety is extremely relevant for the country, considering its numerous population, as well as the phytosanitary challenges and recent commercial disputes with other economic powers. In this perspective, the country has been taking measures to diversify its productive chain, increase its imports and, at the same time, strengthen the national farming production. China Agrifood Funding Report 2021 (Agfunder, 2021) highlights that even though there was much skepticism regarding China's economic results in 2020, the investment in Chinese startups in the Agtech segment have increased in about 66%, far above the global result (with growth of 34%).

Investments in Chinese Agtechs are historically aimed largely at the post-production and food sectors, with more than 60% involved in the e-Grocery category. In 2020, however, there was a growth in the amount invested in startups acting with new digital technologies applied to production, such as drones and robotics, focused on productivity and effectiveness: an increase of 190% if compared to 2019. Two trends have contributed for this movement, according to Agfunder (2021): the consolidation of small properties in larger-scale enterprises and investments from large public agricultural corporations in big projects for the industry, stimulating the adoption of technology.

China, through periodical economic reforms, has become a great economic power in the current days, with actions focused on agricultural development, liberalization of the private sector, modernization of the industry and openness to foreign countries. Additionally to its role as an important exporter, the country is also known for its innovations, its vibrating corporate market and its startups. There are relevant Chinese center of technology generation aimed at various segments of the economy, including those associated to the agriculture and food chain. It is also observed the growing trend of exporting Chinese technology for several countries, including Brazil and its farming industry. In a few decades, China went from manufacturer of products for Western companies to developer of its products and brands, linking the daily activities of the Chinese society to the indissociable use of technologies. In this context, the growing number of technological solutions, applications and algorithms to help with daily tasks in the cities, industries and in the field stand out, stimulated by the increase in innovative enterprises established in the country's main innovation centers, which places China among the nations with the highest number of startups and innovative initiatives.

China and Brazil integrate the group of the 20 main enterprising ecosystems in the world: China in the 14th and Brazil in the 20th position, with both achieving a substantially better position in 2020 (compared to 2019), moving up more than 10 points in the StartupBlink ranking (2020). In the ranking of main global cities in terms of entrepreneurship, among the 20 main ecosystems, two Chinese cities stand out - Beijing (6th) and Shanghai (10th) - and, in Brazil, São Paulo (18th).

StartupBlink (2020) report highlights the movement towards strengthening the Chinese enterprising ecosystem, the 1st in Asia, especially with the almost unanimous increase in the local ecosystem's ranking (Beijing, Shanghai, Shenzhen, Hangzhou, Guangzhou, Xiamen). Due to its vast population, the country presents low indicators regarding the quantitative percentage of startups and supporting organizations (coworking areas, hubs and spaces and accelerators) and entrepreneurship events. The Chinese ecosystem impact and quality measures are positive (China is the 7th in this measure) considering the presence of global brands of entrepreneurship supporting organizations, unicorns and the realization of big

events for startups and entrepreneurs.

Another point to be improved in China is its classification as “business environment”, understood as the combination of the success of the country’s enterprising ecosystem associated to overall indicators related to infrastructure, businesses and operating conditions for an entrepreneur. According to the results of the report StartupBlink (2020), the trend for Chinese entrepreneurs is to provide solutions for the local market due to the size of its market and due to cultural reasons. The report also highlights the need to stimulate the vision of the young people to, in addition to building their financial independence, develop solutions to change the world.

Brazil is ranked as the 1st enterprising ecosystem in Latin America, and the 20th ecosystem in the global context, having improved its classification in 17 positions (Startupblink, 2020). There are conditions to increase technological entrepreneurship, which is evidenced by the growing number of unicorns which also explore the domestic market in their initial actions.

The city of São Paulo is the main enterprising center in Brazil, and also in Latin America, with a better position than in 2019, appearing as a global innovation hub and the only Latin American country among the forty main local ecosystems in the global context. The StartupBlink (2020) report ranked 29 Brazilian cities, among which the following stand out: Rio de Janeiro, Belo Horizonte, Curitiba, Porto Alegre, Florianópolis, Campinas and Brasília, as well as São Paulo.

The report points out that both China and Brazil have an important domestic market, initially favorable to the development of new companies, contemplating the stages of ideation and early operations, as well as traction and scale-up processes. The incentive to the technological entrepreneurship and to a more favorable business environment will be beneficial to both countries.

Agtechs are highly relevant enterprising segments and stand out in the Brazilian and Chinese innovative contexts. China is the 2nd country in terms of Venture Capital investments in the field, and Brazil holds the 12th position (AGFUNDER, 2020b). The performance of these startups is very different in both countries: in China, the biggest investment activity is related to Agtechs working with e-Grocery, Premium food and restaurant brands, traceability technologies, logistics and transportation, and agribiotechnology (AGFUNDER, 2021); whereas in Brazil, about 53% of the Agtechs work in the fields of raw materials and production (Dias et al., 2019).

The next section addresses some of the trends for Digital Transformation in the Field in both countries

Digital transformation in the field: trends in China and in Brazil

Chinese technological innovation runs across various market segments - agriculture and food, industry, transportation, telecommunications - occurring in an integrated manner, even though there are singularities regarding productive niches, services provided and segments of the society involved.

In China, the development of technological solutions occurs with support from a solid communication and data transfer network, especially in the main urban, economic and productive centers in the country. Additionally, the implementation of 5G technology

reinforces this structure and creates future foundations for the national technological expansion. Thus, considering that tools and technologies developed and applied to the agricultural and food chain rely, directly or indirectly, on communication structures, the Chinese example shows us how we can think and structure our innovation environments in the Brazilian territory, focusing on connectivity and data transfer with increasingly larger sizes, higher speed and flow.

Another example can be applied to the traceability of Brazilian agricultural and food products. In China, the use of QR codes is widely spread. However, how does the dissemination of these codes for products and services in China relate to the Brazilian agricultural and food chain? The use of QR codes can contribute with the traceability of products and services offered in the various segments of the Brazilian agricultural and food chain, ensuring the access to specific information about them throughout the production process, enabling the adjustment of productive and commercial techniques. Furthermore, the conversion of products and services into a large numeric code, such as the QR code, enables the direct connection between the producers and the consumers of agricultural and food products, strengthening their commercial relationship and the proximity between logistics channels.

In China, the intense online commercial activity has been consolidated as one of the basis of the national economy. Supported by effective transportation and logistics systems, the digital commerce is effervescent and enables the purchase and sale of products without regional limits in the national territory.

In the Brazilian case, effective online trading structures have a high potential to directly connect producers and consumers of agricultural and food products, as well as of raw materials. Even though the national agriculture is focused on large crops, the production of specific food products from several Brazilian regions, in national and, especially, in regional scale, performs a significant role among small and medium-sized producers, particularly in family farming. Therefore, online trading systems enable the connection and expansion of Brazilian supply and consumer markets, which strengthens not only the agricultural and food industries, but the national economy as a whole.

Image patterns recognition systems are widely spread in the Chinese daily activities. How can these systems add on to the Brazilian innovation environments? With the constant growth of technologies for the agricultural production, one of the biggest challenges lies in identifying, especially through satellite images and images acquired by unmanned aerial vehicles (UAVs, commonly referred to as drones), the specific conditions for crop development. Through structured databases, particularly through the use of images, it is possible to analyze the impact of biotic and abiotic factors in productivity, based on identification of patterns, contributing with specific and localized handling practices.

The development and use of digital platforms that combine different databases and tools is a reality in China, establishing a communication between several sensors and databases, providing accurate information in the palm of one's hand and assisting the decision-making process. Although there has been a growth in the use of digital technologies in the Brazilian productive environment, there are multiple sensors with different operating systems, varied data platforms and even distinguished file formats, which makes it difficult to consolidate the information collected in the production areas or even inside a farming property. The Chinese example highlights the importance of promoting an integrated operation between data analysis and management devices and platforms, increasing the efficiency in the information generation and increasing the potential for the results of data-driven agriculture.

These trends place Brazil in a strategic position, in which there is, on one side, its sustainable, competitive and growing agricultural production, supported by the expressive increase in the use of technology and, on the other side, the Chinese demand for food and the growing international spread of technologies coming from that country. Thus, it is evident that there is potential to develop joint actions between both nations, seeking to strengthen the commercial relationships and also the cooperation for the development of tools and technologies for the agribusiness.

Cooperation and increased collaboration between Brazil and China for Agriculture

Considering the relevance of agriculture and livestock for the economy of both countries, there are mutual interests regarding the conduction of research and technological development to increase agricultural productivity and sustainability in the industry, as well as to reduce production costs. Collaborations in scientific research and technological development are fundamental paths to thread in an innovation environment articulated between the two countries. Joint work, structuring market niches and technology transfer, overcoming the independent development, enables the strengthening of structures capable of supporting digital transformations in the field. Both in Brazil and China, there is a wide coverage of public policies and institutions acting to make research and development feasible in these innovation environments. Similarly, it is noticeable the significant amount of funds invested by government and private institutions, leveraging startups and innovative entrepreneurs. It is also worth mentioning the fundamental technical and scientific support received by startups from teaching and research institutions, both in Brazil and in China. Consequently, the continuous improvement of stimulation mechanisms for technological development is vital for the increasingly significant continuity and consolidation of their agricultural and food chain's innovation environments.

Brazil and China have a history of scientific and technological cooperation, such as in space research activities jointly developed for more than 30 years. The development of the CBERS¹ (China-Brazil Earth Resources Satellite Program), started in 1988, ensures more autonomy regarding the acquisition of images in the national territory. Therefore, this existing institutional cooperation structure may serve as a foundation for the creation of new cooperative projects to develop sensors (for optics, meteorology and communication) that may increase even more the quantity and quality of information available for agricultural mapping and monitoring. Additionally, new technological initiatives with similar features to the space research, such as automation and robotization of machinery and equipment for agriculture, may use the previously established relationships between the nations to develop new joint projects.

Also in this context, cooperation instruments already established by Brazilian and Chinese research institutions - such as the Brazilian Agricultural Research Corporation (Embrapa) and the Chinese Academy of Agricultural Sciences (CAAS) - represent an alternative for technological development in the industry. Considering the vast number of Brazilian institutions dedicated to agricultural research, whether federal or state institutions and universities, the alliances

1 For more information about the initiative, visit: <http://www.cbears.inpe.br/sobre/historia.php>

already built may serve as a foundation for new cooperation agreements. This cooperative environment significantly contributes to knowing the production technologies employed both in Brazil and in China, seeking to adjust and generate new tools that address the uniqueness of the Brazilian agricultural and food production systems.

A recent example of academic cooperation in agricultural research and training was the creation of the China - Brazil Agriculture Innovation Center², in 2019, through a partnership between Escola Superior de Agricultura “Luiz de Queiroz” (ESALQ/USP), *China Agricultural University* and *Hainan University*. This partnership gives strength to the A5 Alliance initiative³, which develops research and training actions for sustainable transformation of agriculture and food systems. This alliance gathers five internationally renowned schools of Agricultural Sciences - the Brazilian institution ESALQ/USP, China Agricultural University, Wageningen University from the Netherlands and the North American Cornell University and University of California-Davis - cooperating to generate new knowledge, training and formal education for a sustainable agriculture.

The work of the Ministry of Foreign Affairs, through the Embassy and General Consulates of Brazil, plays an important role in strengthening the diplomatic relations between Brazil and China in strategic sectors, such as the agriculture and livestock industry. Regarding technological innovation in the agriculture and food chain, the agriculture and science and technology sectors stand out, acting as an interface for the bilateral contact between government instances and also facilitating contacts between entities of the private sector.

Another relevant initiative that has been developed by the Ministry of Agriculture, Livestock and Food Supply (Mapa) in the field of foreign affairs is the strengthening of the program of agricultural attachés to advise Brazilian diplomatic representations abroad (Brasil, 2020). These actions enable the identification of new challenges and opportunities for trade, investments and cooperation for the Brazilian agribusiness. The work of agricultural attachés contributes to structure the cooperation mechanisms to mitigate any bureaucratic, economic and social obstacles between the two countries.

Still in this regard, the Brazilian Trade and Investment Promotion Agency (Apex-Brasil) significantly contributes to reinforce the commercial actions between Brazil and China, working to promote and export Brazilian products and services abroad, to internationalize Brazilian companies and to attract foreign investments for strategic sectors of the Brazilian economy, such as agricultural and food production and its technological innovation process.

All of these actions have been contributing to reinforce the Brazil-China approximation in the agriculture and livestock industry, whether in the context of international trade or in terms of technical and scientific cooperation. It is worth mentioning that one of the foundations of strengthening the joint activities of agricultural innovation is the interchange of scientists and entrepreneurs, allowing the assimilation of the underlying cultural aspects of each country and acting as a relevant source of technological knowledge, supporting lasting cooperating initiatives. In this sense, we emphasize the conduction of practices that assure the property and sharing of intellectual protection of technologies and assets jointly developed.

Safeguarded the socio-environmental, economic, cultural and spatial individualities of each country, the Brazil-China relationship shows a high potential to leverage even more the technological innovation processes in the Brazilian agricultural and food chain. As a result,

² More information on <http://www.centrodeinovacao.esalq.usp.br/>

³ To know more about the initiative, visit: <http://www.agrifood5.net/general%20information>

knowledge is generated and techniques are improved, catering to the singularities of the domestic farming reality and strengthening the social and economic structures associated to the production of food in a sustainable and efficient manner.

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PART 2

Methodology

Methodological procedures

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This chapter describes: (1) briefly, the mapping, comparing it to other types of research; (2) the collections to build the databases about the agtechs and investments in agtechs, based on the legacy from the 2019 edition; (3) the taxonomy and the adjustments made from the 2019 edition, and (4) the classification and validation of agtechs.

It is important to emphasize that, due to changes in the methodology, it is not possible to directly compare the 2019 and the 2020/2021 data. As shown in detail in the next sections, there was:

- improvement of information related to agtechs;
- increase in the sources of data with basis from potential agtechs;
- provision of a form to register the agtechs; and
- changes in the criteria for inclusion / removal of agtechs in the study.

These factors resulted in agtechs that:

- already existed in 2019, had not been mapped in the 2019 study and were identified in the 2020/2021 study;
- already existed in 2019 and had not been validated in the 2019 study, but were validated in the 2020/2021 study; and
- were considered in the 2019 study, but were not validated in the 2020/2021 study.

To enable the comparison of the data, it would be necessary to remake the classification of all the 2019 data with the current methodology. Thus, the analysis prioritized comparisons related to what each edition (2019 and 2020/2021) has shown and also to identify the differences and similarities between them. Although the database has evolved, it still does not enable a longitudinal analysis.

Additionally, due to the current covid-19 pandemic, which has impacted several industries, and which was highlighted in one of the chapters in this study, the technical team worked in the analysis of this context for a longer period and, as a consequence, analyzed again the survival and ranking of startups mapped in 2019, and also mapped new agtechs. Therefore, there was an extension in the analysis period of the innovation ecosystem, and, deliberately, the period of time taken into consideration covered the years of 2020/2021.

About the map

The mapping of agtechs has distinguished characteristics in relation to other studies with additional purposes, such as a census and a survey.

A census seeks to understand a population, based on data collected with the studied population. Thus, it relies on research instruments, such as questionnaires, to make an active search, also relying on the availability of the research subjects to provide answers. Since it does not work with sampling, but with the entire population, it demands a large budget and a long collection time, except when the population is very small.

In the case of the agtechs ecosystem, two editions were carried out by the partnership between ESALQ/USP and AgTech Garage, both of which were considered in the Radar AgTech Brasil 2019 and conducted in a moment where the ecosystem had a much smaller size than it currently does. New editions of the Census have not been published since 2019.

The mapping follows another approach, since it works with publicly available information. Therefore, it does not rely on the availability of the companies and individuals to answer a survey or on the authorization for the use of such information, since they are available to the public. On the other hand, the map does not include more detailed data that would need to be informed by the individuals and companies. There have been frequent initiatives to map the innovation and entrepreneurship ecosystems. Regarding the agribusiness, maps were published by Distrito and by Liga Ventures, all of them included in Radar AgTech Brasil 2019. New editions of mapping were not identified after 2019.

A survey is a kind of research that uses mainly quantitative instruments to describe a population in more depth, but without the pretension of performing a census. This is a common type of research, which completes the others.

Data collection

This section describes the construction of the database of agtechs and investments in agtechs, each of their fields and their criteria of inclusion and exclusion.

Agtechs database

The Radar Agtech Brasil 2020/2021 database was built based on the 2019 study, updated and qualified. For this purpose, the following activities were developed:

- 1) Verification of agtechs included in Radar Agtech Brasil 2019
 - a) Verification of agtechs listed in the 2019 edition, to check if they were active or inactive, including enriched data from these companies in partnership with Speedio (speedio.com.br).
 - b) Updating descriptive data of each startup and field of work.
- 2) Expansion of the Agtechs database

- a) Inclusion of new agtechs by the researchers (Embrapa, SP Ventures and Homo Ludens) from professional contacts of the research team members and systematic monitoring of agricultural research government bodies, state and federal research institutes, research, innovation and entrepreneurship stimulation sources, innovation hubs, incubators, accelerators and enterprising capital investors.
- b) Inclusion of new agtechs that volunteered to register at the website radaragtech.com.br.
- c) Inclusion of new agtechs that volunteered to register after the disclosure of a form for inclusion in the Radar Agtech Brasil 2020/2021. This effort was disclosed in September 2020, and was supported by Embrapa's press advisory, with the press release featured on other websites such as Globo Rural, Startagro, Fapesp and Datagro.

Based on this process, nearly 2500 agtechs acting in Brazil were mapped. However, according to the criteria for inclusion and removal from the agtechs database, 1574 agtechs were validated.

Fields of the agtechs database

The database contemplates the following information for all agtechs: website, location (city and state) and technological field of work.

Part of the data from the database was enriched by speedio.com.br and supplemented by public data from the companies, such as CNAE, LinkedIn and Facebook profiles, as well as publicly available contacts of the partners. A few additional data are not available for all agtechs, such as phone numbers, participation in the farming and food productive chain, partner contacts, social network websites and e-mail addresses. This information was useful to help validate the inclusion, activity, geographic location and agtech classification.

Criteria for inclusion and removal from the agtechs database

The criteria for inclusion of agtechs in the Radar AgTech Brasil 2019 database were: the existence of an active website associated to the availability of information regarding its location and work area. The map didn't include any startups which work in a market that is not related to the agricultural industry chain, even if they are listed in other studies and directories of the industry. The criteria were maintained in the current edition of Radar Agtech Brasil.

For many categories of agtechs, the cycles of technology development and adoption are longer than the cycles of startups in other sectors of the economy. For Radar AgTech Brasil 2020/2021, it was established that the company could not be more than 20 years old.

Also, the agtechs that were purchased by other companies were removed from the map, regardless of remaining autonomous inside the group of the company that purchased it; redundant agtechs, like those which introduced themselves with different names, but are part of the same company; and foreign agtechs that act in Brazil.

Such parameters can be perfected in the next editions, with more specific criteria for each category.

Agtechs investments database

The Radar Agtech Brasil 2020/2021 database of agtech investment was built from the 2019 study, updated and qualified. For this purpose, the following activities were developed:

- 1) collection of information between Embrapa, SP Ventures and Homo Ludens concerning partnerships established with incubators, accelerators and investors;
- 2) mapping of incubators, accelerators and investors;
- 3) systematic monitoring of events, call for startups, incubation and acceleration programs;
- 4) search in the websites of incubators, accelerators and investors, identifying;
- 5) agtechs mentioned by these organizations.

Verification in the agtechs database, of activities/functioning of agtechs and listed as portfolio by the organizations.

Fields of the Agtechs investments database

The agtechs investment database has three main components:

- Investors: establishment, geographic location, website and scope of investment.
- Transactions: date, parts and stage of the agtech.
- Agtechs: geographic location and classification of the categories mirrored from the previously described agtechs database.

The amount of the investments was not analyzed due to the difficulty to obtain accurate data in public domain. Although not even all data are available for all investors and transactions, it was always possible to identify the location and distinguish incubators, accelerators and professional investors.

Criteria for inclusion and removal from the Agtechs investments database

The main criterion for inclusion of transactions in the agtechs investments database was the availability of publicly disclosed information about the transaction and the parts involved.

The criterion for the inclusion of incubators, accelerators and investors is the existence of at least one agtech in its portfolio.

Taxonomy

Radar Agtech Brasil 2020/2021 has kept the same approach used in 2019 and the analysis to include the agtech in the productive chain has considered the traditional approach of the Agribusiness to analyze the productive process, from the providers until the final consumer. This perspective takes into consideration the upstream (before) and downstream (after) segments in the productive activity. Within each segment, non-excluding categories complete the ranking.

Small adjustments were made in the taxonomy used by Radar Agtech Brasil 2020/2021 regarding the previous edition. This section presents the process performed and the results achieved.

Taxonomy revision process

The taxonomy of Radar Agtech Brasil 2019 was based on the categories of academic studies, official rankings and international reports focused on agtechs, especially AgFunder, considered one of the main references for investments in the field. From August 2019 to August 2020, new editions of these international reports were published, in which there were minor adjustments in the categories regarding previous editions that served as basis for the 2019 edition.

With the purpose of enabling the creation of a history and, at the same time, maintaining the compatibility with the definition of international categories, some adjustments were made in the categories and their descriptions based on the consensus of two researchers of the team for each category. The updated writing was internally submitted and validated by at least two other researchers of the team, who could make suggestions to the authors. Slight changes were made to the writing, but none changing the essence of the texts.

Next, five external experts were invited, experienced in research with agtechs and/or with the agribusiness chain and representing the Academy, applied research, incubators and/or accelerators. The researchers also submitted their considerations, which were consolidated. The final text was adjusted again by the authors and submitted for validation of the team.

The changes in the categories were:

1. Before the Farm

1. 1. Laboratory analysis: maintained.
1. 2. Credit, Exchange, Insurance, Carbon Credits and Fiduciary Analysis: replaced “Financial Services”.
1. 3. Fertilizers, Inoculants and Plant Nutrition: replaced “Fertilizers, Inoculants and Nutrients”.
1. 4. Animal Genomics and Breeding: replaced “Genomics and biotechnology”.
1. 5. Marketplace of Raw Materials for Agribusiness: new.
1. 6. Animal Nutrition and Health: maintained.
1. 7. Seeds, Seedlings and Plant Genomics: replaced “Seeds and Seedlings”.

The category “Shared economy”, which was placed under “before the farm”, was relocated for “inside the farm”.

2. Inside the Farm

2. 1. Apiculture and Pollination: new.
2. 2. Connectivity and Telecommunications: new.
2. 3. Content, Education, Social Media: replaced “Content, Education and Social Networking”, and includes agtechs which were placed under “Consulting /

Acceleration / Association” (category allocated under after the farm in 2019).

2. 4. Biological Control and Integrated Plague Management: replaced “Biological Control”.
2. 5. Drones, Machines and Equipment: merges “Machines and Equipment” and “UAV”.
2. 6. Shared economy: maintained, but now is placed under “inside the farm”.
2. 7. Agricultural waste management: replaced “Waste & water management”.
2. 8. Internet of Things for Agriculture: plague detection, soil, climate and irrigation: replaced “Internet of Things”.
2. 9. Meteorology and Irrigation and Water Management: replaced “Meteorology and Irrigation”.
2. 10. Integrating platform for systems, solutions and data: new.
2. 11. Remote Sensing, Diagnosis and Image Monitoring: merges “Remote Sensing”, “Image Diagnosis” and “Monitoring”.
2. 12. Rural Property Management System: replaced “Agriculture and Farm Management System”.
2. 13. Telemetry and Automation: maintained.

Categories “Aquaculture” and “Precision Agriculture and cattle raising” were removed.

3. Inside the Farm

3. 1. Innovative foods and new food trends: maintained.
3. 2. Storage, Infrastructure and Logistics: maintained.
3. 3. Biodiversity and Sustainability: subdivision of “Bioenergy and Biodiversity”.
3. 4. Bioenergy and Renewable Energy: subdivision of “Bioenergy and Biodiversity”.
3. 5. Cloud kitchen and ghost kitchen: new.
3. 6. Food industry and processing 4.0: replaced “Industry 4.0”.
3. 7. Marketplaces and Trade and sales Platforms for agriculture and livestock products: replaced “Trade Platform and sales marketplace”.
3. 8. Online grocery: maintained.
3. 9. Urban farming: plant factory and new ways of farming: replaced “Plant factory and new ways of farming”.
3. 10. Online restaurants and Meal Kits: maintained.
3. 11. Food safety and traceability: replaced “Food safety and traceability”.
3. 12. Food stores and services autonomous management system: replaced “Automated store & Retail Management”.
3. 13. Packaging systems, Environment and Recycling: maintained. The category “Consulting / Acceleration / Association” was removed.

Updated description of the categories

This section introduces the categories and their respective descriptions by segment. The changes in the descriptions mainly follow the changes in the categories, and some adjustments were also implemented in order to provide clarification.

Table 4. Description of the categories before the farm in Radar Agtech Brasil 2020/2021.

| Category | Description |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Laboratory test | Startups that trade and/or develop new methods for laboratory tests related to nutrient levels, soil composition and development of plants and animals. |
| Credit, exchange, insurance, carbon credits and fiduciary analysis | Startups that provide financial services such as credit, barter, securitization and analysis and trade of carbon credits for rural producer and fiduciary analysis of rural properties. |
| Fertilizers, inoculants and plant nutrition | Startups that trade and/or develop new fertilizers, inoculants and nutrients, in order to improve plant development, growth and immune system. |
| Animal genomics and breeding | Startups working with applied genomics to increase productivity, weight gain and health of cattle and to increase the efficiency in the insemination process, using genetic testing, genotyping and other techniques. |
| Marketplace of raw materials for agribusiness | Startups that develop and provide online platforms for the trade of productive raw materials, equipment and services aimed at agricultural and cattle raising production. |
| Animal nutrition and health | Startups that trade and/or develop new food, medicines and care, in order to improve animal development, weight gain and immune system. |
| Seeds, seedlings and plant genomics | Startups that trade and/or develop disruptive methods, processes and technologies in the variety of seeds and seedlings, as well as in multiplication, germination and distribution methods. This category also includes startups that trade and/or develop genetic improvement of plants, develop technology for scalable production of biological substances and define new uses for these substances. |

Table 5. Description of the categories inside the farm in Radar Agtech Brasil 2020/2021.

| Category | Description |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Apiculture and pollination | Startups that develop beekeeping technologies, such as special food and data-based management, that provide pollination services, platforms to facilitate the connection between beekeepers and producers, and producers and traders of honey and honey products. |
| Connectivity and telecommunications | Startups that trade and/or develop equipment and systems to take and ensure connectivity inside the farm. |
| Content, education, social media | Startups that develop and provide online platforms for dissemination of content, information and best agricultural, agronomic and cattle-raising practices, and that provide consulting with the purpose of empowering, training and approximating rural producers. |

Continued...

| Category | Description |
|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Biological control and integrated plague management | Startups that trade and/or develop biochemical and biological variants (macro or microscopic) aimed at combating plagues and diseases, as well as startups that develop technologies for population control and optimization of use of raw materials, through agronomic intelligence, for an effective and efficient control of plagues and diseases. |
| Drones, machines and equipment | Startups that develop and provide aerial vehicles, machinery and equipment for use in the farm. |
| Shared economy | Startups that provide equipment and machinery for rental and promote their shared used among rural producers. |
| Agricultural waste management | Startups that trade and/or develop equipment, methods and processes to improve the waste management in the property. |
| Internet of things for agriculture agtechs: plague detection, soil, climate and irrigation | Startups that develop and provide equipment and sensors capable of communicating with each other. |
| Meteorology and irrigation and water management | Startups that develop and provide equipment, methods and processes to improve the predictability of rain levels, as well as those that enable better management and efficiency in the irrigation process, as well as higher efficiency in the farm's water management. |
| Integrating platform for systems, solutions and data | Startups that provide integrated solutions for monitoring of agronomic and handling or traceability variables in the productive chain. |
| Remote sensing, diagnosis and image monitoring | Startups that develop and provide online platforms that help the rural producer in controlling, knowing and outlining the farm based on imagery, radars and algorithms to identify standards. |
| Rural property management system | Startups that develop and provide online platforms to assist the rural producers' management, organization and decision-making. |
| Telemetry and automation | Startups that trade and/or develop equipment and algorithms for collection, consolidation and automation of the processes. |

Table 6. Description of the categories after the farm in Radar Agtech Brasil 2020/2021.

| Category | Description |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Innovative foods and new food trends | Startups that develop and provide food with better nutritional levels, using replacement ingredients and new use of existing ingredients. |
| Storage, Infrastructure and Logistics | Startups that develop and provide new processes, methods and technologies for storage and transportation of commodities and food. |

Continued...

| Category | Description |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Biodiversity and Sustainability | Startups that develop and provide new sustainable processes, methods and technologies and/or for protection and/or responsible use of the biodiversity. |
| Bioenergy and Renewable Energy | Startups that develop and provide new processes, methods and technologies for production of bioenergy and/or renewable energy. |
| Cloud kitchen and ghost kitchen | Startups that provide shared kitchens for the production of meals for delivery. |
| Food industry and processing 4.0 | Startups that develop and provide new processes, methods and technologies with the purpose to increase efficiency in the use of raw materials, energy, water etc. in the food industry. |
| Marketplaces and Trade and sales Platforms for agriculture and livestock products | Startups that develop and provide online platforms for trade of commodities and products produced by agribusiness in a large scale, focused on internationalization. |
| Online grocery | Startups that develop and provide online platforms for trade of unprepared products and food, offering the possibility of a monthly signature focused on the end consumer. |
| Urban farming: plant factory and new ways of farming | Startups that develop and provide new processes, methods and technologies for production of crops in urban or indoor areas. |
| Online restaurants and Meal Kits | Startups that develop and provide online platforms for trade of prepared products (meals, snacks, sweets) and food which are ready for consumption or that only need heating, offering the possibility of a monthly signature focused on the end consumer. |
| Food safety and traceability | Startups that develop and provide technologies acting to increase the quality and durability of food, as well as to help with the traceability of ingredients used in companies within the productive chain. |
| Food stores and services autonomous management system | Startups that develop and provide processes, methods and technologies for the automation of stores and to support retail management. |
| Packaging systems, Environment and Recycling | Startups that develop and provide new processes, methods and technologies for packages, in order to mitigate negative environmental impacts and to facilitate recycling. |

Ranking of agtechs

The ranking of each agtech was performed by Radar's team and reviewed in the following cases:

When the first examiner suggested the removal of the agtech due to lack of data, another examiner would try to find data by other means;

When the first examiner suggested the removal of the agtech due to inadequacy according to removal criteria, another examiner would confirm this decision;

When the first examiner was in doubt regarding the main category; and

When there was no consensus between the first and the second examiner, and a third examiner also gave his or her opinion and the debate would go on until there is a consensus.

Part of the agtechs act and were ranked in two of the categories listed in Radar Agtech Brasil 2020/2021. The results included in this document consider only the first category. However, at the website radaragtech.com.br, it is possible to incorporate the information of the agtech's second category into the results, when applicable, by selecting the appropriate information on the interactive interface (Tableau).



PART 3

Mapping results

Analysis of the mapped agtechs

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This chapter has two sections: (i) geographic analysis and (ii) analysis of the categories by segment. It is important to emphasize that the data are also available at the website radaragtech.com.br, mediated by interactive viewing tools.

Geographical analysis

This section analyzes agtechs by geography, highlighting the distribution of location by regions, federative units (states) and cities, which enables an easier assessment of how each innovation center is structured for future comparisons. It also allows assessing how the impact or influence of the local production interferes in the technology developed.

As far as possible, we will show the results of this edition along with those of the 2019 edition, in order to enable a more thorough view of the ecosystem and to reinforce the scenario. We point out, as explained in the methodology, that it is not possible to directly compare the 2019 results with the 2020/2021 results.

By regions and Federative Units

A deeper look on the startups of each region is important to observe the performance of each part of our country in our Agtech ecosystem.

Radar Agtech Brasil 2020/2021 identified 1574 agtechs, almost 90% focused on the Southeast (62.5%) and South (25.2%) regions of the country. The federative unit with the highest number of agtechs is São Paulo, with 48.1% of the country's total. Figure 1 shows the distribution of agtechs by region and Federative Unit.

SOUTHEAST (983)



SOUTH (397)



MIDWEST (94)



NORTHEAST (72)



NORTH (28)



Figure 1. Distribution of agtechs by region and Federative Unit.

It is also noted that, if we add the whole percentage of the other regions, the result largely fits the percentage of the Southeast region. This shows how the Southeast region prevails on the concentration of startups mapped. Table 1 shows that the changes in the methodology and data collection period haven't significantly changed the proportions between the regions.

Table 1. Distribution of agtechs by region in Brazil.

| Region | 2020/21 | 2019 | % of the total in 2020/21 | % of the total in 2019 |
|-----------|---------|------|---------------------------|------------------------|
| Southeast | 983 | 738 | 62.5% | 65.7% |
| South | 397 | 261 | 25.2% | 23.2% |
| Midwest | 94 | 70 | 6.0% | 6.2% |
| Northeast | 72 | 39 | 4.6% | 3.5% |
| North | 28 | 17 | 1.8% | 1.5% |
| TOTAL | 1574 | 1124 | 100.0% | 100.0% |

Among the Federative Units, the nine first positions remained the same that were identified in Radar Agtech Brasil 2019, as seen in Table 2.

Table 2. Distribution of agtechs by Federative Unit in Brazil.

| Federative Unit | 2020/2021 | 2019 | % of the total in 2020/2021 | % of the total in 2019 |
|---------------------|-----------|------|-----------------------------|------------------------|
| São Paulo | 757 | 590 | 48.1% | 52.5% |
| Paraná | 151 | 102 | 9.6% | 9.1% |
| Minas Gerais | 143 | 99 | 9.1% | 8.8% |
| Rio Grande do Sul | 124 | 89 | 7.9% | 7.9% |
| Santa Catarina | 122 | 70 | 7.8% | 6.2% |
| Rio de Janeiro | 63 | 41 | 4.0% | 3.6% |
| Goiás | 30 | 22 | 1.9% | 2.0% |
| Mato Grosso | 30 | 18 | 1.9% | 1.6% |
| Bahia | 25 | 12 | 1.6% | 1.1% |
| Espírito Santo | 20 | 9 | 1.3% | 0.8% |
| Distrito Federal | 17 | 13 | 1.1% | 1.2% |
| Mato Grosso do Sul | 17 | 17 | 1.1% | 1.5% |
| Pará | 15 | 6 | 1.0% | 0.5% |
| Ceará | 13 | 7 | 0.8% | 0.6% |
| Pernambuco | 11 | 8 | 0.7% | 0.7% |
| Rio Grande do Norte | 9 | 3 | 0.6% | 0.3% |
| Tocantins | 8 | 4 | 0.5% | 0.4% |
| Paraíba | 7 | 4 | 0.4% | 0.4% |

Continued...

| Federative Unit | 2020/2021 | 2019 | % of the total in 2020/2021 | % of the total in 2019 |
|-----------------|-----------|------|-----------------------------|------------------------|
| Amazonas | 4 | 4 | 0.3% | 0.4% |
| Piauí | 4 | 2 | 0.3% | 0.2% |
| Sergipe | 2 | 1 | 0.1% | 0.1% |
| Amapá | 1 | 0 | 0.1% | 0.0% |
| Maranhão | 1 | 0 | 0.1% | 0.0% |
| Rondônia | 0 | 2 | 0.0% | 0.2% |
| Roraima | 0 | 1 | 0.0% | 0.1% |

In order to better understand the inter-regional dynamics, the participation of each federative unit in the total number of agtechs in its region and in the country will be shown in Tables 3, 4, 5, 6 and 7.

As observed, 66.7% of 983 agtechs identified are located in the country's Southeast region. From this total, the larger concentration is still in the state of São Paulo (77%), followed by Minas Gerais (14,5%), Rio de Janeiro (6,4%) and Espírito Santo (2%).

Table 3. Number of agtechs and participation by state in the Southeast region.

| Southeast | 2021 | 2019 | % of the Region in 2021 | % of the Region in 2019 |
|----------------|------------|------------|-------------------------|-------------------------|
| São Paulo | 757 | 590 | 77.0% | 79.8% |
| Minas Gerais | 143 | 99 | 14.5% | 13.4% |
| Rio de Janeiro | 63 | 41 | 6.4% | 5.5% |
| Espírito Santo | 20 | 9 | 2.0% | 1.2% |
| Total | 983 | 739 | 100% | 100% |

With 397 agtechs, the South region hosts 25.2% of the agtechs identified by Radar Agtech Brasil 2020/2021. The distribution of agtechs in the South is balanced: Paraná contains 38% of the organizations found, surpassing Rio Grande do Sul with 31.2% and Santa Catarina with 30.7%. Also in this region, the state with less agtechs identified in the 209 study was the one with the biggest growth. Proportionally, the South hosts 40.4% of the number of startups mapped in the Southeast.

Table 4. Number of agtechs and participation by state in the South region.

| South | 2021 | 2019 | % of the Region in 2021 | % of the Region in 2019 |
|-------------------|------------|------------|-------------------------|-------------------------|
| Paraná | 151 | 102 | 38.0% | 39.1% |
| Rio Grande do Sul | 124 | 89 | 31.2% | 34.1% |
| Santa Catarina | 122 | 70 | 30.7% | 26.8% |
| Total | 397 | 261 | 100% | 100% |

The Midwest region is among the three regions that contain less than 10% of the startups identified each, and also among the ones with the best distribution. With 6% of the total number of startups in Brazil, the Midwest region has 97 startups distributed as follows: Goiás and Mato Grosso with 31.9% each, Mato Grosso do Sul and Distrito Federal with 18.1% each. Proportionally, the Midwest has 23.7% of the number of startups mapped in the South.

Table 5. Number of Agtechs and participation by Federative Unit in the Midwest region.

| Midwest | 2021 | 2019 | % of the Region in 2021 | % of the Region in 2019 |
|--------------------|-----------|-----------|-------------------------|-------------------------|
| Goiás | 30 | 22 | 31.9% | 31.4% |
| Mato Grosso | 30 | 18 | 31.9% | 25.7% |
| Mato Grosso do Sul | 17 | 17 | 18.1% | 24.3% |
| Distrito Federal | 17 | 13 | 18.1% | 18.6% |
| Total | 94 | 70 | 100% | 100% |

The Northeast region has 4.6% of all agtechs mapped by Radar Agtech Brasil 2020/2021, with 72 of them. Bahia has the highest percentage in the region (34.7%), followed by Ceará (18.1%), Pernambuco (15.3%), Rio Grande do Norte (12.5%), Paraíba (9.7%), Piauí (5.6%), Sergipe (2.8%) and Maranhão (1.4%). As shown in Table 7, there were changes in the order of the states, but since the numbers are small, they don't represent a significant difference in the region's dynamics.

Table 6. Participation of states in the Northeast region.

| Northeast | 2021 | 2019 | % of the region in 2021 | % of the region in 2019 |
|---------------------|-----------|-----------|-------------------------|-------------------------|
| Bahia | 25 | 12 | 34.7% | 32.4% |
| Ceará | 13 | 7 | 18.1% | 18.9% |
| Pernambuco | 11 | 8 | 15.3% | 21.6% |
| Rio Grande do Norte | 9 | 3 | 12.5% | 8.1% |
| Paraíba | 7 | 4 | 9.7% | 10.8% |
| Piauí | 4 | 2 | 5.6% | 5.4% |
| Sergipe | 2 | 1 | 2.8% | 2.7% |
| Maranhão | 1 | 0 | 1.4% | 0.0% |
| Total | 72 | 37 | 100% | 100% |

The North region has little representation in the national agtech scenario. With only 1.8% of agtechs mapped, Pará still leads the region, with 54% of the agtechs, followed by Tocantins (29%), Amazonas (14%) and Amapá (4%) Rondônia and Roraima, which had agtechs in the 209 edition, don't have any representatives in the 2020/2021 edition. As with the Northeast region, there were changes in the order of the states, but since the numbers are small, they don't necessarily represent differences in the region's dynamics.

Table 7. Participation of states in the North region.

| North | 2021 | 2019 | % of the region in 2021 | % of the region in 2019 |
|--------------|-----------|-----------|-------------------------|-------------------------|
| Pará | 15 | 6 | 54% | 35% |
| Tocantins | 8 | 4 | 29% | 24% |
| Amazonas | 4 | 4 | 14% | 24% |
| Amapá | 1 | 0 | 4% | 0% |
| Rondônia | | 2 | 0% | 12% |
| Roraima | | 1 | 0% | 6% |
| Total | 28 | 17 | 100% | 100% |

Based on these data, other analyses can be made. An interesting index is the number of agtechs per 100 thousand inhabitants, considering the population estimated by the IBGE. Except for the state of Rio de Janeiro, the six states with the higher number of agtechs are also those with the highest concentration of agtechs. However, the order of the states is slightly different: Santa Catarina stands out with São Paulo, and Mato Grosso has a higher level than Minas Gerais.

Table 8. Agtechs per 100 thousand inhabitants by Federative Unit.

| Ranking of agtechs by FUs | State | Agtechs in 2020/2021 | Estimated population in 2020 | Agtechs/ 100 thousand inhabitants |
|---------------------------|--------------------|----------------------|------------------------------|-----------------------------------|
| 5 | Santa Catarina | 122 | 7,252,502 | 168 |
| 1 | São Paulo | 757 | 46,289,333 | 164 |
| 2 | Paraná | 151 | 11,516,840 | 131 |
| 4 | Rio Grande do Sul | 124 | 11,422,973 | 109 |
| 7 | Mato Grosso | 30 | 3,526,220 | 85 |
| 3 | Minas Gerais | 143 | 21,292,666 | 67 |
| 11 | Mato Grosso do Sul | 17 | 2,809,394 | 61 |
| 12 | Distrito Federal | 17 | 3,055,149 | 56 |
| 17 | Tocantins | 8 | 1,590,248 | 50 |
| 10 | Espírito Santo | 20 | 4,064,052 | 49 |
| 7 | Goiás | 30 | 7,113,540 | 42 |
| 6 | Rio de Janeiro | 63 | 17,366,189 | 36 |

Continued...

| Ranking of agtechs by FUs | State | Agtechs in 2020/2021 | Estimated population in 2020 | Agtechs/ 100 thousand inhabitants |
|---------------------------|---------------------|----------------------|------------------------------|-----------------------------------|
| 16 | Rio Grande do Norte | 9 | 3,534,165 | 25 |
| 18 | Paraíba | 7 | 4,039,277 | 17 |
| 13 | Pará | 15 | 8,690,745 | 17 |
| 9 | Bahia | 25 | 14,930,634 | 17 |
| 14 | Ceará | 13 | 9,187,103 | 14 |
| 20 | Piauí | 4 | 3,281,480 | 12 |
| 23 | Amapá | 1 | 861,773 | 12 |
| 15 | Pernambuco | 11 | 9,616,621 | 11 |
| 19 | Amazonas | 4 | 4,207,714 | 10 |
| 21 | Sergipe | 2 | 2,318,822 | 09 |
| 22 | Maranhão | 1 | 7,114,598 | 01 |

Next, we will present an analysis of the cities that are most present in the national Agtech scenario according to the mapping.

By city

In 2021, nearly 26 cities stood out from the 315 cities hosting agtechs for the quantity (more than 10 companies), gathering, alone, 62.9% of the agtechs mapped, from which 12 are capitals of their Federative Units, as shown in Table 9.

In 2019, nearly 18 cities stood out from the 270 cities hosting agtechs for the quantity of startups (more than 10), gathering, alone, 58% of the agtechs mapped, from which 8 are capitals of their Federative Units.

Figure 2 shows the cities with the highest number of agtechs mapped in Radar Agtech Brasil 2020/2021. The colors of the bars were maintained with the same pattern used in Figure 2, which highlights the prevalence of the Southeast and South regions in the first munipositions.

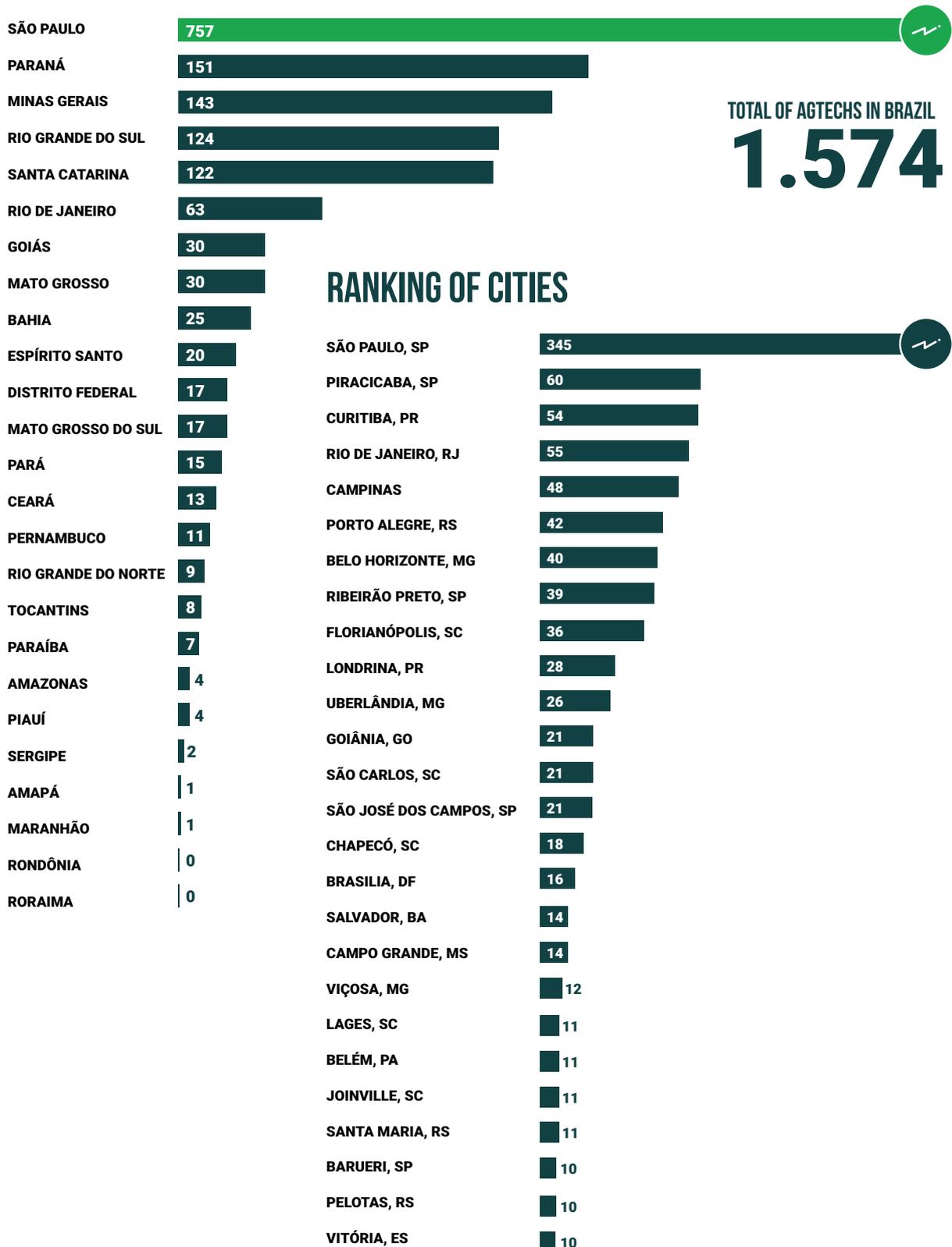


Figure 2. Ranking by Federative Unit and by city.

Table 9 compares data from the 26 cities with 10 or more agtechs, comparing data from these cities with the 2019 survey.

Table 9. Distribution of agtechs by city.

| Ranking of agtechs by City | City | State | Agtechs in 2021 | % Agtechs 2021 | % Agtechs 2021 accrued. | 2019 Ranking | Agtechs in 2019 |
|----------------------------|---------------------|-------|-----------------|----------------|-------------------------|--------------|-----------------|
| 1 | São Paulo | SP | 347 | 22% | 22% | 1 | 262 |
| 2 | Piracicaba | SP | 60 | 3.8% | 25.8% | 2 | 41 |
| 3 | Curitiba | PR | 59 | 3.7% | 29.6% | 5 | 36 |
| 4 | Rio de Janeiro | RJ | 55 | 3.5% | 33.1% | 6 | 35 |
| 5 | Campinas | SP | 48 | 3.0% | 36.1% | 3 | 38 |
| 6 | Porto Alegre | RS | 42 | 2.7% | 38.8% | 7 | 29 |
| 7 | Belo Horizonte | MG | 40 | 2.5% | 41.3% | 8 | 24 |
| 8 | Ribeirão Preto | SP | 39 | 2.5% | 43.8% | 4 | 37 |
| 9 | Florianópolis | SC | 36 | 2.3% | 46.1% | 9 | 21 |
| 10 | Londrina | PR | 28 | 1.8% | 47.9% | 13 | 15 |
| 11 | Uberlândia | MG | 26 | 1.7% | 49.6% | 10 | 19 |
| 12 | Goiânia | GO | 21 | 1.3% | 50.9% | 12 | 17 |
| 13 | São Carlos | SC | 21 | 1.3% | 52.2% | 15 | 14 |
| 14 | São José dos Campos | SP | 21 | 1.3% | 53.5% | 11 | 17 |
| 15 | Chapecó | SC | 18 | 1.1% | 54.6% | 17 | 11 |
| 16 | Brasília | DF | 16 | 1.0% | 55.6% | 16 | 13 |
| 17 | Salvador | BA | 14 | 0.9% | 56.5% | 22 | 7 |
| 18 | Campo Grande | MS | 14 | 0.9% | 57.4% | 14 | 14 |
| 19 | Viçosa | MG | 12 | 0.8% | 58.2% | 18 | 11 |
| 20 | Lages | SC | 11 | 0.7% | 58.9% | 19 | 8 |
| 21 | Belém | PA | 11 | 0.7% | 59.6% | 27 | 7 |
| 22 | Joinville | SC | 11 | 0.7% | 60.3% | 19 | 8 |
| 23 | Santa Maria | RS | 11 | 0.7% | 61% | 20 | 8 |
| 24 | Barueri | SP | 10 | 0.6% | 61.6% | 27 | 7 |
| 25 | Pelotas | RS | 10 | 0.6% | 62.2% | 25 | 7 |
| 26 | Vitória | ES | 10 | 0.6% | 62.8% | 18 | 11 |

The 12 cities with the highest number of agtechs represent 51% of the total of agtechs mapped in 2020/2021. As previously seen, the state of São Paulo has the largest part of agtechs found in Radar Agtech Brasil 2020/2021. The capital of the state is still the city with the highest number of agtechs, 347, which represents 22% of the total in Brazil.

The massive presence of Agtechs in São Paulo can also be demonstrated by the fact that more than three of the first five cities in the map are also part of the state: São Paulo, Piracicaba and Campinas. The state also has three other cities in the ranking.

Next, the states with more cities in this criterion are: Santa Catarina (4); Minas Gerais and Rio Grande do Sul (3 each); and Paraná (2). Bahia, Distrito Federal, Espírito Santo, Goiás, Mato Grosso do Sul, Pará and Rio de Janeiro appear in the ranking only with their capital cities.

By calculating the index of the number of agtechs per million inhabitants for these same cities with 10 or more agtechs, the importance of the local innovation ecosystem is evident: the four cities with the highest index, over 80 per million – Viçosa (MG), Piracicaba (SP), São Carlos (SP) and Chapecó (SC) –, has less than 500 thousand inhabitants and host public universities (UFV, USP Piracicaba, UFSCar, USP São Carlos, UFFS), as well as other players of the ecosystem, such as PulseHub and Agtech Garage Campus in Piracicaba, and also Embrapa Instrumentação and Embrapa Pecuária Sudeste in São Carlos. On the other hand, four populous capitals (Rio de Janeiro, Belém, Brasília and Salvador) had an index equal to or lower than 8 agtechs per 100 thousand inhabitants.

Table 15. Agtechs per 100 thousand inhabitants in cities with 10 or more agtechs in Radar Agtech Brasil 2020/2021.

| Ranking of agtechs by City | City | State | Agtechs in 2020/2021 | Estimated population in 2020 | agtechs/ 100 thousand inhabitants |
|----------------------------|----------------|-------|----------------------|------------------------------|-----------------------------------|
| 19 | Viçosa | MG | 12 | 79,388 | 15,12 |
| 2 | Piracicaba | SP | 60 | 407,252 | 14,73 |
| 13 | São Carlos | SC | 21 | 254,484 | 8,25 |
| 15 | Chapecó | SC | 18 | 224,013 | 8,04 |
| 9 | Florianópolis | SC | 36 | 508,826 | 7,08 |
| 20 | Lages | SC | 11 | 157,349 | 6,99 |
| 8 | Ribeirão Preto | SP | 39 | 711,825 | 5,48 |
| 10 | Londrina | PR | 28 | 575,377 | 4,87 |
| 5 | Campinas | SP | 48 | 1,213,792 | 3,95 |
| 23 | Santa Maria | RS | 11 | 283,677 | 3,88 |
| 11 | Uberlândia | MG | 26 | 699,097 | 3,72 |

Continued...

| Ranking of agtechs by City | City | State | Agtechs in 2020/2021 | Estimated population in 2020 | agtechs/ 100 thousand inhabitants |
|----------------------------|---------------------|-------|----------------------|------------------------------|-----------------------------------|
| 24 | Barueri | SP | 10 | 276,982 | 3,61 |
| 3 | Curitiba | PR | 59 | 1,948,626 | 3,03 |
| 25 | Pelotas | RS | 10 | 343,132 | 2,91 |
| 14 | São José dos Campos | SP | 21 | 729,737 | 2,88 |
| 6 | Porto Alegre | RS | 42 | 1,488,252 | 2,82 |
| 1 | São Paulo | SP | 347 | 12,325,232 | 2,80 |
| 26 | Vitória | ES | 10 | 365,855 | 2,73 |
| 22 | Joinville | SC | 11 | 597,658 | 1,84 |
| 7 | Belo Horizonte | MG | 40 | 2,521,564 | 1,59 |
| 18 | Campo Grande | MS | 14 | 906,092 | 1,55 |
| 12 | Goiânia | GO | 21 | 1,536,097 | 1,37 |
| 4 | Rio de Janeiro | RJ | 55 | 6,747,815 | 0,82 |
| 21 | Belém | PA | 11 | 1,499,641 | 0,73 |
| 16 | Brasília | DF | 16 | 3,055,149 | 0,52 |
| 17 | Salvador | BA | 14 | 2,886,698 | 0,48 |

This scenario of geographic distribution illustrates some important movements. Agtech ecosystems gain strength based on the consolidation of the main innovation centers as agtech centers, while there is also capilarization, with the growth of number of agtechs in smaller cities and/or cities with less tradition.

By categories included

Another analysis that illustrates the complexity in the ecosystem of each federative unit is the presence or absence of agtechs per category. Table 11 shows that São Paulo has agtechs in the 33 categories (all of them), and Minas Gerais (29), Santa Catarina (28) and Paraná (27) stand out.

Table 11. Categories of agtechs in each Federative Unit.

| | Federative Unit | Categories included |
|----|---------------------|---------------------|
| 1 | São Paulo | 33 |
| 2 | Minas Gerais | 29 |
| 3 | Santa Catarina | 28 |
| 4 | Paraná | 27 |
| 5 | Rio Grande do Sul | 24 |
| 6 | Rio de Janeiro | 21 |
| 7 | Goiás | 14 |
| 8 | Mato Grosso | 14 |
| 9 | Distrito Federal | 12 |
| 10 | Bahia | 10 |
| 11 | Espírito Santo | 10 |
| 12 | Mato Grosso do Sul | 9 |
| 13 | Ceará | 9 |
| 14 | Pará | 8 |
| 15 | Pernambuco | 8 |
| 16 | Rio Grande do Norte | 7 |
| 17 | Tocantins | 6 |
| 18 | Paraíba | 6 |
| 19 | Amazonas | 4 |
| 20 | Piauí | 3 |
| 21 | Sergipe | 2 |
| 22 | Maranhão | 1 |
| 23 | Amapá | 1 |
| | Total Categories | 33 |

Regarding the cities, Table 12 shows that São Paulo has agtechs from 32 of the 33 categories, also emphasizing Piracicaba (23), Curitiba (22), Campinas (22), Rio de Janeiro (21), Ribeirão Preto (20), Florianópolis (19) and Belo Horizonte (18).

Table 12. Categories of agtechs in 20 selected cities.

| | City | Federative Unit | Categories included |
|----|---------------------|-----------------|---------------------|
| 1 | São Paulo | SP | 32 |
| 2 | Piracicaba | SP | 23 |
| 3 | Curitiba | PR | 22 |
| 4 | Campinas | SP | 22 |
| 5 | Rio de Janeiro | RJ | 21 |
| 6 | Ribeirão Preto | SP | 20 |
| 7 | Florianópolis | SC | 19 |
| 8 | Belo Horizonte | MG | 18 |
| 9 | Porto Alegre | RS | 15 |
| 10 | Londrina | PR | 15 |
| 11 | Uberlândia | MG | 14 |
| 12 | Goiânia | GO | 13 |
| 13 | São Carlos | SC | 13 |
| 14 | Chapecó | SC | 13 |
| 15 | São José dos Campos | SP | 11 |
| 16 | Brasília | DF | 11 |
| 17 | Joinville | SC | 11 |
| 18 | Campo Grande | MS | 10 |
| 19 | Lages | SC | 9 |
| 20 | Salvador | BA | 8 |

Analysis of categories

This section analyzes the distribution of agtechs according to their categories, considering the segments Before, Inside and After the Farm. It also allows assessing how the impact or influence of the local production interferes in the technology developed.

As far as possible, we will show the results of this edition along with those of the 2019 edition, in order to enable a more thorough view of the ecosystem and to reinforce the scenario. We point out, as explained in the methodology, that it is not possible to directly compare the 2019 results with the 2020/2021 results.

By segment (before, inside and after the farm)

Radar Agtech Brasil 2020/2021 performs a survey on the stage of the value chain in which the startup is included, which is called segment. The farming production is commonly associated with the production inside the farm, but what comes before and after the farm is just as relevant for agriculture. The study identified 200 agtechs working before the farm, 657 inside the farm and 717 agtechs after the farm.

Table 13 shows the representation of each segment regarding the total of agtechs mapped in Radar Agtech Brasil 2020/2021 and in Radar Agtech Brasil 2019.

Table 13. Participation of agtechs by segment (%).

| Segment | 2020/2021 | 2019 |
|---------|-----------|------|
| Before | 12.7% | 18% |
| Inside | 41.7% | 35% |
| After | 45.6% | 47% |

Categories of the industry based on market and field

Radar Agtech Brasil 2020/2021 went through a methodology review of the categories of the startups mapped, carried out from the analysis of current studies about the industry. Thus, this study presents the categories which currently have the largest number of agtechs regarding each of the segments, according to Figure 3.

DISTRIBUTION OF AGTECHS BY SEGMENT AND CATEGORY

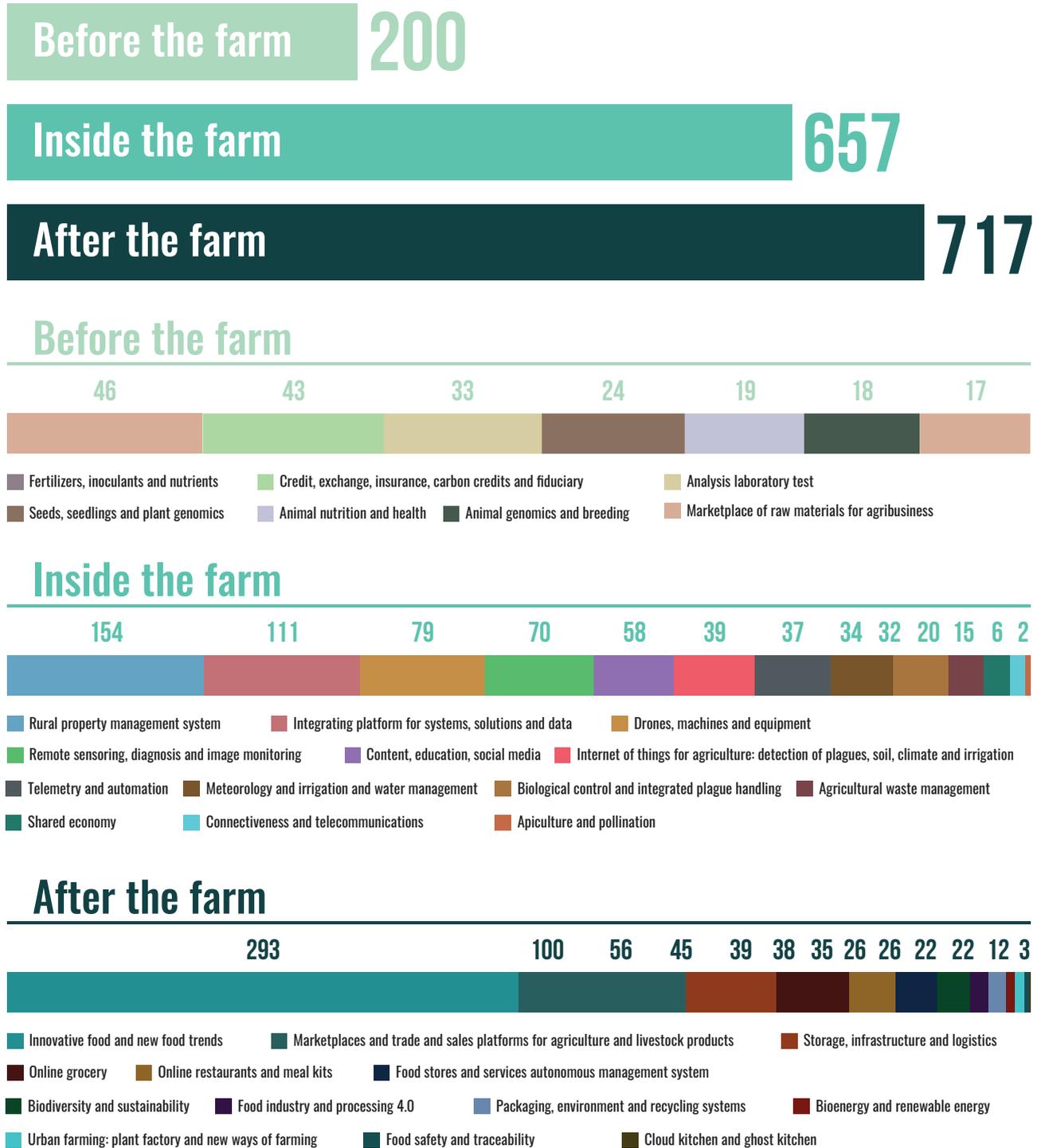


Figure 3. Distribution of agtechs by segment and categories.

As shown in Figure 3, most agtechs acting before the farm are in the category of Fertilizers, Inoculants and Plant Nutrition. Inside the farm, Rural Property Management System stands out and, after the farm, Innovative foods and new food trends.

The overview with the main fields of work of the agtechs in the segments before, inside and after the farm is as follows: (a) Before the farm - 1) Fertilizers, Inoculants and Plant nutrition

(46); 2) Credit, exchange, insurance, carbon credits and fiduciary analysis (43); 3) Laboratory test (33); 4) Seeds, seedlings and plant genomics (24); and 5) Animal nutrition and health (19). (b) Inside the farm the results are: 1) Rural property management system (154); 2) Integrating platforms for systems, solutions and data (111); 3) Drones, machines and equipment (79); 4) Remote sensing, diagnosis and image monitoring (70); and 5) Content, education, social media (58). (c) After the farm, the categories are: 1) Innovative foods and new food trends (293); 2) Marketplaces and Trade and sales Platforms for agriculture and livestock products (100); 3) Storage, infrastructure and logistics (56); 4) Online groceries (45); and 5) Online restaurants and meal kits (39).

In this sense, Table 13 shows the proportion of number in agtechs in each segment, as well as their percentage regarding the total.

Table 13. Distribution of agtechs by segment and category.

| Categories in the Segment Before the Farm | Agtechs | % of the Segment (200) | % of Total (1,574) |
|--------------------------------------------------------------------------------------------|---------|------------------------|--------------------|
| Fertilizers, Inoculants and Plant Nutrition | 46 | 23% | 3% |
| Credit, exchange, insurance, carbon credits and fiduciary analysis | 43 | 21.5% | 3% |
| Laboratory test | 33 | 16.5% | 2% |
| Seeds, Seedlings and Plant Genomics. | 24 | 12% | 2% |
| Animal Nutrition and Health | 19 | 9.5% | 1% |
| Animal Genomics and Breeding | 18 | 9.0% | 1% |
| Marketplace of Raw Materials for Agribusiness. | 17 | 8.5% | 1% |
| Categories in the Segment Inside the Farm | Agtechs | % of the Segment (657) | % of Total (1,574) |
| Rural Property Management System | 154 | 23.4% | 10% |
| Integrating platform for systems, solutions and data | 111 | 16.9% | 7% |
| Drones, Machines and Equipment | 79 | 12.0% | 5% |
| Remote Sensing, Diagnosis and Image Monitoring | 70 | 10.7% | 4% |
| Content, Education, Social Media | 58 | 8.8% | 4% |
| Internet of Things for Agriculture Agtechs: plague detection, soil, climate and irrigation | 39 | 5.9% | 2% |
| Telemetry and Automation | 37 | 5.6% | 2% |

Continued...

| Categories in the Segment Inside the Farm | Agtechs | % of the Segment (657) | % of Total (1,574) |
|-----------------------------------------------------------------------------------|---------|------------------------|--------------------|
| Meteorology and Irrigation and Water Management | 34 | 5.2% | 2% |
| Biological Control and Integrated Plague Management | 32 | 4.9% | 2% |
| Agricultural waste management | 20 | 3.0% | 1% |
| Shared Economy | 15 | 2.3% | 1% |
| Connectivity and Telecommunications | 6 | 0.9% | 0% |
| Apiculture and Pollination | 2 | 0.3% | 0% |
| Categories in the Segment After the Farm | Agtechs | % of the Segment (717) | % of Total (1,574) |
| Innovative foods and new food trends | 293 | 40.9% | 19% |
| Marketplaces and Trade and sales Platforms for agriculture and livestock products | 100 | 13.9% | 6% |
| Storage, Infrastructure and Logistics | 56 | 7.8% | 4% |
| Online grocery | 45 | 6.3% | 3% |
| Online restaurants and Meal Kits | 39 | 5.4% | 2% |
| Food stores and services autonomous management system | 38 | 5.3% | 2% |
| Biodiversity and Sustainability | 35 | 4.9% | 2% |
| Food industry and processing 4.0 | 26 | 3.6% | 2% |
| Packaging systems, Environment and Recycling | 26 | 3.6% | 2% |
| Bioenergy and Renewable Energy | 22 | 3.1% | 1% |
| Urban farming: plant factory and new ways of farming | 22 | 3.1% | 1% |
| Food safety and traceability | 12 | 1.7% | 1% |
| Cloud kitchen and ghost kitchen | 3 | 0.4% | 0% |

This study also shows that the category with the highest number of startups acting before the farm, that is, “Fertilizers, Inoculants and Plant Nutrition”, represents 23.1% of agtechs in its segment and 3% regarding the total of 1,574 startups mapped. In the segment inside the farm, the category “Rural Property Management System” stands out, representing 23.4% of agtechs inside the farm and 10% of the total. Finally, in the segment after the farm, the category “Innovative meals and new food trends”, has 40.8% of the startups of its segment and 19% of the total in Radar Agtech Brasil 2020/2021.

Additionally, the five main categories in each segment in Radar Agtech Brasil 2019 are recalled, as seen in Table 14.

Table 14. Number of agtechs in the five main categories in each segment of Radar Agtech 2019.

| Before | Quantity | % of the Segment (197) | % of Total (1,125) |
|------------------------------------------|-----------------|-------------------------------|---------------------------|
| Fertilizers, Inoculants and Nutrients | 41 | 20.8% | 3.6% |
| Genomics & Biotechnology | 41 | 20.8% | 3.6% |
| Biological control | 30 | 15.2% | 2.7% |
| Financial Services | 24 | 12.2% | 2.1% |
| Laboratory test | 20 | 10.2% | 1.8% |
| Inside | Quantity | % of the Segment (396) | % of Total (1,125) |
| Agricultural and farm Management System | 122 | 30.8% | 10.8% |
| UAV | 43 | 10.9% | 3.8% |
| Precision agriculture and cattle raising | 34 | 8.6% | 3.0% |
| Machines and Equipment | 33 | 8.3% | 2.9% |
| Remote Sensing | 29 | 7.3% | 2.6% |
| After | Quantity | % of the Segment (532) | % of Total (1,125) |
| Innovative foods and new food trends | 246 | 46.2% | 21.9% |
| Trade Platform and Sales Marketplace | 95 | 17.9% | 8.4% |
| Storage, Infrastructure and Logistics | 29 | 5.5% | 2.6% |
| Online grocery | 29 | 5.5% | 2.6% |
| Consulting / Acceleration / Association | 26 | 4.9% | 2.3% |

The overview with the five main fields of work of the agtechs in the segments of Radar Agtech Brasil in 2019 shows the following result: (a) Before the Farm - 1) Fertilizers, Inoculants and Nutrients (41); 2) Genomics & Biotechnology (41); Biological Control (30); Financial Services (24); and Laboratory test (20). (b) Inside the Farm - 1) Agricultural and Farm Management System (122); 2) UAV (111); 3) Precision Agriculture and Cattle Raising (34); 4) Machines and Equipment (33); and 5) Remote Sensing (29). (c) After the Farm - 1) Innovative food and new food trends (246); 2) Trade platform and sales Marketplace (95); 3) Storage, Infrastructure and Logistics (29); 4) Online grocery (29); and 5) Consulting / Acceleration / Association (26).

Additionally, Table 15 presents the absolute amount of each category and the overall percentage of distribution in all stages of the value chain (segments before, inside and after the farm) in descending order:

Table 15. Number and percentage of agtechs by frequency of categories in the field.

| Categories | Segment | Agtechs | % Mapped |
|--------------------------------------------------------------------------------------------|---------|---------|----------|
| Innovative foods and new food trends | After | 293 | 18.6% |
| Rural Property Management System | Inside | 154 | 9.8% |
| Integrating platform for systems, solutions and data | Inside | 111 | 7.1% |
| Marketplaces and Trade and sales Platforms for agriculture and livestock products | After | 100 | 6.4% |
| Drones, Machines and Equipment | Inside | 79 | 5.0% |
| Remote Sensing, Diagnosis and Image Monitoring | Inside | 70 | 4.4% |
| Content, Education, Social Media | Inside | 58 | 3.7% |
| Storage, Infrastructure and Logistics | After | 56 | 3.6% |
| Fertilizers, Inoculants and Plant Nutrition | Before | 46 | 2.9% |
| Online grocery | After | 45 | 2.9% |
| Credit, exchange, insurance, carbon credits and fiduciary analysis | Before | 43 | 2.7% |
| Internet of Things for Agriculture Agtechs: plague detection, soil, climate and irrigation | Inside | 39 | 2.5% |
| Online restaurants and Meal Kits | After | 39 | 2.5% |
| Food stores and services autonomous management system | After | 38 | 2.4% |
| Telemetry and Automation | Inside | 37 | 2.4% |
| Biodiversity and Sustainability | After | 35 | 2.2% |
| Meteorology and Irrigation and Water Management | Inside | 34 | 2.2% |
| Laboratory test | Before | 33 | 2.1% |
| Biological Control and Integrated Plague Management | Inside | 32 | 2.0% |
| Food industry and processing 4.0 | After | 26 | 1.7% |
| Packaging systems, Environment and Recycling | After | 26 | 1.7% |
| Seeds, Seedlings and Plant Genomics. | Before | 24 | 1.5% |
| Bioenergy and Renewable Energy | After | 22 | 1.4% |
| Urban farming: plant factory and new ways of farming | After | 22 | 1.4% |
| Agricultural waste management | Inside | 20 | 1.3% |
| Animal Nutrition and Health | Before | 19 | 1.2% |

Continued...

| Categories | Segment | Agtechs | % Mapped |
|------------------------------------------------|---------|---------|----------|
| Animal Genomics and Breeding | Before | 18 | 1.1% |
| Marketplace of Raw Materials for Agribusiness. | Before | 17 | 1.1% |
| <i>Shared Economy</i> | Inside | 15 | 1.0% |
| <i>Food safety and traceability</i> | After | 12 | 0.8% |
| <i>Connectivity and Telecommunications</i> | Inside | 6 | 0.4% |
| <i>Cloud kitchen and ghost kitchen</i> | After | 3 | 0.2% |
| <i>Apiculture and Pollination</i> | Inside | 2 | 0.1% |
| <i>General Total</i> | | 1574 | 100% |

This Table 15 shows the importance of the foodtech sector for the agriculture and livestock entrepreneurship, with emphasis on the category “Innovative food and new food trends” representing almost 20% of the total of startups mapped. This is a trend that was already identified in 2019, and the industry was considered attractive for investors that have been changing the foodtech market.

Although it may not be possible to make a direct comparison between the number of startups in Radar Agtech Brasil 2019 and in Radar Agtech Brasil 2020/2021 due to changes in the methodology, it is interesting to see how the relative position of the 5 first categories behaved in the both studies, in order to understand the new picture of the ecosystem brought by Radar Agtech Brasil. Table 16 presents the five main categories of both studies:

Table 16. Five main categories of Radar Agtech Brasil 2020/2021 and Radar Agtech Brasil 2019.

| Categories | 2020/ 2021 | Segment | % of total in 2020/2021 (1,574) | Categories | 2019 | Segment | % of the total in 2019 (1,125) |
|------------------------------------------------------|---------------|---------|---------------------------------------|-----------------------------------------------------------|------|---------|--------------------------------------|
| Innovative foods and new food trends | 293 | After | 18.6% | Innovative foods and new food trends | 246 | After | 21.9% |
| Rural Property Management System | 154 | Inside | 9.8% | Agriculture and cattle raising and farm management system | 122 | Inside | 10.8% |
| Integrating platform for systems, solutions and data | 111 | Inside | 7.1% | Trade Platform and Sales Marketplace | 95 | After | 8.4% |

Continued...

| Categories | 2020/ 2021 | Segment | % of total in 2020/2021 (1,574) | Categories | 2019 | Segment | % of the total in 2019 (1,125) |
|-----------------------------------------------------------------------------------|---------------|---------|---------------------------------------|---------------------------------------|------|---------|--------------------------------------|
| Marketplaces and Trade and sales Platforms for agriculture and livestock products | 100 | After | 6.4% | UAV | 43 | Inside | 3.8% |
| Drones, Machines and Equipment | 79 | Inside | 5.0% | Fertilizers, Inoculants and Nutrients | 41 | Before | 3.6% |

Two occurrences draw our attention: the removal of “Fertilizers, inoculants and nutrients”, which fell to the ninth position among the categories with more startups; and the presence of “Drones, Machines and Equipment”, which would be the merger of the categories “UAVs” and “Machines and Equipment”, used in 2019. Despite including two categories of 2019, in Radar Agtech Brasil 2020/2021, this category reached the fifth position among those with more startups.

It is noted that the main change was the presence of a new category in the Top 5, “Integrating platform for systems, solutions and data”, which included startups that provide integrated solutions for the monitoring of agronomic and productive chain handling or traceability variables. This category was not included in the previous edition of Radar Agtech Brasil, and the one that was closest to it was Precision Agriculture, which is not included in the current edition of Radar Agtech Brasil, but that in 2019 only represented the 8th category with more startups. Such change indicates that Radar Agtech Brasil 2020-2021 may gather more startups and place them in better categories, providing an improved image of the Brazilian ecosystem of agtechs.

Analysis of investments in agtechs

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This section describes the national and international VC investors acting in the Brazilian market, focused on agtechs, detailing those that are specialized in this segment, as well as institutions and organizations that have incubation and acceleration programs for new enterprises focused on agtech.

The purpose is to identify which technological categories of Agtechs (classification Radar Agtech Brasil 2020/2021) are obtaining more success in gathering investment funds, as well as segments characterized by potential of exhausting capital flow.

In this chapter, the term “event” is used to reference the participation of startups in incubation, acceleration programs and investment rounds. Our analysis did not take into consideration the events that were not listed in the websites of the organizations consulted at the moment of the survey, or that were reference to inactive startups.

We emphasize that, in this chapter, the agtechs that were purchased in the Brazilian scenario will be considered for the analysis, since they can be understood as cases of success, even if their individual activity/functioning no longer existed.

- Radar Agtech’s team listed 79 organizations that acted in the Agtech sector, according to Chart X. Even though the research includes only startups created in Brazil, the list includes foreign incubators, accelerators and investors that incubated, accelerated and invested in national agtechs.
- First, it is important to present the definitions for incubators, accelerators and investors.
- Incubators are companies and institutions that promote in-house training programs for startups bringing technological and business model knowledge without directly investing in the startups.
- Accelerators are companies and institutions that promote in-house training programs for startups bringing technological and business model knowledge directly investing in the startups.
- Investors are companies and institutions that promote direct investment in startups.

Next, there are the lists of incubators, accelerators and investors tracked by Radar Agtech Brasil 2020/2021.

Table 1. Accelerators mapped by Radar Agtech Brasil 2020/2021.

| Accelerator | Website |
|---------------------------------------|--------------------|
| Ace Startups | acestartups.com.br |
| Cyclo Aceleradora | cykloagritech.com |
| Darwin Startups | darwinstartups.com |
| WoW Aceleradora | wow.ac/pt |
| Baita | baita.ac |
| AGVentures Hub (IA ² MCTI) | agventure.com.br |

Table 2. Incubators mapped by Radar Agtech Brasil 2020/2021.

| Incubator | Website |
|-----------------------------|-------------------------|
| AgTech Garage | agtechgarage.com |
| Avance Hub (Coplacana) | avancehub.com.br |
| Cietec | cietec.org.br/ |
| Climate Ventures | climateventures.co |
| Esalq tech | esalqtec.com.br |
| Food Tech Hub | foodtechhub.com.br |
| Orchestra Innovation Center | orchestracenter.com |
| Pulse Hub | pulsehub.com.br |
| ScaleUp Endeavor | endeavor.org.br/scaleup |
| Startup Farm | startup.farm |
| Venture Hub | enturehub.se |

Table 3. Investors mapped by Radar Agtech Brasil 2020/2021.

| Investor | Website |
|--------------------|--------------------------------------|
| 10b (Tarpon) | 10b.com.br |
| a.b.seed | abseed.com.br |
| Acción Venture Lab | accion.org |
| Agroven | agroven.com.br |
| Algar Ventures | algar.com.br/inovacao-algar-ventures |
| Anjos do Brasil | anjosdobrasil.net |
| Antera | anteragr.com.br |

Continued...

| Investor | Website |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Barn Investments | barninvest.com.br |
| BMG UpTech | bmguptech.com.br |
| Bossanova | bossainvest.com |
| Bread and Butter | breadandbutterventures.com |
| Canary | canary.com.br |
| Capital Lab Ventures | capitallab.com.br |
| CapTable | captable.com.br |
| Cedro Capital | cedrocapital.com |
| Confrapar | confrapar.com.br |
| Cotidiano | cotidiano.com.br |
| Criatec (BNDS) | fundocriatec.com.br |
| CRP | crp.com.br |
| Cultivian Sandbox | cultiviansbx.com |
| Cventures | cventures.com.br |
| Domo | domoinvest.com.br |
| FEA Angels | feaangels.com.br |
| Fundo Next (Alvarez & Marsal) | alvarezandmarsal.com/pt-br/global-locations/brazil |
| GV Angels | gvangels.com.br |
| Honey Island Capital | honeyisland.capital |
| Igah Ventures | igahventures.com |
| Inovabra | inovabra.com.br/subhomes/ventures |
| Insead Angels | blogs.insead.edu/brazil-iaa/insead-angels-club-brazil |
| Kaszek Ventures | kaszek.com |
| KPTL | kptl.com.br |
| Maya Capital | maya.capital |
| MIT Alumni Angels. | brazil.alumclub.mit.edu |
| Monashees | monashees.com.br |
| MOV Investimentos | movinvestimentos.com.br |
| MSW Capital | mswcapital.com.br |

Continued...

| Investor | Website |
|--------------------------|------------------------------|
| NovoAgro Ventures | novoagro.ventures |
| NT Agro | ntagro.com.br |
| NXTP | nxtpt.vc |
| One VC | onevc.vc |
| Performa Investimentos | performainvestimentos.com |
| Poli Angels | poliangels.com.br |
| Positivo Ventures | positivotecnologia.com.br |
| Primatec | fundoprimatec.com.br |
| Qualcomm Ventures | qualcommventures.com |
| Radicle | radicle.vc |
| Redpoint eventures | rpev.com.br |
| Rise Ventures | riseventures.com.br |
| Seed4science (Fundepar) | fundepar.com.br/seed4science |
| Sevna Startups | sevna.com.br |
| Sírius Venture Capital | siriusvc.com.br |
| Smart Value Investment | smartvalueinvestment.com.br |
| SP Ventures | spventures.com.br |
| Startmeup | startmeup.com.br |
| Templo Ventures | templo.cc |
| The Craftory | thecraftory.io |
| TM3 Capital | tm3.capital |
| Trigger | triggerpar.com.br |
| Triple Seven Investments | 777.investments |
| Ventur | ventur.net |
| Warehouse Investimentos | whinvestimentos.com.br |
| Wayra | br-pt.wayra.com |

Most of the organizations identified are not specifically focused on Agtech, however all of them were associated, at some point, to active national agtechs. This shows an important contingent of organizations that support and invest in Agtech entrepreneurship, allowing startups of the industry to access incubation, acceleration and investment opportunities in order to obtain resources and capital to reach its growth goals.

Company incubators acting with Agtech startups are presented below, with the incubated companies:

- **AgTech Garage:** agritrade, ampla intelligence, agrymet, brCarbon, Drop, e-ctare, FluroSat, gavea, Geplant, Hakkuna, Implanta it solutions, SmartBreeder, IDMAQ, Commotech Marketplace, Inceres, wolk, Shooju, Leigado, e.Trap, Quickium, MeSintoSeguro, Trucker do Agro, Forlidar, Gênica,agro2business,Sensix, AhGRO, Sintecsys, Gamaya, Nano scoping, Agripad, GeoApis,BRFLOOR,Atomic Agro, Farmbox, digital rural, werkey.
- **Avance Hub** (Coplacana): @tech.
- **Cietec:** daNatureza, BioSource Company, iBiotech, BR3, Itatijuca Biotech, BioLinker, Xrobots, MVisia.
- **Climate Ventures:** Hakkuna, Pluvi.on.
- **Esalq tech:** Agrox, Pix2Agro, argilos, Drop, Myrtys Plant Biotech, Agrolocal, Agripad, Agrientech, Demetra, Agromakers, SmartSensing, Agromove, Agroadvance, e-ctare, SmartBreeder, FarmGo, IntelliAgri, Personal Bov, Brazil beef quality, Smart Yeast, scicrop, Agripoint, Grão Direto, jetbov, Sintecsys, Farm solutions, Beef-tec, bart.digital, Itatijuca, Gênica, Agromic, IBI Agentes biológicos, Inceres, SmartAgri, AgroSafety, Agrosmart, Idgeo, @tech, pragas.com, MBR Agro, Native Plant Technology, JustBioSolutions, Agromakers.
- **Pulse Hub:** @tech, Agribela, Agricef, AgriConnected, Agroclima pro, Agrosmart, Arpac, Ativa Soluções, bart.digital, cromai, cropman, Drop, Horus Aeronaves, Inceres, Intelup, iotag, jetbov, Perfect Flight, SensorVision, Solinftec, Somo,SpecLab, Trace Pack, Zeus Agrotech.
- **ScaleUp Endeavor:** Liv Up, Solinftec.
- **Startup Farm:** AgriConnected.
- **Venture Hub:** Verde Drone, Izagro, Birdview, Gira, Pitaya Irrigação, Brazsoft, Gira, Inceres, DominusSoli.

The accelerators identified and the accelerated startups are listed below:

- **Ace Startups:** Grubster, Alluagro, Leaf, jetbov, SprayX, Arpac, Tarvos, DigiFarmz, AgroIntelli, PackID.
- **Cyclo Aceleradora:** Agrimapp, Kalliandra, SSCROP.
- **Darwin Startups:** Ocean Drop, Horus Aeronaves.
- **WoW Aceleradora:** Performance Vegetal, flowins, agritrade,Trace Pack, Reprodez, AgriConnected,E-Aware Technologies, Aegro.
- **Baita:** Agrosmart, Onion menu, Personal Bov, ugly, Agrientech, Busca terra.
- **AG Ventures HUB:** Stac, Agryo, Geplant, Hortify, Izagro, Cowmed, InCeres, Intergado, “@tech”, Busca terra, Sensix, Pecsmart, Agronow, Crevettic, cromai, Personal Bov, SensorVision, Mvisia.

The list of investors and startups that received funding is shown below:

- 10b (Tarpon): Rúmina, OnFarm, Ideagri, Solinftec
- a.b.seed: Aegro.
- Acción Venture Lab: Terra Magna.
- Agroven: Agrobee, iRancho.
- Algar Ventures: Sensix.

- Anjos do Brasil: du local, foodpass, Fishtag, Karavel, Shimejito, Sumá, Beleaf, Fazenda Urbana.
- Antera: Geofusion, Arvus, enalta, Imeve.
- Barn Investments: Agrolend, Grão Direto, Strider, nutrebem.
- BMG UpTech: Scanner Bovino, numenu.
- Bossanova: Almoço Grátis, Eats for you, Made in natural, Zaply, aterra, BR Polen, 4vets.
- Bread and Butter: TrAIve.
- Canary: Grão Direto, Terra Magna, poupachef.
- Capital Lab Ventures: PinkFarms, Atomic Agro.
- CapTable: Leigado, SkyDrones, Pomartec, Oak's Burritos, Eirene Solutions.
- Cedro Capital: Gira.
- Confrapar: Xmobots, ChefsClub, Altave.
- Cotidiano MeuRango, Leigado, flowins.
- Criatec (BNDS): rizoflora, Bug Agentes Biológicos, HortiAgro, Bioclone, Imeve, Geofusion, BR3, Arvus, enalta.
- CRP: Carob House, Checkplant.
- Cultivian Sandbox: Leaf.
- Cventures: Checkplant.
- Domo: goomer, gavea, Sensix.
- FEA Angels: Eats for you, Frexco, BovControl.
- Fundo Next (Alvarez & Marsal): network Agro.
- GV Angels: Sumá, Fishtag, PackID, AgroIntelli, Almoço Grátis, Eats for you.
- Honey Island Capital: AgriConnected.
- Igah Ventures: 4vets, Pic-me.
- Inovabra: Agrosmart.
- Insead Angels: Fishtag.
- Kaszek Ventures: Liv Up, Olga Ri.
- KPTL: agrotools, Cowmed, ecotrace, Imeve, Intergado, Mark2Market, SmartBreeder, Tbit, Arvus, AmazonDreams, Bug Agentes Biológicos, rizoflora.
- Maya Capital: Terra Magna.
- MIT Alumni Angels.: Fishtag, TrAIve.
- Monashees: Strider, Fazenda Futuro.
- MOV Investimentos: Audsat, Biofíliza.
- MSW Capital: Tbit.
- NovoAgro Ventures: Agrorigem, Maneje Bem, Btracer, Verde Drone.
- NT Agro: Fine.Instrument Technology, AgroRobótica, Nanox.
- NXTP: BovControl.
- One VC: Terra Magna.
- Performa Investimentos: globalyeast.
- Poli Angels: AgriConnected, Idgeo.
- Positivo Ventures: Agrosmart, @tech.
- Primatec: Myleus, Myleus.
- Qualcomm Ventures: Strider.
- Radicle: Leaf.
- Redpoint eventures: BovControl.
- Rise Ventures: Beleaf.

- Seed4science (Fundepar): Tarvos.
- Sevna Startups: Alfred Delivery, MeuJardim, Velbraxx.
- Sírius Venture Capital: AgroIntelli, jetbov, Alluagro.
- Smart Value Investment: Agrotatil.
- SP Ventures: Imeve, Bug Agentes Biológicos, Geofusion, BR3, Promip, Inpreha, Agrosmart, Agronow, Inceres, Horus Aeronaves, Aegro, bart.digital, Gênica, jetbov, SpecLab, PinkFarms, Brain, Leaf, TrAIve, Agrolend.
- Startmeup: PinkFarms, Fishtag, Trade Food, 100 Foods, Aurratech, apptite, Zaply, Babuxca.
- Templo Ventures: Databoi.
- The Craftory: Moss.Earth.
- TM3 Capital: Velos, Agropro monitor.
- Trigger: Bug Agentes Biológicos.
- Triple Seven Investments: go.farms.
- Ventiur: DigiFarmz, Stac, Hortify, Trucker do Agro, Leigado, Raks, Prediza, BioIn, Saipos, Devorando.
- Warehouse Investimentos: ifood.
- Wayra: BovControl, iotag, Ativa Soluções Soluções.

The 337 events were listed, ranked as investment rounds, acceleration and incubation programs, distributed in 223 national active Agtechs according to this document's criteria, or Agtechs that were purchased. A few startups had more than one event, whether it is an investment round added to an incubation and acceleration program or participation in more than one incubation and acceleration program.

Table 4. Agtech investment rounds, incubation programs and acceleration in Brazil in agtechs before the farm.

| Agtech | Category | State |
|----------------------------|------------------------------------------------------------------------|-----------|
| AgroRobótica | AN- Laboratorial Analysis | São Paulo |
| AgroSafety | AN- Laboratorial Analysis | São Paulo |
| BioLinker | AN- Laboratorial Analysis | São Paulo |
| Fine.Instrument Technology | AN- Laboratorial Analysis | São Paulo |
| Myrtys Plant Biotech | AN- Laboratorial Analysis | São Paulo |
| OnFarm | AN- Laboratorial Analysis | São Paulo |
| SpecLab | AN- Laboratorial Analysis | São Paulo |
| Agrolend | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| Audsat | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |

Continued...

| Agtech | Category | State |
|-------------------------|------------------------------------------------------------------------|----------------|
| bart.digital | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | Paraná |
| Biofliza | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| Brain | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| brCarbon | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| Gira | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | Minas Gerais |
| IDMAQ | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| Mark2Market | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| MeSintoSeguro | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| Moss.Earth | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| Terra Magna | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| TrAlve | AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | São Paulo |
| argilos | AN- Fertilizers, Inoculants and Plant Nutrition | São Paulo |
| Itatijuca | AN- Fertilizers, Inoculants and Plant Nutrition | São Paulo |
| Itatijuca Biotech | AN- Fertilizers, Inoculants and Plant Nutrition | São Paulo |
| iBiotech | AN- Animal Genomics and Breeding | São Paulo |
| Inpreha | AN- Animal Genomics and Breeding | São Paulo |
| agro2business | AN- Marketplace of Raw Materials for Agribusiness | São Paulo |
| AhGRO | AN- Marketplace of Raw Materials for Agribusiness | São Paulo |
| Imeve | AN - Animal Nutrition and Health | São Paulo |
| Nano scoping | AN - Animal Nutrition and Health | Santa Catarina |
| Bioclone | AN - Seeds, Seedlings and Plant Genomics. | Ceará |
| Demetra | AN - Seeds, Seedlings and Plant Genomics. | Paraná |
| HortiAgro | AN - Seeds, Seedlings and Plant Genomics. | Minas Gerais |
| Native Plant Technology | AN - Seeds, Seedlings and Plant Genomics. | São Paulo |

Table 5. Agtech investment rounds, incubation programs and acceleration in Brazil in agtechs inside the farm.

| Agtech | Category | State |
|------------------------|---------------------------------------------------------|-------------------|
| Agrobee | DT - Apiculture and Pollination | São Paulo |
| GeoApis | DT - Apiculture and Pollination | São Paulo |
| Agripoint | DT- Content, Education, Social Media | São Paulo |
| Agroadvance | DT- Content, Education, Social Media | São Paulo |
| Agromic | DT- Content, Education, Social Media | São Paulo |
| foodpass | DT- Content, Education, Social Media | São Paulo |
| Maneje Bem | DT- Content, Education, Social Media | Santa Catarina |
| MeuJardim | DT- Content, Education, Social Media | São Paulo |
| SmartAgri | DT- Content, Education, Social Media | Tocantins |
| werkey | DT- Content, Education, Social Media | São Paulo |
| Agribela | DT- Biological Control and Integrated Plague Management | Paraná |
| Agrientech | DT- Biological Control and Integrated Plague Management | São Paulo |
| Bioln | DT- Biological Control and Integrated Plague Management | Rio Grande do Sul |
| BR3 | DT- Biological Control and Integrated Plague Management | São Paulo |
| Bug Agentes Biológicos | DT- Biological Control and Integrated Plague Management | São Paulo |
| Gênica | DT- Biological Control and Integrated Plague Management | São Paulo |
| IBI Agentes biológicos | DT- Biological Control and Integrated Plague Management | São Paulo |
| pragas.com | DT- Biological Control and Integrated Plague Management | São Paulo |
| Promip | DT- Biological Control and Integrated Plague Management | São Paulo |
| rizoflora | DT- Biological Control and Integrated Plague Management | Minas Gerais |
| SmartBreeder | DT- Biological Control and Integrated Plague Management | São Paulo |
| Agricef | DT - Drones, Machines and Equipment | São Paulo |
| Arpac | DT - Drones, Machines and Equipment | Rio Grande do Sul |
| Drop | DT - Drones, Machines and Equipment | São Paulo |
| enalta | DT - Drones, Machines and Equipment | São Paulo |
| Fishtag | DT - Drones, Machines and Equipment | São Paulo |
| Horus Aeronaves | DT - Drones, Machines and Equipment | Santa Catarina |
| SkyDrones | DT - Drones, Machines and Equipment | Rio Grande do Sul |

Continued...

| Agtech | Category | State |
|------------------|-----------------------------------------------------------------------------------------|-------------------|
| SmartSensing | DT - Drones, Machines and Equipment | São Paulo |
| SprayX | DT - Drones, Machines and Equipment | São Paulo |
| Tbit | DT - Drones, Machines and Equipment | Minas Gerais |
| Velbraxx | DT - Drones, Machines and Equipment | São Paulo |
| Verde Drone | DT - Drones, Machines and Equipment | Minas Gerais |
| Xmrobots | DT - Drones, Machines and Equipment | São Paulo |
| Alluagro | DT - Shared Economy | Minas Gerais |
| aterra | DT - Agricultural waste management | Minas Gerais |
| BR Polen | DT - Agricultural waste management | Rio de Janeiro |
| daNatureza | DT - Agricultural waste management | São Paulo |
| Agrotatil | DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | Paraná |
| Cowmed | DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | Rio Grande do Sul |
| Eirene Solutions | DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | Rio Grande do Sul |
| iotag | DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | Paraná |
| Kalliandra | DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | Bahia |
| networld Agro | DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | Paraná |
| Tarvos | DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | São Paulo |
| Agromakers | DT - Meteorology and Irrigation and Water Management | São Paulo |
| Agrosmart | DT - Meteorology and Irrigation and Water Management | São Paulo |
| agrymet | DT - Meteorology and Irrigation and Water Management | São Paulo |
| Pitaya Irrigação | DT - Meteorology and Irrigation and Water Management | São Paulo |
| Pluvi.on | DT - Meteorology and Irrigation and Water Management | São Paulo |
| Raks | DT - Meteorology and Irrigation and Water Management | Rio Grande do Sul |
| Zeus Agrotech | DT - Meteorology and Irrigation and Water Management | Minas Gerais |
| Agroclima pro | DT - Integrating platform for systems, solutions and data | São Paulo |
| agrotools | DT - Integrating platform for systems, solutions and data | São Paulo |

Continued...

| Agtech | Category | State |
|---------------------|-----------------------------------------------------------|--------------------|
| ampla intelligence | DT - Integrating platform for systems, solutions and data | São Paulo |
| Arvus | DT - Integrating platform for systems, solutions and data | Santa Catarina |
| Atomic Agro | DT - Integrating platform for systems, solutions and data | Minas Gerais |
| Beef-tec | DT - Integrating platform for systems, solutions and data | Mato Grosso do Sul |
| BRFLOR | DT - Integrating platform for systems, solutions and data | São Paulo |
| Btracer | DT - Integrating platform for systems, solutions and data | Minas Gerais |
| DigiFarmz | DT - Integrating platform for systems, solutions and data | São Paulo |
| e.Trap | DT - Integrating platform for systems, solutions and data | São Paulo |
| flowins | DT - Integrating platform for systems, solutions and data | Minas Gerais |
| FluroSat | DT - Integrating platform for systems, solutions and data | Paraná |
| Geofusion | DT - Integrating platform for systems, solutions and data | São Paulo |
| Inceres | DT - Integrating platform for systems, solutions and data | São Paulo |
| IntelliAgri | DT - Integrating platform for systems, solutions and data | São Paulo |
| MBR Agro | DT - Integrating platform for systems, solutions and data | São Paulo |
| Myleus | DT - Integrating platform for systems, solutions and data | São Paulo |
| Performance Vegetal | DT - Integrating platform for systems, solutions and data | Rio Grande do Sul |
| Personal Bov | DT - Integrating platform for systems, solutions and data | São Paulo |
| poupachef | DT - Integrating platform for systems, solutions and data | São Paulo |
| Quickium | DT - Integrating platform for systems, solutions and data | São Paulo |
| Scanner Bovino | DT - Integrating platform for systems, solutions and data | Minas Gerais |
| scicrop | DT - Integrating platform for systems, solutions and data | São Paulo |
| Stac | DT - Integrating platform for systems, solutions and data | Paraná |
| Agryo | DT - Integrating platform for systems, solutions and data | Distrito Federal |
| Agronow | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| Altave | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| Birdview | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| cromai | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| cropman | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| digital rural | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| DominusSoli | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |

Continued...

| Agtech | Category | State |
|----------------------|-----------------------------------------------------|-------------------|
| E-Aware Technologies | DT - Remote Sensing, Diagnosis and Image Monitoring | Rio Grande do Sul |
| Forlidar | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| Gamaya | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| Idgeo | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| MVisia | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| Pix2Agro | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| Prediza | DT - Remote Sensing, Diagnosis and Image Monitoring | Rio Grande do Sul |
| Sensix | DT - Remote Sensing, Diagnosis and Image Monitoring | Minas Gerais |
| Sintecsys | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| Somo | DT - Remote Sensing, Diagnosis and Image Monitoring | São Paulo |
| "@tech" | DT - Rural Property Management System | São Paulo |
| Aegro | DT - Rural Property Management System | Rio Grande do Sul |
| AgroIntelli | DT - Rural Property Management System | São Paulo |
| Agromove | DT - Rural Property Management System | São Paulo |
| Agropro monitor | DT - Rural Property Management System | Paraná |
| BovControl | DT - Rural Property Management System | São Paulo |
| Brazsoft | DT - Rural Property Management System | Mato Grosso |
| Checkplant | DT - Rural Property Management System | Rio Grande do Sul |
| Databoi | DT - Rural Property Management System | Rio de Janeiro |
| Farmbox | DT - Rural Property Management System | Rio Grande do Sul |
| FarmGo | DT - Rural Property Management System | Paraná |
| go.farms | DT - Rural Property Management System | São Paulo |
| Ideagri | DT - Rural Property Management System | Minas Gerais |
| iRancho | DT - Rural Property Management System | Goiás |
| Izagro | DT - Rural Property Management System | São Paulo |
| jetbov | DT - Rural Property Management System | Santa Catarina |
| Leaf | DT - Rural Property Management System | Santa Catarina |
| Leigado | DT - Rural Property Management System | Paraná |
| Pomartec | DT - Rural Property Management System | Rio Grande do Sul |
| Reprodez | DT - Rural Property Management System | Minas Gerais |

Continued...

| Agtech | Category | State |
|----------------|---------------------------------------|----------------|
| Shooju | DT - Rural Property Management System | São Paulo |
| Solinftec | DT - Rural Property Management System | São Paulo |
| SSCROP | DT - Rural Property Management System | Bahia |
| Strider | DT - Rural Property Management System | Minas Gerais |
| pecsmart | DT - Rural Property Management System | Santa Catarina |
| crevettic | DT - Rural Property Management System | Ceará |
| AgriConnected | DT - Telemetry and Automation | São Paulo |
| Ativa Soluções | DT - Telemetry and Automation | Minas Gerais |
| Farm solutions | DT - Telemetry and Automation | São Paulo |
| Intergado | DT - Telemetry and Automation | Minas Gerais |
| PackID | DT - Telemetry and Automation | Santa Catarina |
| Perfect Flight | DT - Telemetry and Automation | São Paulo |
| Rúmina | DT - Telemetry and Automation | Minas Gerais |

Table 6. Agtech investment rounds, incubation programs and acceleration in Brazil in agtechs after the farm.

| Agtech | Category | State |
|-----------------|--------------------------------------------|-------------------|
| 100 Foods | DP - Innovative foods and new food trends | São Paulo |
| Babuxca | DP - Innovative foods and new food trends | Paraná |
| Carob House | DP - Innovative foods and new food trends | Paraná |
| Fazenda Futuro | DP - Innovative foods and new food trends | Rio de Janeiro |
| Hakkuna | DP - Innovative foods and new food trends | São Paulo |
| Made in natural | DP - Innovative foods and new food trends | São Paulo |
| nutrebem | DP - Innovative foods and new food trends | Rio de Janeiro |
| Oak's Burritos | DP - Innovative foods and new food trends | São Paulo |
| Ocean Drop | DP - Innovative foods and new food trends | Santa Catarina |
| Olga Ri | DP - Innovative foods and new food trends | São Paulo |
| Pic-me | DP - Innovative foods and new food trends | São Paulo |
| Trade Food | DP - Innovative foods and new food trends | São Paulo |
| Agrimapp | DP - Storage, Infrastructure and Logistics | Bahia |
| Agrolocal | DP - Storage, Infrastructure and Logistics | Rio Grande do Sul |
| Agroprox | DP - Storage, Infrastructure and Logistics | São Paulo |

Continued...

| Agtech | Category | State |
|-----------------------|----------------------------------------------------------------------------------------|------------------|
| Eats for you | DP - Storage, Infrastructure and Logistics | São Paulo |
| ecotrace | DP - Storage, Infrastructure and Logistics | São Paulo |
| Trace Pack | DP - Storage, Infrastructure and Logistics | Paraná |
| Trucker do Agro | DP - Storage, Infrastructure and Logistics | Paraná |
| BioSource Company | DP - Biodiversity and Sustainability | São Paulo |
| Geplant | DP - Biodiversity and Sustainability | São Paulo |
| JustBioSolutions | DP - Biodiversity and Sustainability | São Paulo |
| Smart Yeast | DP - Biodiversity and Sustainability | São Paulo |
| globalyeast | DP - Bioenergy and Renewable Energy | Rio de Janeiro |
| AmazonDreams | DP - Food industry and processing 4.0 | Pará |
| Intelup | DP - Food industry and processing 4.0 | São Paulo |
| Shimejito | DP - Food industry and processing 4.0 | Distrito Federal |
| 4vets | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | São Paulo |
| Agripad | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | São Paulo |
| agritrade | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | Minas Gerais |
| Agrorigem | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | Minas Gerais |
| Busca terra | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | São Paulo |
| Commotech Marketplace | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | São Paulo |
| e-ctare | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | Minas Gerais |
| gavea | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | Rio de Janeiro |
| Grão Direto | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | Minas Gerais |
| Hortify | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | São Paulo |
| Karavel | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | São Paulo |

Continued...

| Agtech | Category | State |
|-----------------------|----------------------------------------------------------------------------------------|-------------------|
| numenu | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | São Paulo |
| ugly | DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | Minas Gerais |
| Frexco | DP- Online grocery | São Paulo |
| Sumá | DP- Online grocery | Santa Catarina |
| Zaply | DP- Online grocery | Rio Grande do Sul |
| Fazenda Urbana | DP - Urban farming: plant factory and new ways of farming | São Paulo |
| PinkFarms | DP - Urban farming: plant factory and new ways of farming | São Paulo |
| Alfred Delivery | DP - Online restaurants and Meal Kits | São Paulo |
| Almoço Grátis | DP - Online restaurants and Meal Kits | Espírito Santo |
| apptite | DP - Online restaurants and Meal Kits | São Paulo |
| Beleaf | DP - Online restaurants and Meal Kits | São Paulo |
| ChefsClub | DP - Online restaurants and Meal Kits | Rio de Janeiro |
| Devorando | DP - Online restaurants and Meal Kits | Rio Grande do Sul |
| du local | DP - Online restaurants and Meal Kits | São Paulo |
| ifood | DP - Online restaurants and Meal Kits | São Paulo |
| Liv Up | DP - Online restaurants and Meal Kits | São Paulo |
| MeuRango | DP - Online restaurants and Meal Kits | São Paulo |
| Aurratech | DP - Food safety and traceability | São Paulo |
| Brazil beef quality | DP - Food safety and traceability | São Paulo |
| Quipotech | DP - Food safety and traceability | Rio de Janeiro |
| goomer | DP - Food stores and services autonomous management system | São Paulo |
| Grubster | DP - Food stores and services autonomous management system | São Paulo |
| Implanta it solutions | DP - Food stores and services autonomous management system | Goiás |
| Onion menu | DP - Food stores and services autonomous management system | São Paulo |
| Saipos | DP - Food stores and services autonomous management system | Rio Grande do Sul |

The distribution of incubated, accelerated and invested companies by category is shown in the following Table 7.

Table 7. Distribution of total events by technological ranking.

| Events | Number |
|-----------------------------------------------------------------------------------------|--------|
| DT - Rural Property Management System | 26 |
| DT - Integrating platform for systems, solutions and data | 25 |
| DT - Remote Sensing, Diagnosis and Image Monitoring | 17 |
| AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | 13 |
| DT - Drones, Machines and Equipment | 13 |
| DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | 13 |
| DP - Innovative foods and new food trends | 12 |
| DT- Biological Control and Integrated Plague Management | 11 |
| DT - Telemetry and Automation | 10 |
| DP - Online restaurants and Meal Kits | 10 |
| DT- Content, Education, Social Media | 8 |
| AN- Laboratorial Analysis | 7 |
| DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | 7 |
| DT - Meteorology and Irrigation and Water Management | 7 |
| DP - Storage, Infrastructure and Logistics | 7 |
| DP - Food stores and services autonomous management system | 5 |
| AN - Seeds, Seedlings and Plant Genomics. | 4 |
| DP - Biodiversity and Sustainability | 4 |
| DP - Food safety and traceability | 3 |
| AN- Fertilizers, Inoculants and Plant Nutrition | 3 |
| DT - Agricultural waste management | 3 |
| DP - Food industry and processing 4.0 | 3 |
| DP- Online grocery | 3 |
| AN- Marketplace of Raw Materials for Agribusiness | 2 |
| AN- Animal Genomics and Breeding | 2 |
| AN - Animal Nutrition and Health | 2 |
| DT - Apiculture and Pollination | 2 |

Continued...

| Events | Number |
|-----------------------------------------------------------|------------|
| DP - Urban farming: plant factory and new ways of farming | 2 |
| DT - Shared Economy | 1 |
| DP - Packaging systems, Environment and Recycling | 1 |
| DP - Bioenergy and Renewable Energy | 1 |
| DP - Connectivity and Telecommunications | 0 |
| DP - Cloud kitchen and ghost kitchen | 0 |
| Total | 227 |

We may note that, for agtechs, the solutions aimed at the increase in productivity from control technologies have received higher attention of the incubation, acceleration and investment organizations. The segment of credit solutions is another attractive segment for these events.

Companies that develop plant-based innovative foods (vegan burgers, milk substitutes and vegan dairy) have attracted interest of the consumer and also of ecosystem institutions.

Table 8. Distribution of total events by state.

| Events | Number |
|--------------------|--------|
| São Paulo | 138 |
| Minas Gerais | 24 |
| Rio Grande do Sul | 17 |
| Paraná | 16 |
| Santa Catarina | 10 |
| Rio de Janeiro | 8 |
| Bahia | 3 |
| Ceará | 2 |
| Distrito Federal | 2 |
| Goiás | 2 |
| Espírito Santo | 1 |
| Mato Grosso | 1 |
| Mato Grosso do Sul | 1 |
| Pará | 1 |
| Tocantins | 1 |
| Acre | 0 |

Continued...

| Events | Number |
|---------------------|------------|
| Alagoas | 0 |
| Amapá | 0 |
| Amazonas | 0 |
| Maranhão | 0 |
| Paraíba | 0 |
| Pernambuco | 0 |
| Piauí | 0 |
| Rio Grande do Norte | 0 |
| Rondônia | 0 |
| Roraima | 0 |
| Sergipe | 0 |
| Total | 227 |

The predominance of the South-Southeast axis in attracting incubators, accelerators and investors is evident in Table 8. Although Radar Agtech 2020/2021 has intended to trace startups and events in various places and regions, the state of São Paulo leads the number of events mapped.

Regarding the acceleration processes, the main categories of the startups are presented in Table 9.

Table 9. Distribution of startups acceleration events by category.

| Accelerators | Numbers |
|-----------------------------------------------------------------------------------------|---------|
| DT - Rural Property Management System | 10 |
| DT - Integrating platform for systems, solutions and data | 8 |
| DT - Remote Sensing, Diagnosis and Image Monitoring | 5 |
| DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | 5 |
| DT - Telemetry and Automation | 4 |
| DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | 3 |
| DT - Drones, Machines and Equipment | 3 |
| DP - Food stores and services autonomous management system | 2 |
| DP - Storage, Infrastructure and Logistics | 2 |
| DT- Biological Control and Integrated Plague Management | 1 |
| DT - Meteorology and Irrigation and Water Management | 1 |

Continued...

| Accelerators | Numbers |
|------------------------------------------------------------------------|----------------|
| DP - Biodiversity and Sustainability | 1 |
| DT - Shared Economy | 1 |
| DP - Innovative foods and new food trends | 1 |
| AN - Seeds, Seedlings and Plant Genomics. | 0 |
| AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | 0 |
| AN- Marketplace of Raw Materials for Agribusiness | 0 |
| AN- Fertilizers, Inoculants and Plant Nutrition | 0 |
| AN- Animal Genomics and Breeding | 0 |
| AN - Animal Nutrition and Health | 0 |
| AN- Laboratorial Analysis | 0 |
| DT - Apiculture and Pollination | 0 |
| DT- Content, Education, Social Media | 0 |
| DT - Agricultural waste management | 0 |
| DT - Connectivity and Telecommunications | 0 |
| DP - Packaging systems, Environment and Recycling | 0 |
| DP - Bioenergy and Renewable Energy | 0 |
| DP - Food industry and processing 4.0 | 0 |
| DP - Urban farming: plant factory and new ways of farming | 0 |
| DP- Online grocery | 0 |
| DP - Online restaurants and Meal Kits | 0 |
| DP - Cloud kitchen and ghost kitchen | 0 |
| DP - Food safety and traceability | 0 |
| Total | 47 |

The distribution of acceleration events is similar to the distribution of the Tale “Distribution by total ranking”.

It is worth highlighting that the category “Drones, Machines and Equipment” has raised more interest of the accelerators in the total set of events (incubation, acceleration and investment).

Table 10 presents the geographic distribution of the acceleration events.

Table 10. Distribution of startups acceleration events by state.

| Accelerators | Numbers |
|---------------------|----------------|
| São Paulo | 22 |
| Minas Gerais | 7 |
| Santa Catarina | 6 |
| Rio Grande do Sul | 5 |
| Bahia | 3 |
| Paraná | 2 |
| Ceará | 1 |
| Distrito Federal | 1 |
| Acre | 0 |
| Alagoas | 0 |
| Amapá | 0 |
| Amazonas | 0 |
| Espírito Santo | 0 |
| Goiás | 0 |
| Maranhão | 0 |
| Mato Grosso | 0 |
| Mato Grosso do Sul | 0 |
| Pará | 0 |
| Paraíba | 0 |
| Pernambuco | 0 |
| Piauí | 0 |
| Rio de Janeiro | 0 |
| Rio Grande do Norte | 0 |
| Rondônia | 0 |
| Roraima | 0 |
| Sergipe | 0 |
| Tocantins | 0 |
| Total | 47 |

Accelerators acting in the agtech segment are distributed more equally among other Brazilian states, showing, perhaps, an increased maturity of the São Paulo market (regarding technological entrepreneurship) and a trend to strengthen and development of startups

established in other locations, stimulating the appearance of acceleration programs.

Distribution of the Incubation events is presented in Table 11.

Table 11. Distribution of startups incubation events by category.

| Incubators | Numbers |
|-----------------------------------------------------------------------------------------|---------|
| DT - Integrating platform for systems, solutions and data | 16 |
| DT - Rural Property Management System | 14 |
| DT - Remote Sensing, Diagnosis and Image Monitoring | 14 |
| DT - Drones, Machines and Equipment | 9 |
| DT- Biological Control and Integrated Plague Management | 9 |
| DT - Meteorology and Irrigation and Water Management | 8 |
| DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | 8 |
| AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | 7 |
| DT - Telemetry and Automation | 7 |
| DT- Content, Education, Social Media | 5 |
| AN- Laboratorial Analysis | 4 |
| DP - Storage, Infrastructure and Logistics | 4 |
| DP - Biodiversity and Sustainability | 4 |
| AN- Fertilizers, Inoculants and Plant Nutrition | 3 |
| AN - Seeds, Seedlings and Plant Genomics. | 2 |
| AN- Marketplace of Raw Materials for Agribusiness | 2 |
| DP - Innovative foods and new food trends | 2 |
| AN- Animal Genomics and Breeding | 1 |
| AN - Animal Nutrition and Health | 1 |
| DT - Apiculture and Pollination | 1 |
| DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | 1 |
| DT - Agricultural waste management | 1 |
| DP - Food industry and processing 4.0 | 1 |
| DP - Online restaurants and Meal Kits | 1 |
| DP - Food safety and traceability | 1 |
| DP - Food stores and services autonomous management system | 1 |
| DT - Shared Economy | 0 |

Continued...

| Incubators | Numbers |
|-----------------------------------------------------------|---------|
| DP - Connectivity and Telecommunications | 0 |
| DP - Packaging systems, Environment and Recycling | 0 |
| DP - Bioenergy and Renewable Energy | 0 |
| DP - Urban farming: plant factory and new ways of farming | 0 |
| DP- Online grocery | 0 |
| DP - Cloud kitchen and ghost kitchen | 0 |
| Total | 127 |

The incubation programs are, in general, linked to academic institutions or corporations and, with that, they have a more solid technological basis aimed at increasing productivity in the farms.

Table 12 shows the distribution of startups incubation events by state, emphasizing the participation of São Paulo in about 74% of the events.

Table 12. Incubation events mapped distributed by state.

| Incubators | Numbers |
|--------------------|---------|
| São Paulo | 93 |
| Paraná | 11 |
| Minas Gerais | 11 |
| Santa Catarina | 4 |
| Rio Grande do Sul | 3 |
| Goiás | 1 |
| Mato Grosso | 1 |
| Mato Grosso do Sul | 1 |
| Rio de Janeiro | 1 |
| Tocantins | 1 |
| Acre | 0 |
| Alagoas | 0 |
| Amapá | 0 |
| Amazonas | 0 |
| Bahia | 0 |
| Ceará | 0 |
| Distrito Federal | 0 |

Continued...

| Incubators | Numbers |
|---------------------|---------|
| Espírito Santo | 0 |
| Maranhão | 0 |
| Pará | 0 |
| Paraíba | 0 |
| Pernambuco | 0 |
| Piauí | 0 |
| Rio Grande do Norte | 0 |
| Rondônia | 0 |
| Roraima | 0 |
| Sergipe | 0 |
| Total | 127 |

Major highlights in this section are the incubators of Piracicaba (SP) – Esalq-tec, Agtech Garage – that, together, have at least 80 startups incubated in their history. Piracicaba’s so-called Agtech-Valley stood out, in 2016, as an important center for the development of technological startups acting in the agricultural industry, and contemplates a large amount of agtechs developed around Esalq/USP. Other important Agtech centers in the state of São Paulo are the city of São Paulo - Capital itself and the cities of Campinas and Ribeirão Preto.

Table 13. Distribution of startups investment events by category.

| Investors | Numbers |
|-----------------------------------------------------------------------------------------|---------|
| DT - Rural Property Management System | 29 |
| DT - Integrating platform for systems, solutions and data | 17 |
| AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | 16 |
| DT - Drones, Machines and Equipment | 14 |
| DT- Biological Control and Integrated Plague Management | 12 |
| DP - Online restaurants and Meal Kits | 12 |
| DP - Innovative foods and new food trends | 10 |
| DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | 9 |
| DT - Telemetry and Automation | 7 |
| DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | 6 |
| DT - Remote Sensing, Diagnosis and Image Monitoring | 6 |

Continued...

| Investors | Numbers |
|------------------------------------------------------------|----------------|
| DP - Storage, Infrastructure and Logistics | 5 |
| DP- Online grocery | 5 |
| AN - Animal Nutrition and Health | 4 |
| AN- Laboratorial Analysis | 4 |
| DT - Meteorology and Irrigation and Water Management | 4 |
| DP - Urban farming: plant factory and new ways of farming | 4 |
| DT- Content, Education, Social Media | 3 |
| AN - Seeds, Seedlings and Plant Genomics. | 2 |
| DT - Agricultural waste management | 2 |
| DP - Food industry and processing 4.0 | 2 |
| DP - Food stores and services autonomous management system | 2 |
| AN- Animal Genomics and Breeding | 1 |
| DT - Apiculture and Pollination | 1 |
| DT - Shared Economy | 1 |
| DP - Packaging systems, Environment and Recycling | 1 |
| DP - Bioenergy and Renewable Energy | 1 |
| DP - Food safety and traceability | 1 |
| AN- Marketplace of Raw Materials for Agribusiness | 0 |
| AN- Fertilizers, Inoculants and Plant Nutrition | 0 |
| DP - Connectivity and Telecommunications | 0 |
| DP - Biodiversity and Sustainability | 0 |
| DP - Cloud kitchen and ghost kitchen | 0 |
| Total | 181 |

The two main technological categories of startups that received investments are “Integrated property management platforms” and “Drones, machines and equipment” for agribusiness. The third investment category - “Biological control” - has been highly attractive for the investors, both for providing an important potential for technological disruption and for the easy understanding on socio-environmental benefits attributed to these technologies, aligned to sustainable agricultural practices that currently are one of the focus of the investors.

Table 14. Distribution of startups investment events by state.

| Investors | Numbers |
|---------------------|----------------|
| São Paulo | 103 |
| Minas Gerais | 25 |
| Rio Grande do Sul | 15 |
| Santa Catarina | 13 |
| Paraná | 12 |
| Rio de Janeiro | 7 |
| Espírito Santo | 2 |
| Ceará | 1 |
| Distrito Federal | 1 |
| Goiás | 1 |
| Pará | 1 |
| Acre | 0 |
| Alagoas | 0 |
| Amapá | 0 |
| Amazonas | 0 |
| Bahia | 0 |
| Maranhão | 0 |
| Mato Grosso | 0 |
| Mato Grosso do Sul | 0 |
| Paraíba | 0 |
| Pernambuco | 0 |
| Piauí | 0 |
| Rio Grande do Norte | 0 |
| Rondônia | 0 |
| Roraima | 0 |
| Sergipe | 0 |
| Tocantins | 0 |
| Total | 181 |

The state of São Paulo is an important enterprising center, not only in agriculture but also in other segments. Importantly, in the capital and in the state, as a whole, there is a large concentration of investors, which also attracts new enterprises to the state.

It can be said that the high concentration of technological and management research and education institutions in the state contributes for the creation of innovative enterprises, attracting more than half of the investments made nationally.

By analyzing these charts, we may note that distributions, in terms of technological classification and geographic distribution, are slightly related in the different stages of association achieved by the startups; therefore, it is interesting to note that some technologies, as well as geographies, have, indeed, attracted more institutions than others.

There is a correspondence between the geographic distribution of the startups tracked by Radar Agtech 2020/2021 and those that participated in incubation, acceleration and investment events, as observed in Table 15.

Table 15 - Geographic distribution of startups in Radar Agtech 2020/2021 compared to the events mapped.

| City | Basis | Events |
|---------------------|-------|--------|
| São Paulo | 48.1% | 60.8% |
| Minas Gerais | 9.1% | 7.0% |
| Rio Grande do Sul | 7.9% | 10.6% |
| Paraná | 9.6% | 7.5% |
| Santa Catarina | 7.8% | 4.4% |
| Rio de Janeiro | 4.0% | 3.5% |
| Bahia | 1.6% | 0.9% |
| Goiás | 1.9% | 0.4% |
| Distrito Federal | 1.1% | 1.3% |
| Ceará | 0.8% | 0.4% |
| Mato Grosso | 1.9% | 0.4% |
| Espírito Santo | 1.3% | 0.9% |
| Mato Grosso do Sul | 1.1% | 0.4% |
| Pará | 1.0% | 0.9% |
| Tocantins | 0.5% | 0.0% |
| Pernambuco | 0.7% | 0.0% |
| Rio Grande do Norte | 0.6% | 0.4% |
| Paraíba | 0.4% | 0.0% |
| Amazonas | 0.3% | 0.0% |
| Piauí | 0.3% | 0.0% |

| City | Basis | Events |
|----------|-------|--------|
| Sergipe | 0.1% | 0.0% |
| Maranhão | 0.1% | 0.0% |
| Amapá | 0.1% | 0.0% |

Table 16 - Distribution by ranking of startups in Radar Agtech 2020/2021 compared to the events mapped.

| | Basis | Events |
|----------------------------------------------------------------------------------------|-------|--------|
| DT - Remote Sensing, Diagnosis and Image Monitoring | 4.4% | 11.5% |
| DP - Innovative foods and new food trends | 18.6% | 11.0% |
| DP - Food safety and traceability | 0.8% | 7.5% |
| AN - Seeds, Seedlings and Plant Genomics. | 1.5% | 5.7% |
| DT - Rural Property Management System | 9.8% | 5.7% |
| DT- Biological Control and Integrated Plague Management | 2.0% | 5.7% |
| AN - Animal Nutrition and Health | 1.2% | 5.3% |
| DP - Online restaurants and Meal Kits | 2.5% | 4.8% |
| DT - Meteorology and Irrigation and Water Management | 2.2% | 4.4% |
| AN- Animal Genomics and Breeding | 1.1% | 4.4% |
| DP - Bioenergy and Renewable Energy | 1.4% | 3.5% |
| AN- Fertilizers, Inoculants and Plant Nutrition | 2.9% | 3.1% |
| DP- Online grocery | 2.9% | 3.1% |
| DP - Connectivity and Telecommunications | 0.4% | 3.1% |
| DP - Urban farming: plant factory and new ways of farming | 1.4% | 3.1% |
| DT - Telemetry and Automation | 2.4% | 2.2% |
| DP - Food industry and processing 4.0 | 1.7% | 1.8% |
| DP - Packaging systems, Environment and Recycling | 1.7% | 1.8% |
| DP - Biodiversity and Sustainability | 2.2% | 1.3% |
| DP - Food stores and services autonomous management system | 2.4% | 1.3% |
| DP - Marketplaces and Trade and sales Platforms for agriculture and livestock products | 6.4% | 1.3% |
| DT - Shared Economy | 1.0% | 1.3% |
| DP - Cloud kitchen and ghost kitchen | 0.2% | 1.3% |
| DT - Integrating platform for systems, solutions and data | 7.1% | 0.9% |

Continued...

| | Basis | Events |
|-----------------------------------------------------------------------------------------|-------|--------|
| AN- Laboratorial Analysis | 2.1% | 0.9% |
| DT - Apiculture and Pollination | 0.1% | 0.9% |
| DT- Content, Education, Social Media | 3.7% | 0.9% |
| DT - Internet of Things for Agriculture: plague detection, soil, climate and irrigation | 2.5% | 0.9% |
| DP - Storage, Infrastructure and Logistics | 3.6% | 0.4% |
| AN- Credit, exchange, insurance, carbon credits and fiduciary analysis | 2.7% | 0.4% |
| AN- Marketplace of Raw Materials for Agribusiness | 1.1% | 0.4% |
| DT - Agricultural waste management | 1.3% | 0.0% |
| DT - Drones, Machines and Equipment | 5.0% | 0.0% |

In the comparison between the representativeness of technological categories in Radar Agtech 2020/2021 and startups attending incubation, acceleration and investment events there are a few discrepancies in a few categories.

The biggest difference refers to the category “Innovative food”, which, despite representing a significant percentage of the startup base (18%) does not seem too appealing for the events mapped (5.4% of the events). Startups providing financial services in the category “Credit, exchange and insurance” have also attracted a higher percentage of events (5.8%) than their representativeness in startups (2.7%).

In the categories inside the farm “Integrating platform for systems, solutions and data”, “Rural property management system”, “Remote Sensing, Diagnosis and Image Monitoring”, “Drones, machines and equipment” also presented a percentage to attract events higher than their share in the startup map of Radar Agtech Brasil 2020/2021.

Agtechs role in the before, inside and after the farm segment

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This chapter provides the directories of agtechs and their respective URLs by segment and category, organized by region, Federative Unit and city.

Directory of agtechs in the segment before the farm

Laboratory test

Table 1. Laboratory analysis agtechs.

| Agtech | URL | City | State | Region |
|--------------------------------|----------------------------|------------------|-------|--------|
| Macofren tecnologias | macofren.com | Brasília | DF | MW |
| ECO Diagnóstica | ecodiagnosticavet.com.br | Nova Lima | MG | SE |
| Ivare | ivare.com.br | Uberlândia | MG | SE |
| Bioagrocert Soluções Agrícolas | bioagrocert.com.br | Barretos | SP | SE |
| Crop | cropbiotec.com | Botucatu | SP | SE |
| Microbióticos | microbioticos.com.br | Campinas | SP | SE |
| Nanocore | nanocore.com.br | Campinas | SP | SE |
| Vikings Hopyard | facebook.com/VikingHopyard | Holambra | SP | SE |
| Herbae | herbae.com.br | Jaboticabal | SP | SE |
| PreveteSanidadeAquícola | prevet.com.br | Jaboticabal | SP | SE |
| C4 Biotecnologia | c4biotecnologia.com.br | Lençóis Paulista | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|-------------------------------------|-------------------------------------------------|----------------|-------|--------|
| Merkato | merkatobrasil.com | Limeira | SP | SE |
| Agrosafety | agrosafety.com.br | Piracicaba | SP | SE |
| PanDNA | linkedin.com/in/ana-durvalina-bomtorin-71127783 | Piracicaba | SP | SE |
| Tecnicontrol | tecnicontrol.ind.br | Piracicaba | SP | SE |
| OnFarm | onfarm.com.br | Pirassununga | SP | SE |
| Alsukkar | alsukkar.com.br | Ribeirão Preto | SP | SE |
| DGLab | dglab.com.br | Ribeirão Preto | SP | SE |
| Agrorobótica | agrorobotica.com.br | São Carlos | SP | SE |
| <i>Cellco Biotec do Brasil LTDA</i> | cellco.com.br | São Carlos | SP | SE |
| <i>Fine Instrument Technology</i> | fitinstrument.com | São Carlos | SP | SE |
| <i>Biolinker</i> | biolinker.tech | São Paulo | SP | SE |
| <i>Myrtus Plant Biotech Ltda</i> | myrtus.com.br | São Paulo | SP | SE |
| <i>Scheme Lab</i> | schemelab.com | São Paulo | SP | SE |
| <i>Tecam</i> | tecam.com.br | São Paulo | SP | SE |
| <i>SpecLab</i> | speclab.com.br | Sumaré | SP | SE |
| <i>Monitoragua</i> | saadrodriques.wixsite.com/ website | Tremembé | SP | SE |
| <i>Intecso</i> | intecso.com.br | Curitiba | PR | S |
| <i>Zeit</i> | zeitbr.com.br | Santa Maria | RS | S |
| <i>Bionexus</i> | bionexus.com.br | Chapecó | SC | S |
| <i>nanoscopying</i> | nanoscopying.com.br | Florianópolis | SC | S |
| <i>Neoprosecta</i> | neoprosecta.com | Florianópolis | SC | S |
| <i>Aquaplant</i> | acquaplant.com.br | Joinville | SC | S |

Credit, exchange, insurance, carbon credits and fiduciary analysis

Table 2. Credit, exchange, insurance, carbon credits and fiduciary analysis agtechs.

| Agtech | URL | City | State | Region |
|---------------------------------|----------------------------------|---------------------|-------|--------|
| Moeda | moedaseeds.com | Brasília | DF | MW |
| Radix Florestal | radixflorestal.com.br | Brasília | DF | MW |
| BMV - Programa Brasil Mata Viva | brasilmataviva.com.br | Goiânia | GO | MW |
| Nato-Digital | nato-digital.com | Palmas | TO | N |
| Celo4 | linkedin.com/company/celo4 | Belo Horizonte | MG | SE |
| Seedz | seedz.ag | Belo Horizonte | MG | SE |
| Nagro | nagro.com.br | Uberaba | MG | SE |
| Gira | giraapp.com.br | Uberlândia | MG | SE |
| Newe | neweseguros.com.br | Rio de Janeiro | RJ | SE |
| Seges | facebook.com/seges.agro | Rio de Janeiro | RJ | SE |
| <i>Bolsa Agro CPR</i> | bolsaagrocpr.com.br | Barueri | SP | SE |
| <i>AGRINT</i> | agrint.com.br | Campinas | SP | SE |
| <i>Brain Agriculture</i> | brain.agr.br | Indaiatuba | SP | SE |
| <i>brCarbon</i> | brcarbon.com.br | Piracicaba | SP | SE |
| <i>IDMAQ</i> | idmaq.com.br | Piracicaba | SP | SE |
| <i>Me Sinto Seguro</i> | mesintoseguro.com.br | Piracicaba | SP | SE |
| <i>Agromatic</i> | agromatic.agr.br | Ribeirão Preto | SP | SE |
| <i>Agronomics</i> | agronomics.agr.br | Ribeirão Preto | SP | SE |
| <i>Terra Magna</i> | terramagna.com.br | São José dos Campos | SP | SE |
| <i>Agristamp</i> | agristamp.com.br | São Paulo | SP | SE |
| <i>Agritrustchain</i> | facebook.com/agritrustchain | São Paulo | SP | SE |
| <i>Agroforte Digital</i> | meuagroforte.com.br | São Paulo | SP | SE |
| <i>agrolend</i> | agrolend.agr.br | São Paulo | SP | SE |
| <i>Audsat</i> | audsat.com.br | São Paulo | SP | SE |
| <i>Biofiliza</i> | biofiliza.com.br | São Paulo | SP | SE |
| <i>Boi Seguro</i> | linkedin.com/company/segurbovapp | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------|-------------------------|---------------|-------|--------|
| <i>Culte</i> | culte.com.br | São Paulo | SP | SE |
| <i>DuAgro</i> | duagro.agr.br | São Paulo | SP | SE |
| <i>Just</i> | justonline.com.br | São Paulo | SP | SE |
| <i>Mark2Market</i> | mark2market.com.br | São Paulo | SP | SE |
| <i>Moss Earth</i> | moss.earth | São Paulo | SP | SE |
| <i>Pag-Agro</i> | pag-agro.com | São Paulo | SP | SE |
| <i>StartMeUp</i> | startmeup.com.br | São Paulo | SP | SE |
| <i>Terralogs</i> | terralogs.com.br | São Paulo | SP | SE |
| <i>Agrometrika</i> | agrometrika.com.br | Vinhedo | SP | SE |
| <i>Traive Finance</i> | traivefinance.com/pt_BR | São Paulo | | |
| | SP | SE | | |
| <i>Bart Digital</i> | bartdigital.com.br | Londrina | PR | S |
| <i>Verde rural</i> | verderural.com.br | Londrina | PR | S |
| <i>Softfocus (Crédito Rural)</i> | softfocus.com.br | Pato Branco | PR | S |
| <i>Acerto Facil Pagamentos</i> | acertofacil.com.br | Porto Alegre | RS | S |
| <i>Fortalece Seguros</i> | fortaleceseguros.com.br | Rio Grande | RS | S |
| <i>Brascard</i> | brascard.agr.br | Três de Maio | RS | S |
| <i>Fazenda Cheia</i> | fazendacheia.com.br | Florianópolis | SC | S |

Fertilizers, inoculants and plant nutrition

Table 3. Fertilizers, inoculants and plant nutrition agtechs.

| Agtech | URL | City | State | Region |
|-----------------------------------|------------------------------------------------|--------------------|-------|--------|
| OrganoGran | organogran.com.br | Paranoá | DF | MW |
| Biotecland | biotecland.com | Luziânia | GO | MW |
| Inocular Soluções Biotecnológicas | inocular-solucoes-biotecnologicas.negocio.site | Lucas do Rio Verde | MT | MW |
| FastAgro | fastagro.com.br | Rondonópolis | MT | MW |
| Georaiz | georaizsolucoesamb.wixsite.com/georaiz | Salvador | BA | NE |
| Cia das Algas (Netuno) | ciadasalgas.com.br | Traíri | CE | NE |

Continued...

| Agtech | URL | City | State | Region |
|------------------------------------------|----------------------------------------------------------------------|-------------------------|-------|--------|
| YBY Inovações Biotecnológicas | pb.programacentelha.com.br/es1/empresa/yby-inovacoes-biotecnologicas | João Pessoa | PB | NE |
| Amazon Agrotech | facebook.com/amazonagrotec | Belém | PA | N |
| Sumabio Biocomposto para plantas | instagram.com/amazonagrotech | Belém | PA | N |
| Biosolvit | biosolvit.com | Barra Mansa | RJ | SE |
| Dextin Solucoes ambientais | dextin.com.br | Rio de Janeiro | RJ | SE |
| Vital Force | vitalforce.com.br | Barretos | SP | SE |
| Solo Sapiens | solosapiens.com.br | Bragança Paulista | SP | SE |
| Biodiversita | biodiversita.com.br | Campinas | SP | SE |
| Probiom | probiom.com.br | Campinas | SP | SE |
| CiaCamp | ciacamp.agr.br | Cordeirópolis | SP | SE |
| Superbac | superbac.com.br | Cotia | SP | SE |
| Fertile Agrosiences | fertileagro.com | Jaboticabal | SP | SE |
| Microgeo | microgeo.com.br | Limeira | SP | SE |
| Revbio | linkedin.com/company/revbio | Paulínia | SP | SE |
| <i>C & L Biotech</i> | clbiotech.com.br/home | Piracicaba | SP | SE |
| <i>Biotech Agro</i> | biotechagro.com.br | Ribeirão Preto | SP | SE |
| <i>Axihum Fertilizantes</i> | axihum.com.br | Rincão | SP | SE |
| <i>Agrivalle</i> | agrivalle.com.br | Salto | SP | SE |
| <i>Massari</i> | massari.com.br | Salto de Pirapora | SP | SE |
| <i>Aloe Fértil Brasil</i> | aloefertilbrasil.com.br | Santa Cruz do Rio Pardo | SP | SE |
| <i>Bioworldtec</i> | bioworldtec.com.br | Santo André | SP | SE |
| <i>FertGel</i> | linkedin.com/in/adriel-bortolin-b587928b | São Carlos | SP | SE |
| <i>Vittia Fertilizantes e Biologicos</i> | vittia.com.br | São Joaquim da Barra | SP | SE |
| <i>Argilos</i> | argilos.com.br | São Paulo | SP | SE |
| <i>CampoRico</i> | camporico.com.br | São Paulo | SP | SE |
| <i>Ibiré</i> | ibire.com.br | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|--------------------------------------|---------------------------|---------------|-------|--------|
| <i>Itatijuca</i> | bioagrotech.com.br | São Paulo | SP | SE |
| <i>Jardim Bonito</i> | jardimbonito.com.br | São Paulo | SP | SE |
| <i>Krilltech Nanotecnologia Agro</i> | krilltech.com.br | São Paulo | SP | SE |
| <i>Openeem</i> | openeem.life | São Paulo | SP | SE |
| <i>SelenoLife</i> | selenolife.com.br | São Paulo | SP | SE |
| <i>Dana Agro</i> | danaagro.com | Tarumã | SP | SE |
| <i>Agro 100</i> | agro100.com.br | Londrina | PR | S |
| <i>Agropro</i> | nutricaodeplantas.com.br | Ponta Grossa | PR | S |
| <i>Ecodefense</i> | ecodefense.com.br | Toledo | PR | S |
| <i>Omega Agro</i> | omegaagro.com.br | Canoas | RS | S |
| <i>Pilar</i> | pilaragroecologico.com.br | Bom Retiro | SC | S |
| <i>Tns Nanotecnologia</i> | tnsolution.com.br | Florianópolis | SC | S |
| <i>Novatero BioAg</i> | novatero.com.br | Joinville | SC | S |
| <i>INBC</i> | inbcgroup.com.br | Palhoça | SC | S |

Animal genomics and breeding

Table 4. Animal genomics and breeding agtechs.

| Agtech | URL | City | State | Region |
|----------------------|----------------------------|----------------|-------|--------|
| RG Genética | rggenetica.com.br | Água Boa | MT | MW |
| Biomim Biotecnologia | biomin.com.br | Divinópolis | MG | SE |
| Cellen | cellen.com.br | Rio de Janeiro | RJ | SE |
| Agropartners | agropartnersconsulting.com | Araçatuba | SP | SE |
| Regenera Stem Cells | regeneravet.com.br | Campinas | SP | SE |
| rheabiotech | rheabiotech.com.br | Campinas | SP | SE |
| WTA | wtavet.com.br | Cravinhos | SP | SE |
| Inpreha | inpreha.com.br | Jaboticabal | SP | SE |
| Gentros | gentros.com.br | Paulínia | SP | SE |
| MetaQuantION | metaquantion.com | Piracicaba | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------|-------|--------|
| Plate Form Biotecnologia | esalqtec.com.br/site/atuante-na-area-de-biotecnologia-a-plate-form-biotechnology-inicia-sua-pre-incubacao-na-esalqtec | Piracicaba | SP | SE |
| Evolutta Agro | evolutta-agro.com | Ribeirão Preto | SP | SE |
| FastBio | fastbio.com.br | Ribeirão Preto | SP | SE |
| Invitra | invitra.com.br | Ribeirão Preto | SP | SE |
| Kimera Biotecnologia | kimerabiotecnologia.com | Ribeirão Preto | SP | SE |
| iBiotech | cietec.org.br/project/ibiotech | São Paulo | SP | SE |
| Krom (Cotton Droplet) | krom.com.br/cotton.html | São Paulo | SP | SE |
| B.tools | btools.agr.br | Videira | SC | S |

Marketplace of raw materials for agribusiness.

Table 5. Marketplace of raw materials for agribusiness agtechs.

| Agtech | URL | City | State | Region |
|--------------------------|-------------------------------------------------------------------------------------------|------------------|-------|--------|
| AMD Agro | amdagro.com.br | Tangará da Serra | MT | MW |
| Agroaki | agroaki.com.br | Lavras | MG | SE |
| Negocia Agro | negociaagro.com.br | Poços de Caldas | MG | SE |
| AhGRO | ahgro.com.br | Campinas | SP | SE |
| Agro Vant | facebook.com/pages/Agrovant-Com%C3%A9rcio-de-Produtos-Agr%C3%ADcolas-Ltda/162487720811584 | Jaboticabal | SP | SE |
| Solo Sagrado | solosagrado.com | Mogi Guaçu | SP | SE |
| e.agro | eagrobrasil.com | Registro | SP | SE |
| Insumo Agrícola | insumoagricola.com.br | São Paulo | SP | SE |
| LeveAgro | leveagro.com | São Paulo | SP | SE |
| npk soluções | npksolucoes.com.br | São Paulo | SP | SE |
| Produtor Agro | produtoragro.com.br | São Paulo | SP | SE |
| agro2business | agro2business.com | Taboão da Serra | SP | SE |
| AquaIn /Aqua Insumos | aquainsumos.com.br | Londrina | PR | S |
| Colhesul Peças Agrícolas | colhesul.com.br | Independência | RS | S |

Continued...

| Agtech | URL | City | State | Region |
|-----------|-----------------------|-------------------|-------|--------|
| Agroper | agroper.com.br | Lajeado | RS | S |
| Agrifacil | fb.com/agrifacil.ltda | Santa Cruz do Sul | RS | S |
| Alfakit | alfakit.com.br | Florianópolis | SC | S |

Animal nutrition and health

Table 6. Animal nutrition and health agtechs.

| Agtech | URL | City | State | Region |
|-----------------------------------|-------------------------------------------------|------------------------|-------|--------|
| Tecnoblock | tecnoblocknutri.com.br | Campo Grande | MS | MW |
| Insect Technologies Intech Brasil | linkedin.com/company/insect-technologies-brasil | Uberlândia | MG | SE |
| Global Saúde Brasil | globalsaudebrasil.com.br | Rio de Janeiro | RJ | SE |
| Yes | yes.ind.br | Campinas | SP | SE |
| Auster | austernutri.com.br | Hortolândia | SP | SE |
| Imeve | imeve.com.br | Jaboticabal | SP | SE |
| Kayros | kayrosambiental.com.br | Paulínia | SP | SE |
| Symbiotec | icorpsbrasil.com.br/symbiotec | Piracicaba | SP | SE |
| Arenales Homeopatianimal | arenales.com.br | Presidente Prudente | SP | SE |
| Decoy | decoysmart.com | Ribeirão Preto | SP | SE |
| <i>Farmacore</i> | farmacore.com.br | Ribeirão Preto | SP | SE |
| <i>Vitafort</i> | vitafort.com.br | Ribeirão Preto | SP | SE |
| <i>Salus</i> | salusgroup.com.br | Santo Antônio de Posse | SP | SE |
| <i>GenoBiomias Biotecnologia</i> | linkedin.com/company/genobiomias | São José dos Campos | SP | SE |
| <i>Animal Flower</i> | animalflower.com.br | São Paulo | SP | SE |
| <i>Ylive</i> | ylive.com.br | São Paulo | SP | SE |
| <i>Pró.Campo Nutrição Animal</i> | pcampo.com.br | Londrina | PR | S |

Continued...

| Agtech | URL | City | State | Region |
|------------------|---------------------------------------------------------------------------------------------------------------------------|---------|-------|--------|
| <i>Bio-Sano</i> | wcsistemas.com/empresas/Parana/35/bio-sano-industria-de-produtos-farmacos-ltda-me-bio-sano-tecnologia-em-saude-animal.php | Toledo | PR | S |
| <i>AgroForte</i> | agroforte.ind.br | Biguaçu | SC | S |

Seeds, seedlings and plant genomics

Table 7. Seeds, seedlings and plant genomics agtechs.

| Agtech | URL | City | State | Region |
|--------------------------|-------------------------------------------------------------------------------------|------------------------|-------|--------|
| DIOXD | dioxd.com | Luís Eduardo Magalhães | BA | NE |
| Bioclone | bioclone.com.br | Eusébio | CE | NE |
| Image pesquisas | imagepesquisas.com.br | Fortaleza | CE | NE |
| Viveiro Nativo | viveironativo.com.br | Patos de Minas | MG | SE |
| ADWACannabis | adwacannabis.com.br | Viçosa | MG | SE |
| BPI | bpibiotecnologia.com.br | Botucatu | SP | SE |
| Bejo | bejo.com.br | Bragança Paulista | SP | SE |
| Verde Nativo | verdenativo.com.br | Bragança Paulista | SP | SE |
| Pangea biotec | pangeiabiotec.com | Campinas | SP | SE |
| Pro-Clone | proclone.com.br | Holambra | SP | SE |
| Native Plant Technology | facebook.com/nativeptech | Piracicaba | SP | SE |
| PIRAÍ Sementes | pirai.com.br | Piracicaba | SP | SE |
| <i>Verdartis</i> | verdartis.com.br | Ribeirão Preto | SP | SE |
| <i>Brasil Agritest</i> | brasilagritest.com | São Carlos | SP | SE |
| <i>Biome4all</i> | biome4all.com.br | São Paulo | SP | SE |
| <i>Lotan</i> | startagro.agr.br/perfil-startagro-como-a-lotan-esta-criando-defensivos-sustentaveis | São Paulo | SP | SE |
| <i>Dinastia Genética</i> | linkedin.com/company/dinastia-gen%C3%A9tica-ltda | Sertãozinho | SP | SE |
| <i>ekoating</i> | ekoating.com | Curitiba | PR | S |

Continued...

| Agtech | URL | City | State | Region |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|-----------|-------|--------|
| <i>GoGenetic</i> | gogenetic.com.br | Curitiba | PR | S |
| <i>Vertron</i> | vertron.com.br | Londrina | PR | S |
| <i>Demetra</i> | demetraagronegocios.com.br | Toledo | PR | S |
| <i>Plante Sempre</i> | plantesempre.com.br | Chapecó | SC | S |
| <i>AgroFour</i> | agrofours.com.br | Joinville | SC | S |
| <i>Difusa Cultivares</i> | orionparque.com/portfolio-item/difusa-cultivares | Lages | SC | S |

Directory of agtechs in the segment inside the farm

Apiculture and pollination

Table 8. Apiculture and pollination agtechs.

| Agtech | URL | City | State | Region |
|---------|------------------------------------------------|----------------|-------|--------|
| GeoApis | geoapis.tech | Piracicaba | SP | SE |
| Agrobee | agrobee.net | Ribeirão Preto | SP | SE |

Connectivity and telecommunications

Table 9. Connectivity and telecommunications agtechs.

| Agtech | URL | City | State | Region |
|---------------------|-------------------------------------------------------------------------------------------------|-------------|-------|--------|
| Meltech | meltech.com.br | Recife | PE | NE |
| <i>Pluginbot</i> | pluginbot.ai | São Paulo | SP | SE |
| Verde Telecom | linkedin.com/company/verde-telecom | São Paulo | SP | SE |
| <i>BST Networks</i> | bstnetworks.com.br | Curitiba | PR | S |
| <i>Global Press</i> | globalpress.com.br | Jaguariaíva | PR | S |
| <i>Becon</i> | becon.com.br | Joinville | SC | S |

Content, education, social media

Table 10. Content, education, social media agtechs.

| Agtech | URL | City | State | Region |
|-----------------------|--------------------------------|------------------------|-------|--------|
| Biotec do Brasil | movbiotecbrasil.com | Goiânia | GO | MW |
| Escola Agro | escolaagro.com.br | Campo Novo do Parecis | MT | MW |
| Agronews | agronewsbrasil.com.br | Cuiabá | MT | MW |
| My Farm Agro | myfarmagro.com.br | Cuiabá | MT | MW |
| RuralCentro | ruralcentro.com.br | Campo Grande | MS | MW |
| AgroInsight | agroinsight.com.br | Luís Eduardo Magalhães | BA | NE |
| The Green Hub | thegreenhub.com.br | Salvador | BA | NE |
| Tuxtu | tuxtu.com.br | Macapá | AP | N |
| Smart Agri | smart.agr.br | Paraíso do Tocantins | TO | N |
| Minas RFID | minasrfid.com.br | Belo Horizonte | MG | SE |
| Rehagro | rehagro.com.br/site | Belo Horizonte | MG | SE |
| VacaLabs | facebook.com/pg/vacalabs | Itanhandu | MG | SE |
| Portal do Agronegócio | portaldoagronegocio.com.br | Uberaba | MG | SE |
| Ag.In | agin.agr.br | Uberlândia | MG | SE |
| AgroSchool | agroschool.com.br | Uberlândia | MG | SE |
| Jetfarm | facebook.com/Jetfarm.com.br | Uberlândia | MG | SE |
| Brasbiotec | brasbiotec.com | Rio de Janeiro | RJ | SE |
| G&Q Agronegócio | gqauditoria.com | Volta Redonda | RJ | SE |
| Datagro Markets | datagro.com/datagro-markets | Barueri | SP | SE |
| YouAgro | youagro.com | Campinas | SP | SE |
| Quintal Orgânico | instagram.com/oquintalorganico | Cordeirópolis | SP | SE |
| Valornovo | valornovo.com | Cravinhos | SP | SE |
| MeuJardim | meujardim.com.br | Franca | SP | SE |
| Agripoint | agripoint.com.br | Piracicaba | SP | SE |
| AgroAdvance | agroadvance.com.br | Piracicaba | SP | SE |
| Agromic | agromic.com.br | Piracicaba | SP | SE |
| APagri | apagri.com.br | Piracicaba | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|-----------------------------------------------------------|----------------------------------|---------------------|--------------|---------------|
| <i>Beefpoint</i> | beefpoint.com.br | Piracicaba | SP | SE |
| <i>Milpa</i> | milpaconsultoria.com | Piracicaba | SP | SE |
| <i>Sollo Agro</i> | solloagro.com.br | Piracicaba | SP | SE |
| <i>werkey</i> | werkey.co | Piracicaba | SP | SE |
| <i>Droneng</i> | droneng.com.br | Presidente Prudente | SP | SE |
| <i>AgriLearning</i> | agrilearning.com.br | Ribeirão Preto | SP | SE |
| <i>Dr. Cana</i> | drcana.com.br | Ribeirão Preto | SP | SE |
| <i>Plataforma Orgânica</i> | facebook.com/plataforma.organica | Rio Claro | SP | SE |
| <i>Alimentares</i> | alimentares.com | Santo André | SP | SE |
| <i>Doutor Agro</i> | doutoragro.com | Santos | SP | SE |
| <i>STC Simuladores</i> | stcsimulador.com.br | São José dos Campos | SP | SE |
| <i>Divina Dieta</i> | divinadieta.org.br | São Paulo | SP | SE |
| <i>ensistec</i> | ensistec.com.br | São Paulo | SP | SE |
| <i>FoodPass</i> | foodpass.com.br | São Paulo | SP | SE |
| <i>Life Biological Control (Pragas)</i> | pragas.com.br | São Paulo | SP | SE |
| <i>N2BBrasil</i> | n2bbrasil.com | São Paulo | SP | SE |
| <i>Nutrisoft</i> | nutrisoft.com.br | São Paulo | SP | SE |
| <i>Revista dos Vegetarianos</i> | revistavegetarianos.com.br | São Paulo | SP | SE |
| <i>Revista Orgânicos</i> | facebook.com/Revistaorganicos | São Paulo | SP | SE |
| <i>Salt Ambiental</i> | saltambiental.com.br | São Paulo | SP | SE |
| <i>Agricultura Simples</i> | agriculturasimples.com.br | Curitiba | PR | S |
| <i>CTAA - Centro de Tecnologia Avançada em Aronegócio</i> | ctaa.agr.br | Curitiba | PR | S |
| <i>Realize Hub</i> | realizehub.com | Curitiba | PR | S |
| <i>Veteduka</i> | veteduka.com.br | Curitiba | PR | S |
| <i>Abraseda</i> | facebook.com/Abraseda | Londrina | PR | S |
| <i>Agrotrust</i> | agrotrust.wixsite.com/agrotrust | Londrina | PR | S |
| <i>Agrischool</i> | agrischool.com.br | Porto Alegre | RS | S |
| <i>Elevagro</i> | elevagro.com | Porto Alegre | RS | S |

Continued...

| Agtech | URL | City | State | Region |
|---------------------------------------|------------------|---------------|-------|--------|
| <i>ManejeBem</i> | manejobem.com.br | Biguaçu | SC | S |
| <i>Keeps</i> | keeps.com.br | Florianópolis | SC | S |
| <i>ILergic - Saúde além do Rótulo</i> | ilergic.com | Lages | SC | S |

Biological control and integrated plague management

Table 11. Biological control and integrated plague management agtechs.

| Agtech | URL | City | State | Region |
|-----------------------------------------------|------------------------|-----------------------|-------|--------|
| Agroneural | agroneural.com | Brasília | DF | MW |
| Blue Tecnologias E Participações Empresariais | bluetecnologias.com.br | Formosa | GO | MW |
| Solubio | solubio.agr.br | Gurupi | TO | N |
| Beas | beasstartup.com | Ouro Preto | MG | SE |
| JB Biotecnologia | jbbiotecnologia.com.br | Paraopeba | MG | SE |
| rizoflora | rizoflora.com.br | Viçosa | MG | SE |
| Ballagro | ballagro.com.br | Bom Jesus dos Perdões | SP | SE |
| Colly Química | collyquimica.com.br | Capivari | SP | SE |
| Bio Controle | biocontrole.com.br | Indaiatuba | SP | SE |
| Zasso | zasso.com.br | Indaiatuba | SP | SE |
| Homeopatia Rural | homeopatiarural.com | Jaú | SP | SE |
| Promip | promip.agr.br | Limeira | SP | SE |
| <i>Gênica</i> | genica.com.br | Piracicaba | SP | SE |
| <i>Ideelab</i> | ideelab.com.br | Piracicaba | SP | SE |
| <i>Pragas.Com</i> | pragas.com.vc | Piracicaba | SP | SE |
| <i>Smartbreeder</i> | smartbreeder.com.br | Piracicaba | SP | SE |
| <i>Agrientech</i> | agrientech.com | São Carlos | SP | SE |
| <i>BR3 Agrobiotecnologia</i> | br3.ind.br | São Paulo | SP | SE |
| <i>Oga</i> | ogawabiocycles.com | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------------|-----------------------------------------|---------------------|-------|--------|
| <i>Innovatis</i> | innovatisbio.com | Taboão da Serra | SP | SE |
| <i>Vector Control</i> | vectorcontrol.agr.br | Vinhedo | SP | SE |
| <i>Diagneasy</i> | penseagro.paniclobster.com/ teams/20 | Curitiba | PR | S |
| <i>AGRIBELA</i> | agribela.com.br | Londrina | PR | S |
| <i>BioLysi Soluções Biológicas</i> | instagram.com/biolysi | Londrina | PR | S |
| <i>Usina Biológica</i> | usinabiologica.com.br | Londrina | PR | S |
| <i>Dillon</i> | dillonbio.com.br | Caxias do Sul | RS | S |
| <i>Simbiose</i> | simbiose-agro.com.br | Cruz Alta | RS | S |
| <i>Isca Tecnologias</i> | isca.com.br | Ijuí | RS | S |
| <i>Partamon</i> | linkedin.com/company/ partamon | Pelotas | RS | S |
| <i>BioIn</i> | bioinagro.com.br | Porto Alegre | RS | S |
| <i>Droptec</i> | facebook.com/Droptecnologia | Chapecó | SC | S |
| <i>Agrize</i> | agrize.com.br | Vila Nova Joinville | SC | S |

Drones, machines and equipment

Table 12. Drones, machines and equipment agtechs.

| Agtech | URL | City | State | Region |
|--------------------------------------------------|------------------------------|--------------------|-------|--------|
| Drone Ops | droneops.com.br | Brasília | DF | MW |
| NONG | nong.com.br | Brasília | DF | MW |
| Avant Agro | avantagro.com.br | Goiânia | GO | MW |
| Campesino | instagram.com/dronecampesino | Orizona | GO | MW |
| <i>Agrotecno</i> | agrotecno.com.br | Lucas do Rio Verde | MT | MW |
| <i>ENG - Soluções Tecnológicas LTDA - ME</i> | engtecnologia.com | Campo Grande | MS | MW |
| <i>Grupo Novo Olhar</i> | gruponovoolhar.com | Campo Grande | MS | MW |
| <i>Rupert Indústria Aeronáutica LTDA</i> | rupert.com.br | Caruaru | PE | NE |
| <i>Prisma Inox</i> | prismainox.com.br | Belém | PA | N |

Continued...

| Agtech | URL | City | State | Region |
|-----------------------------------------|--------------------------------|-----------------------|-------|--------|
| <i>Seive</i> | seive.com.br | Belo Horizonte | MG | SE |
| <i>Verde Drone</i> | verdedrone.com | Belo Horizonte | MG | SE |
| <i>Tbit</i> | tbit.com.br | Lavras | MG | SE |
| <i>Ases Corp</i> | asescorp.com.br | Uberlândia | MG | SE |
| <i>Geaap</i> | geaap.com.br | Uberlândia | MG | SE |
| <i>Volutech</i> | volutech.com.br | Viçosa | MG | SE |
| <i>Astech</i> | astech.eco.br | Petrópolis | RJ | SE |
| <i>Seed Rain</i> | linkedin.com/company/seed-rain | Rio de Janeiro | RJ | SE |
| <i>Sollus</i> | facebook.com/sollusmecanizacao | Assis | SP | SE |
| <i>Agtech Academy</i> | agtech.academy | Barueri | SP | SE |
| <i>Jetwind Brasil</i> | jetwind.com.br | Barueri | SP | SE |
| <i>Maply Tecnologia</i> | maply.io | Barueri | SP | SE |
| <i>Agripulvtech</i> | agripulvtech.com | Cosmópolis | SP | SE |
| <i>Tecnofacil</i> | tecnofacil.foryou.digital | Marília | SP | SE |
| <i>chem4u</i> | chem4u.com.br | Mauá | SP | SE |
| <i>RK</i> | brvant.com.br | Mogi das Cruzes | SP | SE |
| <i>Fishtag</i> | fishtag.com.br | Mogi Guaçu | SP | SE |
| <i>Agricef</i> | agricef.com.br | Paulínia | SP | SE |
| <i>Aero Agri</i> | aeroagri.com.br | Piracicaba | SP | SE |
| <i>Drop</i> | dropagricultura.com.br | Piracicaba | SP | SE |
| <i>Smart Sensing</i> | smartsensingbrasil.com.br | Piracicaba | SP | SE |
| <i>Nuvem UAV Indústria de Aeronaves</i> | nuvemuav.com | Presidente Prudente | SP | SE |
| <i>Bembras Agro</i> | bemagro.com | Ribeirão Preto | SP | SE |
| <i>Sar Drones</i> | sardrones.com.br | Ribeirão Preto | SP | SE |
| <i>Velbrax Agro</i> | velbrax.com | Ribeirão Preto | SP | SE |
| <i>duo automation</i> | duo.com.br | Santa Bárbara d'Oeste | SP | SE |
| <i>Saci Soluções</i> | sacisolucoes.com.br | Santa Bárbara d'Oeste | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|---------------------------------------|-------------------------------------------------------------|-----------------------|--------------|---------------|
| <i>Altamar</i> | altamar.com.br | Santos | SP | SE |
| <i>Adroit Robotics</i> | adroitrobotics.com | São Bernardo do Campo | SP | SE |
| <i>acquanativa</i> | acquanativa.com.br | São Carlos | SP | SE |
| <i>DropScope (SprayX)</i> | sprayx.com.br | São Carlos | SP | SE |
| <i>Enalta (Rex)</i> | linkedin.com/company/enalta | São Carlos | SP | SE |
| <i>Model Works</i> | modelworks.com.br | São Carlos | SP | SE |
| <i>Xmrobots</i> | xmrobots.com.br | São Carlos | SP | SE |
| <i>Acrux</i> | acruxtech.com.br | São José dos Campos | SP | SE |
| <i>NCB Sistemas Embarcados</i> | ncb.ind.br | São José dos Campos | SP | SE |
| <i>BioLambda</i> | biolambda.com | São Paulo | SP | SE |
| <i>FieldPRO</i> | fieldpro.com.br | São Paulo | SP | SE |
| <i>G-Drones</i> | g-drones.com.br | São Paulo | SP | SE |
| <i>GeoDrones</i> | geodrones.com.br | São Paulo | SP | SE |
| <i>GND</i> | gnd-br.com | São Paulo | SP | SE |
| <i>TerraTecno</i> | linkedin.com/company/terratecno—-tecnologias-agr%C3%Adcolas | São Paulo | SP | SE |
| <i>Vortthex</i> | vortthex.com | São Paulo | SP | SE |
| <i>Linax</i> | linax.com.br | Votuporanga | SP | SE |
| <i>EPI cont</i> | epicont.com | Cambe | PR | S |
| <i>PRO SOLUS</i> | prosolus.com | Campo Mourão | PR | S |
| <i>Agromatic Automação e Controle</i> | agromatic.com.br | Cascavel | PR | S |
| <i>Eagle Power Tecnologia</i> | facebook.com/eaglepowerdrones | Cascavel | PR | S |
| <i>3DGEO</i> | 3dgeo.com.br | Curitiba | PR | S |
| <i>AgroRaptor</i> | agroraptor.com | Curitiba | PR | S |
| <i>Alvaz</i> | alvaz.com | Londrina | PR | S |
| <i>Tecnodrones</i> | tecnodrones.com.br | Ponta Grossa | PR | S |
| <i>Ajagro</i> | ajagro.agr.br | Canoas | RS | S |
| <i>Dronagro</i> | dronagro.com.br | Frederico Westphalen | RS | S |

Continued...

| Agtech | URL | City | State | Region |
|-----------------------------------------------------------|-----------------------------------|----------------|-------|--------|
| <i>Plantário</i> | plantario.com.br | Porto Alegre | RS | S |
| <i>SkyAgri</i> | skyagri.com.br | Porto Alegre | RS | S |
| <i>Skydrones</i> | skydrones.com.br | Porto Alegre | RS | S |
| <i>Arpac</i> | arpacbrasil.com.br | São Leopoldo | RS | S |
| <i>Drones For Agro</i> | drones4agro.com.br | Vacaria | RS | S |
| <i>Gertech Soluções Industriais Ltda</i> | gertech.ind.br | Chapecó | SC | S |
| <i>Topview Agricultura Inteligente</i> | linkedin.com/company/topview-agro | Chapecó | SC | S |
| <i>Fornari Industria</i> | fornariindustria.com.br | Concórdia | SC | S |
| <i>Horse Machine Implementos Agrícolas</i> | horsemachine.negocio.site | Criciúma | SC | S |
| <i>Horus Aeronaves</i> | horusaeronaves.com | Florianópolis | SC | S |
| <i>Novarum Sky Tecnologia</i> | novarumsky.com | Florianópolis | SC | S |
| <i>Yup Drones</i> | yupdrones.com.br | Florianópolis | SC | S |
| <i>Agricotec</i> | agricotec.com.br | Jaraguá do Sul | SC | S |
| <i>YAK</i> | yaktractors.com | Joinville | SC | S |
| <i>SF Geo - Sul Florestas</i> | sulflorestas.com.br | Lages | SC | S |
| <i>Ligretch Industria e Comercio de Equipamentos Ltda</i> | ligretch.com.br | Rio Negrinho | SC | S |

Shared economy

Table 14. Shared economy agtechs.

| Agtech | URL | City | State | Region |
|---------------------|-------------------------------|------------|-------|--------|
| <i>Hiib</i> | hiibtech.com | Goiânia | GO | MW |
| <i>Maqfácil</i> | maqfacil.wixsite.com/maqfacil | Cuiabá | MT | MW |
| <i>Agrirent</i> | facebook.com/AgriRentBR | Sinop | MT | MW |
| <i>Fiboo</i> | fiboo.com.br | Barreiras | BA | NE |
| <i>Tour Gourmet</i> | tourgourmet.com.br | Salvador | BA | NE |
| <i>Plantecom</i> | plantecom.com | Mamanguape | PB | NE |

Continued...

| Agtech | URL | City | State | Region |
|---------------------------------------------|--------------------------------------------|--------------|-------|--------|
| <i>Alluagro</i> | alluagro.com.br | Uberlândia | MG | SE |
| <i>Tracktoor</i> | tracktoor.com.br | Uberlândia | MG | SE |
| <i>AgriMates</i> | agrimates.com.br | Campinas | SP | SE |
| <i>Bee Agro</i> | beeagro.com.br | São Paulo | SP | SE |
| <i>Comida Invisível</i> | comidainvisivel.com.br | São Paulo | SP | SE |
| <i>MTGG Participações e Empreendimentos</i> | mahoganyroraima.com.br | São Paulo | SP | SE |
| <i>poupachef</i> | poupachef.com | São Paulo | SP | SE |
| <i>SharedEquips</i> | comunidade.startse.com/in/ sharedequips | São Paulo | SP | SE |
| <i>ViaRural</i> | viarural.net.br | Porto Alegre | RS | S |

Agricultural waste management

Table 15. Agricultural waste management agtechs.

| Agtech | URL | City | State | Region |
|------------------------------|---------------------------------------------|----------------|-------|--------|
| Residus | residus.com.br | Cuiabá | MT | MW |
| Canteiro Soluções Ambientais | linkedin.com/in/ eniogiulianogirao | Fortaleza | CE | NE |
| Recycle Solutions | recyclesolutions.co | Petrolina | PE | NE |
| aterra | aterraambiental.com | Belo Horizonte | MG | SE |
| Residuall | residuall.com | Belo Horizonte | MG | SE |
| VG Resíduos | vgresiduos.com.br | Belo Horizonte | MG | SE |
| Grupo Vitae | vitaebrasil.com.br | Uberaba | MG | SE |
| Econtrole | econtrole.com | Viçosa | MG | SE |
| BR Polen | brpolen.com.br | Rio de Janeiro | RJ | SE |
| DevCoffee | devcoffee.com.br | Leme | SP | SE |
| 5ecos | 5ecos.com.br | Piracicaba | SP | SE |
| EcoBiotech | ecobiotech.com.br | Ribeirão Preto | SP | SE |
| BioSource Company | cietec.org.br/project/biosource- company | São Paulo | SP | SE |
| <i>da Natureza</i> | cietec.org.br/project/danatureza | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|--------------------------------------|------------------|---------------|-------|--------|
| <i>Eureciclo</i> | eureciclo.com.br | São Paulo | SP | SE |
| <i>RSU Brasil</i> | rsubrasil.com.br | São Paulo | SP | SE |
| <i>Tec3geo</i> | tec3geo.com.br | São Paulo | SP | SE |
| <i>Kemia Tratamento de Efluentes</i> | kemia.com.br | Chapecó | SC | S |
| <i>Brotei</i> | brotei.com.br | Florianópolis | SC | S |
| <i>Evoluma</i> | evoluma.com | Tubarão | SC | S |

Internet of things for agriculture agtechs: plague detection, soil, climate and irrigation

Table 16. Internet of things for agriculture agtechs: plague detection, soil, climate and irrigation.

| Agtech | URL | City | State | Region |
|-----------------------------------|----------------------------------------------------------------|------------------------|-------|--------|
| Droclin | droclin.com | Goiânia | GO | MW |
| Indext | indext.com.br | Campo Grande | MT | MW |
| Oscarpes | facebook.com/Oscarpes-Agricultura-Inteligente-1611494252240761 | Tapurah | MT | MW |
| Kalliandra | kalliandra.com.br | Luís Eduardo Magalhães | BA | NE |
| PotyChip | potychip.com.br/#region2wrap | Natal | RN | NE |
| IBEEF | facebook.com/ibeeufr | Belém | PA | N |
| Olho Do Dono | olhododono.agr.br | Vitória | ES | SE |
| Neo Farm (Projeto Neo Things IoT) | neofarm.agr.br | Belo Horizonte | MG | SE |
| Neo Things IoT | neothingsiot.com | Belo Horizonte | MG | SE |
| Phygitall | phygitall.com.br | Rio de Janeiro | RJ | SE |
| AgroInfo | agroinfoti.com.br | Campinas | SP | SE |
| edroponic | edroponic.iotresolve.com/kitbasico | Campinas | SP | SE |
| Tarvos | tarvos.ag | Campinas | SP | SE |
| Prime Field | primefield.com.br | Jaú | SP | SE |
| <i>Stresscan</i> | facebook.com/stresscan | Presidente Prudente | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|-------------------------------------|-----------------------------------------------------------------------|----------------------|--------------|---------------|
| <i>Sensaiotech</i> | sensaiotech.com | Santo André | SP | SE |
| <i>AnimallTAG</i> | br.animalltag.com | São Carlos | SP | SE |
| <i>Treevia</i> | treevia.com.br | São José dos Campos | SP | SE |
| <i>Doroth</i> | doroth.webnode.com | São Paulo | SP | SE |
| <i>Dynalogic</i> | dynalogic.net | São Paulo | SP | SE |
| <i>RMS Math</i> | rmsmath.com.br | São Paulo | SP | SE |
| <i>Anáhata Serviços Agrônômicos</i> | linkedin.com/company/anahataagro | Sorocaba | SP | SE |
| <i>Agrisolus</i> | agrisolus.com.br | Campo Mourão | PR | S |
| <i>E-ware</i> | eaware.com.br | Curitiba | PR | S |
| <i>Extractify</i> | extractify.ai | Curitiba | PR | S |
| <i>True Work</i> | truework.com.br | Curitiba | PR | S |
| <i>Rex9</i> | pr1.sinapsedainovacao.com.br/ pr1/ideia/rex9-seu-patrimonio-seguro | Londrina | PR | S |
| <i>MS Bioscience</i> | linkedin.com/company/ms-bioscience | Maringá | PR | S |
| <i>Rise Go</i> | linkedin.com/company/enalta | Pato Branco | PR | S |
| | | Ponta Grossa | PR | S |
| <i>AMD Agro</i> | instagram.com/seasagro | Ponta Grossa | PR | S |
| <i>Agrotatil</i> | agrotatil.com.br | Rolândia | PR | S |
| <i>iotag</i> | iotag.com.br | São José dos Pinhais | PR | S |
| <i>Eirene Solutions</i> | eirenesolutions.com | Porto Alegre | RS | S |
| <i>Falker Automação Agrícola</i> | falker.com.br | Porto Alegre | RS | S |
| <i>CowMed</i> | cowmed.com.br | Santa Maria | RS | S |
| <i>IoT Brasil</i> | iotbrasil.agr.br | Torres | RS | S |
| <i>Abellion</i> | comandosolutions.com | Florianópolis | SC | S |
| <i>T5 Tecnologia</i> | t5tecnologia.com.br | Florianópolis | SC | S |

Meteorology and irrigation and water management

Table 17. Meteorology and irrigation and water management agtechs.

| Agtech | URL | City | State | Region |
|--------------------------------------------|----------------------------------------------------------------------------|-----------------------|-------|--------|
| SDW | sdwforall.com | Salvador | BA | NE |
| AgroFACI - Future AgroClimatic Information | agrofaci.com | Adrianópolis | AM | N |
| Amana Katu | amanakatu.com | Belém | PA | N |
| Irricontrol | irricontrol.com.br | Itajubá | MG | SE |
| SoilTech | soiltech.com.br | Santa Rita do Sapucaí | MG | SE |
| Grupo Fienile (Irriluce) | grupofienile.com.br | Monte Carmelo | MG | SE |
| irriger | irriger.com.br | Uberaba | MG | SE |
| Icrop | icrop.com.br | Uberlândia | MG | SE |
| Zeusagro | zeusagro.com | Uberlândia | MG | SE |
| IrriSimples | irriplus.com.br | Viçosa | MG | SE |
| Liamarinha | liamarinha.com.br | Viçosa | MG | SE |
| Acqua Vitta Floral | acquavitta.com.br | Bauru | SP | SE |
| Modclima | modclima.com.br | Bragança Paulista | SP | SE |
| Agrosmart | agrosmart.com.br | Campinas | SP | SE |
| Jacobucci Sistemas de Irrigação e Serviços | jacobucci.ind.br | Leme | SP | SE |
| Ecology Glass | facebook.com/ EcologyGlassAmbiental | Limeira | SP | SE |
| Cyan Agroanalytics | cyan-agro.com | São Paulo | SP | SE |
| Agromakers | agromakers.com.br | Piracicaba | SP | SE |
| Agrymet | agrymet.com.br | Piracicaba | SP | SE |
| Hidrofito | linkedin.com/company/ hidrofito-agricultura-de-alta- efici%C3%Aancia | Pirassununga | SP | SE |
| Pitaya Irrigação | pitayairrigacao.com.br | São Carlos | SP | SE |
| Pwtech | pwtech.eco.br | São Carlos | SP | SE |
| Sencer | sencer.com.br | São Carlos | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|-----------------------|------------------------------------------------|---------------------|-------|--------|
| AgroClima Pro | climatempoconsultoria.com.br/ agroclima-pro | São José dos Campos | SP | SE |
| Climacta | climacta.agr.br | São José dos Campos | SP | SE |
| Omni-Eletrônica | omni-electronica.com.br | São Paulo | SP | SE |
| <i>Pluvi.On</i> | pluvion.com.br | São Paulo | SP | SE |
| <i>SEIP 7</i> | seip7.com | Sorocaba | SP | SE |
| <i>Smart Drop</i> | penseagro.paniclobster.com/ teams/33 | Curitiba | PR | S |
| <i>Acquaconte</i> | acquaconte.com.br | Londrina | PR | S |
| <i>Agro-D</i> | agro-d.com | Passo Fundo | RS | S |
| <i>Sistema Irriga</i> | sistemairriga.com.br | Santa Maria | RS | S |
| <i>Raks</i> | raks.com.br | São Leopoldo | RS | S |
| <i>Linear Energia</i> | linearinovacao.com.br | Xanxerê | SC | S |

Integrating platform for systems, solutions and data

Table 18. Integrating platform for systems, solutions and data agtechs.

| Agtech | URL | City | State | Region |
|------------------------|-------------------------|--------------------|-------|--------|
| Agrolivre | agrolivre.com.br | Brasília | DF | MW |
| Agryo | agryo.com | Brasília | DF | MW |
| InteCred (Implanta IT) | implantait.com.br | Goiânia | GO | MW |
| AgroV | agrov.com.br | Cuiabá | MT | MW |
| Lucro rural | lucrorural.com.br | Cuiabá | MT | MW |
| Acronex | acronex.com | Lucas do Rio Verde | MT | MW |
| TBDC | tbd.com.br | Nova Mutum | MT | MW |
| plantUP Intelligence | meuplantup.com | Rondonópolis | MT | MW |
| Sower | sowerx.com | São José do Xingú | MT | MW |
| RapixLog | rapixlog.com.br | Sinop | MT | MW |
| Beef-Tec | beeftec.com.br | Campo Grande | MS | MW |
| AgroSusten | facebook.com/agrosusten | Salvador | BA | NE |
| SimpleVet | simples.vet | Salvador | BA | NE |

Continued...

| Agtech | URL | City | State | Region |
|-----------------------------|----------------------------------------------|---------------------|-------|--------|
| Tetetanque | teletanque.com.br | Salvador | BA | NE |
| Sisagri | sisagri.com.br | Guaraciaba do Norte | CE | NE |
| Agrovesi | facebook.com/agrovesi | Quixadá | CE | NE |
| Aqbits | aquabit.com.br | Teresina | PI | NE |
| <i>BIPP</i> | bipp.com.br | Teresina | PI | NE |
| <i>Amachains</i> | amachains.com | Belém | PA | N |
| <i>Terras App Solutions</i> | terras.agr.br | Belém | PA | N |
| <i>Nice Planet</i> | niceplanet.com.br | Redenção | PA | N |
| <i>e-Tech Agro</i> | etechagro.com | Araguaína | TO | N |
| <i>Revella</i> | agenciarevella.com.br | Araguaína | TO | N |
| <i>Frete Rápido</i> | freterapido.com | Baixo Guandu | ES | SE |
| <i>B tracer</i> | btracer.com.br | Belo Horizonte | MG | SE |
| <i>Flowins</i> | flowins.me | Belo Horizonte | MG | SE |
| <i>Licentia</i> | licentia.digital | Belo Horizonte | MG | SE |
| <i>Scanner Bovino</i> | scannerbovino.com | Juiz de Fora | MG | SE |
| <i>CertifiCafé</i> | certificafe.com.br | Manhuaçu | MG | SE |
| <i>Atomic Agro</i> | atomicagro.com.br | Uberlândia | MG | SE |
| <i>agriBI</i> | agribi.com.br | Viçosa | MG | SE |
| <i>BMS Softwares</i> | grupobms.com.br/winfite-saat | Viçosa | MG | SE |
| <i>Mata Nativa</i> | matanativa.com.br | Viçosa | MG | SE |
| <i>Prodfy</i> | prodfy.com.br | Viçosa | MG | SE |
| Rede Parcerias | redeparcerias.com | Rio de Janeiro | RJ | SE |
| RTD Tecnologia e Defesa | angel.co/company/rtd- tecnologia-e-defesa | Rio de Janeiro | RJ | SE |
| Santos Lab | santoslab.com | Rio de Janeiro | RJ | SE |
| Clube Agro Brasil | clubeagro.com.br | Barra Bonita | SP | SE |
| Far More Land | farmoreland.com | Barueri | SP | SE |
| <i>Cordeirobiz</i> | cordeirobiz.com.br | Botucatu | SP | SE |
| <i>IdealSis</i> | idealsis.com.br | Buritama | SP | SE |
| <i>Gobots</i> | gobots.com.br | Campinas | SP | SE |
| <i>Kasco</i> | kascosys.com.br | Campinas | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|--------------------------------------------------------------------------|---------------------------------------|---------------------|--------------|---------------|
| <i>YahP</i> | yahp.com.br | Campinas | SP | SE |
| <i>Spectral Solutions</i> | spectralsolutions.com.br | Embu das Artes | SP | SE |
| <i>NFeAGRO</i> | nfeagro.com.br | Franca | SP | SE |
| <i>e-Trap</i> | etrap.com.br | Ibirá | SP | SE |
| <i>Mercado de terras</i> | mercadodeterras.com.br | Itapetininga | SP | SE |
| <i>aFHF</i> | afhf.com.br | Matão | SP | SE |
| <i>BRFLOR</i> | brflor.com.br | Piracicaba | SP | SE |
| <i>IntelliAgri</i> | intelliagri.com.br | Piracicaba | SP | SE |
| <i>Mbr Agro</i> | mbragro.com.br | Piracicaba | SP | SE |
| <i>PersonalBov</i> | personalbov.com | Piracicaba | SP | SE |
| <i>Quickium</i> | quickium.com | Piracicaba | SP | SE |
| <i>ASP Agrodigital</i> | apspagrodigital.com.br | Pompéia | SP | SE |
| <i>Cygni</i> | cygni.agr.br | Pompéia | SP | SE |
| <i>Agroconecta</i> | agroconecta.com.br | Ribeirão Preto | SP | SE |
| <i>InCeres Desenvolvimento de Software e Processamento de Dados S.A.</i> | inceres.com.br | Rio Das Pedras | SP | SE |
| <i>Ampla Intelligence</i> | amplaintelligence.com.br | São José dos Campos | SP | SE |
| <i>Agrotools</i> | agrotools.com.br | São Paulo | SP | SE |
| <i>Agrus Data</i> | agrusdata.com | São Paulo | SP | SE |
| <i>Biocult</i> | biocult.com.br | São Paulo | SP | SE |
| <i>Docket</i> | docket.com.br | São Paulo | SP | SE |
| <i>Geofusion</i> | geofusion.com.br | São Paulo | SP | SE |
| <i>Guiato</i> | guiato.com.br | São Paulo | SP | SE |
| <i>InoArb</i> | inoarb.azurewebsites.net | São Paulo | SP | SE |
| <i>IZIO</i> | izio.com.br | São Paulo | SP | SE |
| <i>Myleus</i> | linkedin.com/company/myleusfoodsafety | São Paulo | SP | SE |
| <i>Nama</i> | nama.ai | São Paulo | SP | SE |
| <i>PlataformaVerde</i> | plataformaverde.com.br | São Paulo | SP | SE |
| <i>S4 Agtech</i> | s4agtech.com | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------|-------------------------------------------------|----------------------|--------------|---------------|
| <i>Scicrop</i> | scicrop.com | São Paulo | SP | SE |
| <i>Singra</i> | singra.com.br | São Paulo | SP | SE |
| <i>Spacetime Analytics</i> | spacetimelabs.ai | São Paulo | SP | SE |
| <i>Steinkirch</i> | steinkirch.com | São Paulo | SP | SE |
| <i>Tractian</i> | tractian.com | São Paulo | SP | SE |
| <i>Viveiro web</i> | viveiroweb.com.br | São Pedro | SP | SE |
| <i>Engegrow</i> | engegrow.com.br | Votuporanga | SP | SE |
| <i>Med Vaca Leite</i> | medvacaleite.com | Campo Mourão | PR | S |
| <i>Girotech</i> | giro.tech | Curitiba | PR | S |
| <i>Lithus</i> | lithus.com.br | Curitiba | PR | S |
| <i>O Polen</i> | opolen.com.br | Curitiba | PR | S |
| <i>Radek Systems</i> | radek.com.br | Curitiba | PR | S |
| <i>ST-One</i> | st-one.io | Curitiba | PR | S |
| <i>WebReceita</i> | webreceita.com.br | Curitiba | PR | S |
| <i>Stac</i> | agrostac.com.br | Foz do Iguaçu | PR | S |
| <i>Arabyka</i> | arabyka.com | Londrina | PR | S |
| <i>Brid Soluções</i> | bridsolucoes.com.br | Londrina | PR | S |
| <i>Farmdome</i> | farmdome.com.br | Londrina | PR | S |
| <i>FitoApp</i> | fitoapp.com.br | Londrina | PR | S |
| <i>Fitovision</i> | fitovision.com.br | Londrina | PR | S |
| <i>Talkall</i> | talkall.com.br | Londrina | PR | S |
| <i>Unisolo</i> | unisolo.agr.br | Maringá | PR | S |
| <i>O Agro</i> | oagro.com.br | Frederico Westphalen | RS | S |
| <i>e-Rural</i> | exec.dev | Ijuí | RS | S |
| <i>Avelã Big Data</i> | avelapublicaffairs.com/pt-br/ avela-big-data | Porto Alegre | RS | S |
| <i>Capril Virtual</i> | caprilvirtual.com.br | Porto Alegre | RS | S |
| <i>ConnectFarm</i> | connectfarm.com.br | Porto Alegre | RS | S |
| <i>Elysios</i> | elysios.com.br | Porto Alegre | RS | S |
| <i>OvinoPro</i> | ovinopro.com.br | Porto Alegre | RS | S |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------|---------------------------|---------------|-------|--------|
| <i>Agextec</i> | agextec.com.br | Santa Maria | RS | S |
| <i>Auster Tecnologia</i> | austertecnologia.com | Santa Maria | RS | S |
| <i>Crops Team</i> | fb.com/cropsteam | Santa Maria | RS | S |
| <i>Performance Vegetal</i> | performancevegetal.com.br | Santa Maria | RS | S |
| <i>Essent Agro</i> | essentagro.com.br | Tucunduva | RS | S |
| <i>Agrosimulador</i> | agrosimulador.com.br | Chapecó | SC | S |
| <i>Sigma</i> | siccerrado.com.br | Chapecó | SC | S |
| <i>Granter</i> | granter.com.br | Florianópolis | SC | S |
| <i>FishLabs</i> | fishlabs.com.br | Itajaí | SC | S |
| <i>Saitn Agro</i> | saitnagro.com.br | Itapema | SC | S |
| <i>GoFind</i> | gofind.on-line | Joinville | SC | S |

Remote sensing, diagnosis and image monitoring

Table 19. Remote sensing, diagnosis and image monitoring agtechs.

| Agtech | URL | City | State | Region |
|----------------------------------------------------|------------------------------|--------------|-------|--------|
| Ruraltech | ruraltech.com.br | Brasília | DF | MW |
| Vant Mapper Levantamentos e Geoprocessamento | vantmapper.com | Brasília | DF | MW |
| Geoinova | geoinova.com.br | Goiânia | GO | MW |
| SGS Unigeo | sgsunigeo.com.br | Goiânia | GO | MW |
| Tecno IT | tecno-it.com.br | Goiânia | GO | MW |
| AgroEasy | agroeasymt.com.br | Rondonópolis | MT | MW |
| Agrointeli | agrointeli.com.br | Campo Grande | MS | MW |
| GeoSpace | geospace.eng.br | Eusébio | CE | NE |
| Quanticum | quanticum.com.br | Alpinópolis | MG | SE |
| QiPixel | linkedin.com/company/qipixel | Lavras | MG | SE |
| ScanFito | scanfito.com.br | Lavras | MG | SE |
| Sensix | sensix.com.br | Uberlândia | MG | SE |
| Agrisensing | agrisensing.com.br | Viçosa | MG | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------------|---------------------------------------------------------------|-----------------------|-------|--------|
| Ambidados Serviços e Inovações LTDA | comunidade.startse.com/in/ambidados-servicos-e-inovacoes-ltda | Rio de Janeiro | RJ | SE |
| StarkSat | starksat.com | Rio de Janeiro | RJ | SE |
| Envidrone | envidrone.com | Altinópolis | SP | SE |
| Birdview | birdview.com.br | Botucatu | SP | SE |
| Spectrum | spectrum.agr.br | Botucatu | SP | SE |
| Agrocad | agrocad.com.br | Campinas | SP | SE |
| Anubz DNA | anu.bz | Campinas | SP | SE |
| <i>Cropman</i> | cropman.com.br | Campinas | SP | SE |
| <i>CWC Tecnologia Agrícola</i> | wanderpallone.wixsite.com/cwcagrmob | Campinas | SP | SE |
| <i>Geocrop</i> | geocrop.com.br | Campinas | SP | SE |
| <i>Farm Drone Consultoria Agrícola</i> | farmdroneconsultoria.com.br | Ipuã | SP | SE |
| <i>Labmet</i> | labmet.com.br | Jaboticabal | SP | SE |
| <i>Sintecsys</i> | sintecsys.com | Jundiaí | SP | SE |
| <i>Agrofficio</i> | agrofficio.com.br | Piracicaba | SP | SE |
| <i>Forlidar</i> | forlidar.com.br | Piracicaba | SP | SE |
| <i>IDGeo</i> | idgeo.com.br | Piracicaba | SP | SE |
| <i>MyEasyFarm</i> | myeasyfarm.com | Piracicaba | SP | SE |
| <i>Pix2Agro</i> | facebook.com/pix2agro | Piracicaba | SP | SE |
| <i>Somo</i> | somoagro.com | Piracicaba | SP | SE |
| <i>Four Agri</i> | instagram.com/four_agri | Pirajuí | SP | SE |
| <i>Pulverize (Farmtec)</i> | facebook.com/redefarmtec | Pompéia | SP | SE |
| <i>digital rural</i> | digitalrural.com.br | Presidente Prudente | SP | SE |
| <i>Inspectral</i> | inspectral.com.br | Presidente Prudente | SP | SE |
| <i>Gravta</i> | gravta.com | Ribeirão Preto | SP | SE |
| <i>Dominus Soli</i> | sprayplan.ag | São João da Boa Vista | SP | SE |
| <i>Agrocomp</i> | agrocomp.com.br | São José do Rio Pardo | SP | SE |
| <i>Acosta Aerospace</i> | acosta-aerospace.com | São José dos Campos | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------------|------------------------------------------------------|---------------------|--------------|---------------|
| <i>Agronow</i> | agronow.com.br | São José dos Campos | SP | SE |
| <i>Altave</i> | altave.com.br | São José dos Campos | SP | SE |
| <i>Cron</i> | cronsistec.com.br | São José dos Campos | SP | SE |
| <i>FT Sistemas</i> | ftsistemas.com.br | São José dos Campos | SP | SE |
| <i>Geomap</i> | geomap.com.br | São José dos Campos | SP | SE |
| <i>Imagem (IMG)</i> | img.com.br | São José dos Campos | SP | SE |
| <i>radaz</i> | radaz.com.br | São José dos Campos | SP | SE |
| <i>Agribase</i> | agribase.com.br | São Paulo | SP | SE |
| <i>Agro Robotics</i> | agrrobotics.com.br | São Paulo | SP | SE |
| <i>cromAI</i> | cromai.com | São Paulo | SP | SE |
| <i>Cropview</i> | cropview.com.br | São Paulo | SP | SE |
| <i>Elio Tecnologia</i> | elio.xyz | São Paulo | SP | SE |
| <i>GMG Ambiental</i> | gmgambiental.com.br | São Paulo | SP | SE |
| <i>MVISIA</i> | mvisia.com.br | São Paulo | SP | SE |
| <i>Optimus</i> | optimusgis.com.br | São Paulo | SP | SE |
| <i>Pro Farm Soluções Agrícolas</i> | profarm.agr.br | Curitiba | PR | S |
| <i>Agropixel</i> | agropixel.com.br | Londrina | PR | S |
| <i>Digital Farms</i> | digitalfarms.com.br | Londrina | PR | S |
| <i>Agrosat</i> | agrosatopografia.com.br | Maringá | PR | S |
| <i>NetWord Agro</i> | networdagro.com.br | Palotina | PR | S |
| <i>AgFlier</i> | agflier.com | Alegrete | RS | S |
| <i>Prediza</i> | prediza.io | Caxias do Sul | RS | S |
| <i>Pix Force</i> | pixforce.com.br | Porto Alegre | RS | S |
| <i>Auros Robotics</i> | aurosrobotics.com.br | Rio Grande | RS | S |
| <i>Agriexata</i> | agriexata.com.br | Vacaria | RS | S |
| <i>DIMO Soluções em Tecnologia</i> | dimosolucoes.com.br | Chapecó | SC | S |
| <i>Agrosatelite</i> | agrosatelite.com.br | Florianópolis | SC | S |
| <i>Canopy Remote Sensing Solutions</i> | linkedin.com/company/canopy-remote-sensing-solutions | Florianópolis | SC | S |
| <i>Quiron Agrodigital</i> | quiron.digital | Lages | SC | S |

Continued...

| Agtech | URL | City | State | Region |
|-------------------------------------|----------------------------------------|---------|-------|--------|
| <i>ZAP - Monitoramento Agrícola</i> | zap-monitoramento-agricola.ueniweb.com | Orleans | SC | S |

Rural property management system

Table 19. Rural property management system agtechs.

| Agtech | URL | City | State | Region |
|----------------------------------------|------------------------|------------------------|-------|--------|
| AgroConsenso | agroconsenso.com.br | Brasília | DF | MW |
| Agrojob | bluefarm.com.br | Brasília | DF | MW |
| <i>AgriQ Receituário Agrônômico</i> | agriq.com.br | Goiânia | GO | MW |
| <i>Fazenda Rentável</i> | fazendarentavel.com.br | Goiânia | GO | MW |
| <i>iRancho</i> | irancho.com.br | Goiânia | GO | MW |
| <i>Multibovinos</i> | multbovinos.com.br | Goiânia | GO | MW |
| <i>MyFarm</i> | myfarm.com.br | Goiânia | GO | MW |
| <i>Agropocket</i> | agropocket.com.br | Jataí | GO | MW |
| <i>PlansAgro</i> | fb.com/plansagro | Piracanjuba | GO | MW |
| <i>Brazsoft</i> | brazsoft.com.br | Cuiabá | MT | MW |
| <i>Smart Grain</i> | smartgrain.app | Cuiabá | MT | MW |
| <i>N2agro</i> | n2agro.com.br | Guarantã do Norte | MT | MW |
| <i>Unisystem</i> | unisystem.agr.br | Rondonópolis | MT | MW |
| <i>UpCampo</i> | upcampo.com.br | Sapezal | MT | MW |
| <i>Plantae</i> | plantae.agr.br | Sorriso | MT | MW |
| <i>OK Desenvolvimento de Softwares</i> | okds.com.br | Dourados | MS | MW |
| <i>Primor Agrícola</i> | primoragricola.com.br | Dourados | MS | MW |
| <i>Rastrovet</i> | rastrovet.com.br | Maracaju | MS | MW |
| <i>Sscrop</i> | sscrops.com | Luís Eduardo Magalhães | BA | NE |
| <i>Consiste Informática</i> | consiste.com.br | Salvador | BA | NE |
| <i>Dr. Farm</i> | facebook.com/DrFarmBR | Salvador | BA | NE |
| <i>Fertili</i> | fertili.com.br | Vitória da Conquista | BA | NE |

Continued...

| Agtech | URL | City | State | Region |
|------------------------------------------------|--------------------------------------------------------------|----------------|--------------|---------------|
| <i>Galpãotec - Tecnologia em Manejo Animal</i> | galpaotec.com | Crato | CE | NE |
| <i>Delfos</i> | delfosim.com | Fortaleza | CE | NE |
| <i>Cultiv.aí</i> | cultivai.com.br | Recife | PE | NE |
| <i>Aquabit</i> | aquabit.com.br | Teresina | PI | NE |
| <i>Agromarra</i> | agromarra.com.br | Natal | RN | NE |
| <i>AGBRA - Inteligência em Bons Negócios</i> | agbragroup.wixsite.com/agbra/ agbra-solucoes-inteligentes | Manaus | AM | N |
| <i>DigiPec</i> | digipeccom.br | Araguaína | TO | N |
| <i>Mwova</i> | mwova.com.br | Vitória | ES | SE |
| <i>AgroSlim</i> | agroslim.com.br | Alfenas | MG | SE |
| <i>Gerente Agrícola</i> | gaagrosolucoes.com.br | Alfenas | MG | SE |
| <i>Agrow</i> | agrownegocios.com.br | Araguari | MG | SE |
| <i>Ideagri</i> | ideagri.com.br | Belo Horizonte | MG | SE |
| <i>NETResíduos</i> | netresiduos.com.br | Belo Horizonte | MG | SE |
| <i>Procreate</i> | procreate.com.br | Belo Horizonte | MG | SE |
| <i>Softpec</i> | softpec.com.br | Belo Horizonte | MG | SE |
| <i>Geocampos</i> | geocampos.eng.br | Campos Altos | MG | SE |
| <i>Milk Plan</i> | milkplan.com.br | Cruzília | MG | SE |
| <i>Laticin</i> | laticin.io | Itajubá | MG | SE |
| <i>AgroBold</i> | agrobold.com.br | Lavras | MG | SE |
| <i>Itbold</i> | itbold.com.br | Lavras | MG | SE |
| <i>4milk</i> | 4milk.com.br | Nova Lima | MG | SE |
| <i>GSB Softwares</i> | gsbsoftware.com.br | Patos de Minas | MG | SE |
| <i>Agrodez</i> | linkedin.com/company/agrodez | Uberlândia | MG | SE |
| <i>Agrosolutions</i> | agrosolutions.agr.br | Uberlândia | MG | SE |
| <i>Clarivi</i> | clarivi.com.br | Uberlândia | MG | SE |
| <i>Consiste Ti</i> | consisteti.com.br | Uberlândia | MG | SE |
| <i>ReproDEZ</i> | reprodez.com.br | Uberlândia | MG | SE |
| <i>Vine Soluções</i> | vinesolucoes.com.br | Uberlândia | MG | SE |
| <i>Dinnisoft Esteio Gestão Agropecuária</i> | esteiogestao.com.br | Viçosa | MG | SE |

Continued...

| Agtech | URL | City | State | Region |
|------------------------------------------------|--------------------------------|-----------------------|--------------|---------------|
| <i>Databoi</i> | templo.cc/databoi | Rio de Janeiro | RJ | SE |
| <i>Foodtech</i> | foodtechconsultoria.com.br | Rio de Janeiro | RJ | SE |
| <i>Equino Gestor</i> | equinogestor.com.br | Americana | SP | SE |
| <i>FMX - Smart Trato</i> | fmxsolucoes.com.br | Araçatuba | SP | SE |
| <i>Solinftec</i> | solinftec.com | Araçatuba | SP | SE |
| <i>DataFarm</i> | datafarm.com.br | Campinas | SP | SE |
| <i>Geração Agro</i> | geracaoagro.com.br | Campinas | SP | SE |
| <i>Le Bov</i> | linkedin.com/company/lebov-app | Campinas | SP | SE |
| <i>Pasto sempre verde</i> | facebook.com/psvapp | Campinas | SP | SE |
| <i>Izagro</i> | izagro.com.br | Franca | SP | SE |
| <i>Agricast</i> | agricast.com.br | Itatiba | SP | SE |
| <i>Agrostorm</i> | agrostorm.com.br | Marília | SP | SE |
| <i>Sig Agro Intelligence</i> | sigfarm.com.br | Mogi das Cruzes | SP | SE |
| <i>AgriGIS</i> | agrigis.com.br | Palmital | SP | SE |
| <i>@tech</i> | techagr.com | Piracicaba | SP | SE |
| <i>Agroclinic</i> | agroclinic.com.br | Piracicaba | SP | SE |
| <i>Gatec</i> | gatec.com.br | Piracicaba | SP | SE |
| <i>Gerente Boviplan</i> | gerenteboviplan.com.br | Piracicaba | SP | SE |
| <i>Simple Farm</i> | simplefarm.com.br | Piracicaba | SP | SE |
| <i>AgroInova</i> | agroinova.com.br | Pirassununga | SP | SE |
| <i>Aquaeficiência</i> | aquaeficiencia.com.br | Pirassununga | SP | SE |
| <i>GoFarms</i> | gofarms.com | Presidente Prudente | SP | SE |
| <i>Agrogestor</i> | agrogestor.com | Ribeirão Preto | SP | SE |
| <i>eAgro</i> | eagro.ag | Ribeirão Preto | SP | SE |
| <i>Master Planti</i> | masterplanti.com.br | Ribeirão Preto | SP | SE |
| <i>Gesagri</i> | gesagri.com.br | São Joaquim da Barra | SP | SE |
| <i>Livefarm Tecnologia Agropecuaria Ltda</i> | livefarm.com.br | São José do Rio Preto | SP | SE |
| <i>Kersys Desenvolvimento de Software Ltda</i> | kersys.com.br | São José dos Campos | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------|-------------------------------|---------------|--------------|---------------|
| <i>Agrimanager</i> | agrimanager.com.br | São Paulo | SP | SE |
| <i>Agrolnova</i> | agroinova.com.br | São Paulo | SP | SE |
| <i>BovControl</i> | bovcontrol.com | São Paulo | SP | SE |
| <i>BovExo</i> | bovexo.com | São Paulo | SP | SE |
| <i>G.R.A. Agricola</i> | graagricola.com.br | São Paulo | SP | SE |
| <i>MarketUP</i> | marketup.com | São Paulo | SP | SE |
| <i>mititech.agro</i> | mititechagro.com.br | São Paulo | SP | SE |
| <i>Perfarm</i> | perfarm.com | São Paulo | SP | SE |
| <i>Ponki Marketing</i> | ponki.com.br | São Paulo | SP | SE |
| <i>Reprosis</i> | reprosis.com.br | São Paulo | SP | SE |
| <i>Saveadd</i> | saveadd.com.br | São Paulo | SP | SE |
| <i>Shooju</i> | shooju.com | São Paulo | SP | SE |
| <i>SOHL Horticultura Digital</i> | sohl.com.br | São Paulo | SP | SE |
| <i>VetSmart</i> | vetsmart.com.br | São Paulo | SP | SE |
| <i>i3agro</i> | i3agro.com | Tatuí | SP | SE |
| <i>Agromove</i> | agromove.com.br | Vinhedo | SP | SE |
| <i>Datacooper</i> | datacooper.com.br | Cascavel | PR | S |
| <i>Farmin</i> | farmin.com.br | Cascavel | PR | S |
| <i>AgriWin</i> | agriwin.com.br | Castro | PR | S |
| <i>Agrotis Agroinformática</i> | agrotis.com | Curitiba | PR | S |
| <i>Agrotopus</i> | agrotopus.com.br | Curitiba | PR | S |
| <i>Brisa Consulting</i> | brisaconsulting.com.br | Curitiba | PR | S |
| <i>Caqui</i> | br.linkedin.com/company/caqui | Curitiba | PR | S |
| <i>Transcender.dev</i> | transcender.dev | Curitiba | PR | S |
| <i>Leigado</i> | leigado.com.br | Dois Vizinhos | PR | S |
| <i>Mootalk</i> | milk.farmin.com.br | Dois Vizinhos | PR | S |
| <i>CloudCRM</i> | cloudcrm.tech | Foz do Iguaçu | PR | S |
| <i>Spot Agro</i> | spotagro.com.br | Foz do Iguaçu | PR | S |
| <i>Checkmilk</i> | checkmilk.com.br | Londrina | PR | S |
| <i>Agri360</i> | site.agri360.com.br | Maringá | PR | S |

Continued...

| Agtech | URL | City | State | Region |
|------------------------------------|---------------------------|-------------------------|--------------|---------------|
| <i>FarmGo</i> | farmgo.com.br | Maringá | PR | S |
| <i>Gestão Agropecuária</i> | gestaoagropecuaria.com.br | Maringá | PR | S |
| <i>Viasoft</i> | viasoft.com.br/agrotitan | Pato Branco | PR | S |
| <i>Agro Pro Monitor</i> | agropromonitor.com | Ponta Grossa | PR | S |
| <i>Avalia Sistemas</i> | avaliasistemas.com.br | Ponta Grossa | PR | S |
| <i>Gestoragro</i> | gestoragro.on-line | Toledo | PR | S |
| <i>agrocloud Brasil</i> | agrocloudbrasil.com.br | Caxias do Sul | RS | S |
| <i>Webagrosystem</i> | webagrosystem.com.br | Cruz Alta | RS | S |
| <i>Agro1</i> | agro1.inf.br | Erechim | RS | S |
| <i>Praxiagro</i> | rstrainingrural.com.br | Júlio de Castilhos | RS | S |
| <i>A3 Pecuária</i> | a3pecuaria.com.br | Passo Fundo | RS | S |
| <i>Agrare</i> | agrare.com.br | Passo Fundo | RS | S |
| <i>Checkplant</i> | checkplant.com.br | Pelotas | RS | S |
| <i>Connectere Agrogestão</i> | connectere.agr.br | Pelotas | RS | S |
| <i>Farmbox</i> | farmbox.com.br | Pelotas | RS | S |
| <i>Precisão em Campo</i> | precisaoemcampo.com.br | Pelotas | RS | S |
| <i>Aegro</i> | aegro.com.br | Porto Alegre | RS | S |
| <i>Cerealiza</i> | cerealiza.com.br | Porto Alegre | RS | S |
| <i>DigiFarmz Smart Agriculture</i> | digifarmz.com | Porto Alegre | RS | S |
| <i>Pomartec</i> | pomartec.agr.br | Porto Alegre | RS | S |
| <i>Green Next</i> | greennext.com.br | Rio Grande | RS | S |
| <i>Scadiagro</i> | scadiagro.com.br | Rio Grande | RS | S |
| <i>Agridados</i> | agridados.com.br | Santa Maria | RS | S |
| <i>Drakkar / efarm</i> | drakkar.com.br | Santa Maria | RS | S |
| <i>efarm</i> | efarm.agr.br | Santa Maria | RS | S |
| <i>Gestbov</i> | gestbov.com.br | Santa Vitória do Palmar | RS | S |
| <i>Qualitec Rural</i> | icaravana.com | São Gabriel | RS | S |
| <i>Brabov</i> | brabov.com.br | São Leopoldo | RS | S |
| <i>ControlMilk</i> | controlmilk.com.br | Teutônia | RS | S |

Continued...

| Agtech | URL | City | State | Region |
|---------------------------------------------------|---------------------------|---------------------|-------|--------|
| <i>M2Agro</i> | facebook.com/m2agro | Blumenau | SC | S |
| <i>Agrofiscal</i> | agrofiscal.com.br | Chapecó | SC | S |
| <i>Gravitwave (Coopig)</i> | gravitwave.com | Chapecó | SC | S |
| <i>Sempre Mais Sistemas</i> | sempremaissistemas.com.br | Chapecó | SC | S |
| <i>Agrocodex</i> | agrocodex.com.br | Concórdia | SC | S |
| <i>Agriness</i> | agriness.com/pt | Florianópolis | SC | S |
| <i>Leaf</i> | leafagriculture.com.br | Florianópolis | SC | S |
| <i>PecSmart</i> | pecsmart.com.br | Florianópolis | SC | S |
| <i>Rezolve</i> | rezolve.com.br | Florianópolis | SC | S |
| <i>Ecomarine Biotech</i> | ecomarinebiotech.com | Itajaí | SC | S |
| <i>JetBov</i> | jetbov.com | Joinville | SC | S |
| <i>Cowtrol</i> | cowtrol.com.br | Lages | SC | S |
| <i>Salvo Soluções Digitais</i> | salvosd.com.br | Lajes | SC | S |
| <i>Gota</i> | gotaambiental.com.br | Rio Negrinho | SC | S |
| <i>Boa Vista Industria de Óleos e Consultoria</i> | consultoriaboavista.com | Santa Rosa de Lima | SC | S |
| <i>Alcance Tecnologia</i> | alcancetecnologia.com.br | São Miguel do Oeste | SC | S |

Telemetry and automation

Table 20. Telemetry and automation agtechs.

| Agtech | URL | City | State | Region |
|------------------------------------|----------------------------------------------------|-----------------------|-------|--------|
| HomeGlobal Solutions | facebook.com/homeglobalsolutions | Goiânia | GO | MW |
| Optimale | optimale.com.br | Campo Grande | MS | MW |
| Aiko Digital | aiko.digital | Belo Horizonte | MG | SE |
| Rúmina | rumina.com.br | Belo Horizonte | MG | SE |
| Intergado | intergado.com.br | Contagem | MG | SE |
| Ativa Soluções | ativasolucoes.com.br | Santa Rita do Sapucaí | MG | SE |
| SAGA - Sistema Antifurto para Gado | linkedin.com/company/saga-cattle-anti-theft-system | Santa Rita do Sapucaí | MG | SE |

Continued...

| Agtech | URL | City | State | Region |
|-----------------------------------------------|---------------------------|-----------------------|-------|--------|
| P&D Soluções | pedsolucoesbrasil.com | Uberaba | MG | SE |
| Cowboy Soluções Integradas para o Agronegócio | cowboysf.com.br | Campinas | SP | SE |
| R4F Tecnologia | r4f.com.br | Campinas | SP | SE |
| Saveway | saveway.com.br | Campinas | SP | SE |
| Tauflow | tauflow.com | Campinas | SP | SE |
| Agromizer | agromizer.com.br | Itupeva | SP | SE |
| SensorVision | sensorvision.com.br | Paulínia | SP | SE |
| AgroData | agrodata.me | Piracicaba | SP | SE |
| Farm Solutions | farmsolutions.com.br | Piracicaba | SP | SE |
| Velos | velos.ag | São Carlos | SP | SE |
| Perfect Flight | perfectflightapp.com | São João da Boa Vista | SP | SE |
| Tecsus | tecsus.com.br | São José dos Campos | SP | SE |
| Agertek | agertek.com.br | São Paulo | SP | SE |
| <i>Agri Connected</i> | agricconnected.com | São Paulo | SP | SE |
| <i>agroThings</i> | agrothings.net | São Paulo | SP | SE |
| <i>Angoera</i> | angoera.com.br | São Paulo | SP | SE |
| <i>Chipsafer</i> | chipsafer.com | São Paulo | SP | SE |
| <i>Flora</i> | flora.agr.br | São Paulo | SP | SE |
| <i>Agroconforto</i> | facebook.com/Agroconforto | Castro | PR | S |
| <i>Qualicode</i> | qualicode.com.br | Curitiba | PR | S |
| <i>Wolk Tecnologia</i> | wolk.com.br | Curitiba | PR | S |
| <i>Agritel - Telemetria agrícola</i> | agritel.com.br | Londrina | PR | S |
| <i>Inobram</i> | inobram.com.br | Pato Branco | PR | S |
| <i>Agres</i> | agres.com.br | Pinhais | PR | S |
| <i>Jahde Tecnologia</i> | jahde.com.br | Lajeado | RS | S |
| <i>Z2S</i> | facebook.com/z2sbrasil | Passo Fundo | RS | S |
| <i>Packid</i> | packid.com.br | Chapecó | SC | S |
| <i>Agrotechlink</i> | agrotechlink.com | Joinville | SC | S |

Continued...

| Agtech | URL | City | State | Region |
|------------------|-----------------|-------|-------|--------|
| <i>Fruitkeep</i> | fruitkeep.com | Lages | SC | S |
| <i>LabCloud</i> | labcloud.com.br | Lages | SC | S |

Directory of agtechs in the segment after the farm

Innovative foods and new food trends

Table 21. Innovative food and new food trends agtechs.

| Agtech | URL | City | State | Region |
|-----------------------------|-----------------------------|------------------|-------|--------|
| Bioporã | biopora.com | Brasília | DF | MW |
| Cozinha sem Culpa | cozinhasemculpa.com.br | Goiânia | GO | MW |
| Ervaria | facebook.com/ervaria | Nerópolis | GO | MW |
| Estação Solar | estacaosolar.com.br | Pirenópolis | GO | MW |
| Floresta em pé | souflorestaempe.com.br | Juína | MT | MW |
| Mixnutri | mixnutri.com.br | Campo Grande | MS | MW |
| <i>Dona Santa Alimentos</i> | donasantaalimentos.com.br | Dourados | MS | MW |
| <i>Coaper</i> | polennatuflora.com.br | Canavieiras | BA | NE |
| <i>Flora Miúra</i> | floramiura.com.br | Casa Nova | BA | NE |
| <i>Paraíso Verde</i> | casaparaísoverde.com | Ilhéus | BA | NE |
| <i>Choc</i> | choc-chocolatesfinos.com.br | Lauro de Freitas | BA | NE |
| <i>Alimentos da Vila</i> | alimentosdavila.com.br | Salvador | BA | NE |
| <i>Gula Fit Food</i> | gulafit.com.br | Salvador | BA | NE |
| <i>Iron Bag</i> | ironbag.com.br | Salvador | BA | NE |
| <i>Mendoá Chocolates</i> | mendoachocolates.com.br | Salvador | BA | NE |
| <i>NossaFruta</i> | nossafrutabrasil.com.br | Eusébio | CE | NE |
| <i>Snackout</i> | snackout.com.br | Fortaleza | CE | NE |
| <i>Bem Natural</i> | bemnaturalalimentos.com.br | Cabedelo | PB | NE |
| <i>Konjac Massa MF</i> | konjacmassamf.com.br | João Pessoa | PB | NE |
| <i>Crokan</i> | crokan.com.br | Petrolina | PE | NE |
| <i>BioLogicus</i> | biologicus.com.br | Recife | PE | NE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------------|-------------------------------------|----------------|--------------|---------------|
| <i>Cia da Moringa</i> | facebook.com/ companhiadamoringa | Recife | PE | NE |
| <i>Ecodytec</i> | ufpi.br/empresas-incubadas | Teresina | PI | NE |
| <i>Cajueiro</i> | cajueiro.com.vc | Natal | RN | NE |
| <i>Cajueiro Do Brasil</i> | cajueiro.com.vc | Natal | RN | NE |
| <i>Amazônia Cacau</i> | amazoniacacau.com.br | Belém | PA | N |
| <i>Nutri Amazon</i> | nutriamazon.com | Belém | PA | N |
| <i>Sekiama - Alimentos da Amazônia</i> | sekiama.com | Belém | PA | N |
| <i>Nutrify</i> | nutrify.com.br | Embu Guaçu | PA | N |
| <i>Espirito Cacau</i> | espiritocacau.com.br | Serra | ES | SE |
| <i>Gi Alimentos</i> | saudaveldagi.com.br | Vila Velha | ES | SE |
| <i>To Fit Alimentos Saudaveis</i> | tofitsaudavel.com | Vila Velha | ES | SE |
| <i>Vila Ervas</i> | grupovilaervas.com.br | Vila Velha | ES | SE |
| <i>Kombucha Viva o Dia</i> | kombuchavivaodia.com.br | Vitória | ES | SE |
| <i>Organ Alimentos</i> | organalimentos.com.br | Vitória | ES | SE |
| <i>Vivaodia Lab Super Alimentos</i> | organicosvivaodia.com.br | Vitória | ES | SE |
| <i>Línea Alimentos</i> | lineaalimentos.com.br | Araguari | MG | SE |
| <i>GranMoar</i> | linkedin.com/company/ granmoar | Belo Horizonte | MG | SE |
| <i>Java Chocolates</i> | jvachocolates.com.br | Belo Horizonte | MG | SE |
| <i>Lifeme</i> | facebook.com/pg/lifemebh | Belo Horizonte | MG | SE |
| <i>Na Palma</i> | napalma.bhz.br | Belo Horizonte | MG | SE |
| <i>Offgluten</i> | offgluten.com.br | Belo Horizonte | MG | SE |
| <i>Senhora Pipoca</i> | senhorapipoca.com | Belo Horizonte | MG | SE |
| <i>Cafe Campo Místico</i> | campomistico.com.br | Bueno Brandão | MG | SE |
| <i>Haoma</i> | amohaoma.com.br | Divinópolis | MG | SE |
| <i>Mais Fit</i> | docesmaisfit.com.br | Itaúna | MG | SE |
| <i>SoleaFoods</i> | soleabrasil.com.br | João Pinheiro | MG | SE |
| <i>Food4Fit</i> | food4fitbrasil.com.br | Juiz de Fora | MG | SE |
| <i>Verde Campo</i> | verdecampo.com.br | Lavras | MG | SE |

Continued...

| Agtech | URL | City | State | Region |
|--------------------------------------------|------------------------------------------|----------------|--------------|---------------|
| <i>Vida Veg</i> | vidaveg.com.br | Lavras | MG | SE |
| <i>Ama-O</i> | amaofood.com.br | Moeda | MG | SE |
| <i>Oner Alimentos</i> | onerbrasil.com.br | Nova Lima | MG | SE |
| <i>Tim Ransley Alimentos - Mardico</i> | mardico.com.br | Nova Lima | MG | SE |
| <i>Amantikir Origem Natural</i> | amantikirnatural.com.br | São Lourenço | MG | SE |
| <i>Goodsoy / Belive</i> | goodsoy.com.br | Uberaba | MG | SE |
| <i>AmázzoniGin</i> | amazonigin.com | Barra Mansa | RJ | SE |
| <i>Ginger Temperos</i> | gingertemperos.com.br | Niterói | RJ | SE |
| <i>Sottile Alimentos</i> | sottilealimentos.com.br | Niterói | RJ | SE |
| <i>DoBacon</i> | dobacon.com.br | Rio de Janeiro | RJ | SE |
| <i>Fazenda Culinária</i> | fazendaculinaria.com.br | Rio de Janeiro | RJ | SE |
| <i>Fazenda Futuro</i> | fazendafuturo.io | Rio de Janeiro | RJ | SE |
| <i>GRÃO+GRÃO VEGAN FOOD</i> | graomaisgrao.com.br | Rio de Janeiro | RJ | SE |
| <i>Home Chefs</i> | homechefs.com.br | Rio de Janeiro | RJ | SE |
| <i>ILCASARO</i> | facebook.com/ ilcasaroqueijoartesanal | Rio de Janeiro | RJ | SE |
| <i>Leatt</i> | leatt.com.br | Rio de Janeiro | RJ | SE |
| <i>Mother Plant-based</i> | mother.com.br | Rio de Janeiro | RJ | SE |
| <i>Mundo Livres</i> | facebook.com/pg/MundoLivres | Rio de Janeiro | RJ | SE |
| <i>NoMoo</i> | nomoo.com.br | Rio de Janeiro | RJ | SE |
| <i>NSC - New Science Company</i> | nscompanyus.com | Rio de Janeiro | RJ | SE |
| <i>Nutrebem</i> | nutrebem.com.br | Rio de Janeiro | RJ | SE |
| <i>Paixão Vegan</i> | paixaovegan.com.br | Rio de Janeiro | RJ | SE |
| <i>Purifica</i> | purifica.eco.br | Rio de Janeiro | RJ | SE |
| <i>Seeds Brazil</i> | seedsbrazil.com | Rio de Janeiro | RJ | SE |
| <i>TARTINER</i> | tartiner.com.br | Rio de Janeiro | RJ | SE |
| <i>Tiferet</i> | tiferet.com.br | Rio de Janeiro | RJ | SE |
| <i>Veguita</i> | basicoplantfood.com.br | Rio de Janeiro | RJ | SE |
| <i>Vitalatte & Yorgus</i> | yorgus.com.br; vitalatte.com.br | Valença | RJ | SE |

Continued...

| Agtech | URL | City | State | Region |
|--------------------------------------|------------------------|----------------------|--------------|---------------|
| <i>Rakkau</i> | rakkau.com.br | Americana | SP | SE |
| <i>Master Café</i> | mastercafe.com.br | Araraquara | SP | SE |
| <i>Kom</i> | kombuchakom.com.br | Atibaia | SP | SE |
| <i>Lella Foods</i> | lellafoods.com.br | Atibaia | SP | SE |
| <i>BR Spices</i> | brspices.com.br | Barueri | SP | SE |
| <i>Mais Pura</i> | maisapura.ind.br | Barueri | SP | SE |
| <i>WeWish</i> | wewi.com.br | Barueri | SP | SE |
| <i>Azeite Hass</i> | azeitehass.com.br | Bauru | SP | SE |
| <i>Jaguacy Brasil</i> | jaguacy.com.br | Bauru | SP | SE |
| <i>Snella - Gotas de Colágeno</i> | snella.com.br | Botucatu | SP | SE |
| <i>Sabor Da Terra</i> | osabordaterra.com.br | Bragança Paulista | SP | SE |
| <i>Iogurte Moo</i> | iogurtemoo.com.br | Brodowski | SP | SE |
| <i>BioinFood</i> | bioinfood.com | Campinas | SP | SE |
| <i>Native Berries</i> | nativeberries.com.br | Campinas | SP | SE |
| <i>Noviga</i> | novigapartner.com.br | Campinas | SP | SE |
| <i>Qfir</i> | qfir.com.br | Campinas | SP | SE |
| <i>QPOD</i> | qpod.com.br | Campinas | SP | SE |
| <i>Fitoka</i> | fitoka.com.br | Campo Limpo Paulista | SP | SE |
| <i>Flow Foods / Pipó Gourmet</i> | flowfoods.com.br | Cotia | SP | SE |
| <i>Essência do Vale</i> | essenciadovale.com | Cruzeiro | SP | SE |
| <i>Bentifoods</i> | bentifoods.com.br | Dois Córregos | SP | SE |
| <i>Ekobe Vitaminas e Suplementos</i> | ekobe.ind.br | Franca | SP | SE |
| <i>FAUNA & FLORA</i> | faunaeflora.com.br | Franca | SP | SE |
| <i>Booz Kombucha</i> | boozkombucha.com.br | IlhaBela | SP | SE |
| <i>Almaromi Viccino</i> | almaromi.com.br | Indaiatuba | SP | SE |
| <i>Frispy</i> | frispy.com.br | Indaiatuba | SP | SE |
| <i>Herbal Nutrition</i> | herbalnutrition.com.br | Inianópolis | SP | SE |
| <i>Britchis</i> | britchis.com.br | Itaí | SP | SE |

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| Agtech | URL | City | State | Region |
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| <i>Alere Gourmet</i> | aleregourmet.com.br | Itapeccerica da Serra | SP | SE |
| <i>Strumpf</i> | strumpf.com.br | Itu | SP | SE |
| <i>Enzymilk</i> | facebook.com/ <i>Enzymilk-107365687737907</i> | Jaboticabal | SP | SE |
| <i>Alimentaryum</i> | alimentaryun.com.br | Jarinu | SP | SE |
| <i>Dolce Grano Granolas Especiais e Cereais</i> | dolcegranocereais.com.br | Jaú | SP | SE |
| <i>Belnatur</i> | belnatur.com.br | Jundiaí | SP | SE |
| <i>Sorbos Canudo Comestível</i> | canudocomestivel.com.br | Jundiaí | SP | SE |
| <i>Vegway Foods</i> | vegwayfoods.com.br | Jundiaí | SP | SE |
| <i>Biorigin</i> | biorigin.net/biorigin | Lençóis Paulista | SP | SE |
| <i>Power One</i> | power1one.com.br | Marília | SP | SE |
| <i>Dorff</i> | baladorff.com.br | Martinópolis | SP | SE |
| <i>Nutrawell</i> | nutrawell.com.br | Mirandópolis | SP | SE |
| <i>Villa Piva</i> | villapiva.com.br | Osasco | SP | SE |
| <i>Lotus Produtos Naturais</i> | lotusprodutos.com.br | Pindamonhangaba | SP | SE |
| <i>Florien</i> | florien.com.br | Piracicaba | SP | SE |
| <i>Qfir</i> | qfir.com.br | Campinas | SP | SE |
| <i>QPOD</i> | qpod.com.br | Campinas | SP | SE |
| <i>Fitoka</i> | fitoka.com.br | Campo Limpo Paulista | SP | SE |
| <i>Flow Foods / Pipó Gourmet</i> | flowfoods.com.br | Cotia | SP | SE |
| <i>Essência do Vale</i> | essenciadovale.com | Cruzeiro | SP | SE |
| <i>Bentifoods</i> | bentifoods.com.br | Dois Córregos | SP | SE |
| <i>Ekobe Vitaminas e Suplementos</i> | ekobe.ind.br | Franca | SP | SE |
| <i>FAUNA & FLORA</i> | faunaeflora.com.br | Franca | SP | SE |
| <i>Booz Kombucha</i> | boozkombucha.com.br | IlhaBela | SP | SE |
| <i>Almaromi Viccino</i> | almaromi.com.br | Indaiatuba | SP | SE |
| <i>Frispy</i> | frispy.com.br | Indaiatuba | SP | SE |
| <i>Herbal Nutrition</i> | herbalnutrition.com.br | Inianópolis | SP | SE |

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| Agtech | URL | City | State | Region |
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| <i>Britchis</i> | britchis.com.br | Itaí | SP | SE |
| <i>Alere Gourmet</i> | aleregourmet.com.br | Itapeçerica da Serra | SP | SE |
| <i>Strumpf</i> | strumpf.com.br | Itu | SP | SE |
| <i>Enzymilk</i> | facebook.com/ <i>Enzymilk-107365687737907</i> | Jaboticabal | SP | SE |
| <i>Alimentaryum</i> | alimentaryun.com.br | Jarinu | SP | SE |
| <i>Dolce Grano Granolas Especiais e Cereais</i> | dolcegranocereais.com.br | Jaú | SP | SE |
| <i>Belnatur</i> | belnatur.com.br | Jundiaí | SP | SE |
| <i>Sorbos Canudo Comestível</i> | canudocomestivel.com.br | Jundiaí | SP | SE |
| <i>Vegway Foods</i> | vegwayfoods.com.br | Jundiaí | SP | SE |
| <i>Biorigin</i> | biorigin.net/biorigin | Lençóis Paulista | SP | SE |
| <i>Power One</i> | power1one.com.br | Marília | SP | SE |
| <i>Dorff</i> | baladorff.com.br | Martinópolis | SP | SE |
| <i>Nutrawell</i> | nutrawell.com.br | Mirandópolis | SP | SE |
| <i>Villa Piva</i> | villapiva.com.br | Osasco | SP | SE |
| <i>Lotus Produtos Naturais</i> | lotusprodutos.com.br | Pindamonhangaba | SP | SE |
| <i>Florien</i> | florien.com.br | Piracicaba | SP | SE |
| <i>AIRON</i> | aironsaboresaude.com.br | Ribeirão Preto | SP | SE |
| <i>Hakkuna</i> | hakkuna.com | Ribeirão Preto | SP | SE |
| <i>YACON-BR</i> | yaconfos.com.br | Ribeirão Preto | SP | SE |
| <i>La Pianezza</i> | lapianezza.com.br | Santa Bárbara d'Oeste | SP | SE |
| <i>tecbio FOOD</i> | bsweet.me | Santa Bárbara d'Oeste | SP | SE |
| <i>Gobeche Chocolates</i> | gobeche.com.br | Santa Cruz do Rio Pardo | SP | SE |
| <i>Mr. Veggy</i> | mrveggy.com | Santana de Parnaíba | SP | SE |
| <i>H2life</i> | h2lifesorvetes.com.br | Santo André | SP | SE |
| <i>The One Supps</i> | theonesupps.com | Santo André | SP | SE |
| <i>Morrões</i> | facebook.com/morrõesveg/ | São Caetano do Sul | SP | SE |
| <i>LioMeal</i> | liomeal.com.br | São Carlos | SP | SE |

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| Agtech | URL | City | State | Region |
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| <i>Biotech</i> | lojabiotech.com.br | São José dos Campos | SP | SE |
| <i>Trade Food</i> | tradefood.com.br | São José dos campos | SP | SE |
| <i>100 Foods</i> | 100foods.com.br | São Paulo | SP | SE |
| <i>Adaptogen / Quest</i> | adaptogen.com.br | São Paulo | SP | SE |
| <i>Alho Negro do Sitio</i> | alhonegrodositio.com.br | São Paulo | SP | SE |
| <i>ATaldaCastanha</i> | ataldacastanha.com.br | São Paulo | SP | SE |
| <i>Awí Earth Warriors Superfoods</i> | awisuperfoods.com.br | São Paulo | SP | SE |
| <i>b.eat</i> | b-eatfood.com | São Paulo | SP | SE |
| <i>Baer-Mate</i> | baermate.com | São Paulo | SP | SE |
| <i>Beba Rio</i> | bebario.com.br | São Paulo | SP | SE |
| <i>Behind The Foods</i> | behindthefoods.com.br | São Paulo | SP | SE |
| <i>Bianca Simões</i> | biancasimoes.com.br | São Paulo | SP | SE |
| <i>Bombay</i> | bombayhs.com.br | São Paulo | SP | SE |
| <i>B-ON Nutrição</i> | b-on-nutricao.com.br | São Paulo | SP | SE |
| <i>Bravo Açai</i> | bravoacai.com.br | São Paulo | SP | SE |
| <i>Cafene Innova (Bitcoffee)</i> | bitcoffee.com.br | São Paulo | SP | SE |
| <i>Caffeine Army</i> | caffeinearmy.com.br | São Paulo | SP | SE |
| <i>Caldo Natural</i> | caldonatural.com.br | São Paulo | SP | SE |
| <i>Castanharia</i> | castanharia.com | São Paulo | SP | SE |
| <i>Celivita Gluten Free</i> | celivita.com.br | São Paulo | SP | SE |
| <i>Chock</i> | chock.com.br | São Paulo | SP | SE |
| <i>Chocolife</i> | chocolife.com.br | São Paulo | SP | SE |
| <i>Color Andina Food</i> | colorandinafood.com.br | São Paulo | SP | SE |
| <i>Cucina di Manjuba / Fresco</i> | cucinadimanjuba.com.br | São Paulo | SP | SE |
| <i>Cuesta Gourmet</i> | cuestagourmet.com.br | São Paulo | SP | SE |
| <i>Da Terrinha Alimentos</i> | daterrinhaalimentos.com | São Paulo | SP | SE |
| <i>DaOca</i> | sorvetenaked.com.br | São Paulo | SP | SE |
| <i>Desinchá</i> | desincha.com.br | São Paulo | SP | SE |
| <i>Dobro</i> | soudobro.com.br | São Paulo | SP | SE |

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| Agtech | URL | City | State | Region |
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| <i>Dona Mary Torrões de Grãos</i> | donamarybiscoitos.com/ | São Paulo | SP | SE |
| <i>Dux Nutrition Lab</i> | duxnutrition.com | São Paulo | SP | SE |
| <i>Eat Clean</i> | eatcleanbrasil.com.br | São Paulo | SP | SE |
| <i>Emily Naturals</i> | emilynaturals.com.br | São Paulo | SP | SE |
| <i>Energia da Terra</i> | energiadaterra.com.br | São Paulo | SP | SE |
| <i>Estar Bem</i> | estarbemalimentos.com.br | São Paulo | SP | SE |
| <i>Fit Food</i> | fitfoodbrasil.com | São Paulo | SP | SE |
| <i>Five Diamonds</i> | fivediamonds.com.br | São Paulo | SP | SE |
| <i>Flora Fiora</i> | florafiora.com.br | São Paulo | SP | SE |
| <i>Foodz</i> | foodz.store | São Paulo | SP | SE |
| <i>Fresco</i> | eatfresco.com.br | São Paulo | SP | SE |
| <i>Germinou</i> | germinou.com.br | São Paulo | SP | SE |
| <i>Gerônimo Foods</i> | geronimooo.com.br | São Paulo | SP | SE |
| <i>Gold&Ko</i> | gold-ko.com.br | São Paulo | SP | SE |
| <i>holy nuts</i> | holynuts.com.br | São Paulo | SP | SE |
| <i>Hummus Compot</i> | compot.com.br | São Paulo | SP | SE |
| <i>Isto É Veg</i> | dipsoy.com.br | São Paulo | SP | SE |
| <i>Jakêra</i> | jakera.com.br | São Paulo | SP | SE |
| <i>Jumbáí</i> | facebook.com/jumbaialimentos | São Paulo | SP | SE |
| <i>Kiro Bebidas</i> | bebakiro.com | São Paulo | SP | SE |
| <i>Lifemix</i> | lifemix.com.br | São Paulo | SP | SE |
| <i>Lowko</i> | lowko.com.br | São Paulo | SP | SE |
| <i>Made In Natural</i> | madeinnatural.com.br | São Paulo | SP | SE |
| <i>Maismu</i> | lojamaismu.com.br | São Paulo | SP | SE |
| <i>Mbee Mel De Terroir</i> | mbee.com.br | São Paulo | SP | SE |
| <i>Mee Bebidas Criativas</i> | bebamee.com.br | São Paulo | SP | SE |
| <i>Mestiço Chocolates Ltda</i> | mesticochocolates.com.br | São Paulo | SP | SE |
| <i>Miss Croc</i> | misscroc.com.br | São Paulo | SP | SE |
| <i>Monnid Doces</i> | monnid.com.br | São Paulo | SP | SE |

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| Agtech | URL | City | State | Region |
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| <i>Mun Artesanal Proteína Sustentável</i> | munartesanal.com | São Paulo | SP | SE |
| <i>Naked Nuts</i> | nakednuts.com.br | São Paulo | SP | SE |
| <i>Natural One</i> | natone.com.br | São Paulo | SP | SE |
| <i>Natuterra</i> | natuterradrinks.com | São Paulo | SP | SE |
| <i>Nutripleno</i> | nurtripleno.com.br | São Paulo | SP | SE |
| <i>Nutrisanti</i> | nutrisanti.com.br | São Paulo | SP | SE |
| <i>Oak's Burritos</i> | oaksburritos.com | São Paulo | SP | SE |
| <i>Olga RI</i> | olgari.com.br | São Paulo | SP | SE |
| <i>One More - Balanc</i> | onemoredrink.com.br | São Paulo | SP | SE |
| <i>Organic 4</i> | organic4.com.br | São Paulo | SP | SE |
| <i>Organic Alimentos</i> | organicalimentos.com.br | São Paulo | SP | SE |
| <i>Origem Temperos Milenares</i> | missoorigem.com.br | São Paulo | SP | SE |
| <i>Original Blend</i> | originalblend.com.br | São Paulo | SP | SE |
| <i>Padariadosbebês</i> | padariadosbebes.com.br | São Paulo | SP | SE |
| <i>Pamalani</i> | pamalani.com.br/store | São Paulo | SP | SE |
| <i>Pão de Beijo</i> | paodebeijo.com.br | São Paulo | SP | SE |
| <i>Pão de Liz</i> | paodeliz.com | São Paulo | SP | SE |
| <i>Pasta de Amendoim da Tereza</i> | pastadeamendoimdatereza.com.br | São Paulo | SP | SE |
| <i>PIC ME</i> | picmenatural.com.br | São Paulo | SP | SE |
| <i>PipóGourmet</i> | pipogourmet.com.br | São Paulo | SP | SE |
| <i>Puravida</i> | puravida.com.br | São Paulo | SP | SE |
| <i>Puro Verde</i> | puroverdesucos.com.br | São Paulo | SP | SE |
| <i>Qualy ErvaseE Bomfloral</i> | qlyervas.com.br | São Paulo | SP | SE |
| <i>Reserva Mundi</i> | reservamundi.com.br | São Paulo | SP | SE |
| <i>RootsToGo</i> | rootstogo.com.br | São Paulo | SP | SE |
| <i>SÓ</i> | sosnacks.com.br | São Paulo | SP | SE |
| <i>Sorvete Mondo</i> | sorvetemondo.com.br | São Paulo | SP | SE |
| <i>Sowl</i> | ritualsowl.com.br | São Paulo | SP | SE |
| <i>Sri Sri Tattva</i> | srisriayurveda.com.br/ | São Paulo | SP | SE |

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| Agtech | URL | City | State | Region |
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| <i>STEVIA 12</i> | stevia12.com.br | São Paulo | SP | SE |
| <i>TEATOXME</i> | teatoxme.com.br | São Paulo | SP | SE |
| <i>The New Butcher</i> | thenewbutchers.com.br | São Paulo | SP | SE |
| <i>The Question Mark Company</i> | questionmark.com.br | São Paulo | SP | SE |
| <i>Tudozeroleite</i> | tudozeroleite.com.br | São Paulo | SP | SE |
| <i>Urban Remedy</i> | urbanremedy.com.br | São Paulo | SP | SE |
| <i>Utopia</i> | facebook.com/umautopia | São Paulo | SP | SE |
| <i>Veganah Foods</i> | veganah.com.br | São Paulo | SP | SE |
| <i>Vegpet</i> | vegpet.com.br | São Paulo | SP | SE |
| <i>Vih!</i> | vihalimentos.com | São Paulo | SP | SE |
| <i>WVEGAN</i> | wvegan.com.br | São Paulo | SP | SE |
| <i>Super Vegan</i> | superveganchoc.com.br | São Vicente | SP | SE |
| <i>Casarão / Allgood</i> | sealalimentos.com.br | Tatuí | SP | SE |
| <i>Alimente</i> | alimente.eco.br | Vinhedo | SP | SE |
| <i>NachoLoco</i> | nacholoco.com.br | Vinhedo | SP | SE |
| <i>Zaya</i> | zayafLOUR.com | Vinhedo | SP | SE |
| <i>Dr. Peanut</i> | drpeanut.com.br | Almirante Tamandaré | PR | S |
| <i>Carob House</i> | carobhouse.com | Campina Grande do Sul | PR | S |
| <i>Elemento Puro</i> | elementopuro.com.br | Cascavel | PR | S |
| <i>Duom Alimentos</i> | laboratorioduom.com.br | Colombo | PR | S |
| <i>Babuxca</i> | babuxca.com.br | Curitiba | PR | S |
| <i>Broto Facil</i> | brotofacil.com.br | Curitiba | PR | S |
| <i>Burleigh</i> | burleigh.com.br | Curitiba | PR | S |
| <i>Casa Rigani Sem Glúten</i> | casariganisemgluten.com.br | Curitiba | PR | S |
| <i>Le Bio</i> | lebio.com.br | Curitiba | PR | S |
| <i>Molhos Artesanais Curitiba</i> | facebook.com/ Molhos-Artesanais- Curitiba-560736114300283 | Curitiba | PR | S |
| <i>Nice Foods</i> | nicefoods.com.br | Curitiba | PR | S |

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| <i>Nutfree</i> | nutfree.com.br | Curitiba | PR | S |
| <i>Panda Proteico</i> | pandaproteico.com.br | Curitiba | PR | S |
| <i>PerksBreak</i> | perksbreak.com | Curitiba | PR | S |
| <i>PUTZ!</i> | pastaputz.com.br | Curitiba | PR | S |
| <i>Sirnutri</i> | produtosnaturaisirnutre.com | Curitiba | PR | S |
| <i>Mandioca Iguaçú</i> | mandiocasiguacu.com.br | Foz do Iguaçú | PR | S |
| <i>Benni Alimentos</i> | bennialimentos.com.br | Ibiporã | PR | S |
| <i>Viva Mate</i> | vivamatebrasil.com.br | Ivaí | PR | S |
| <i>Catalmedic</i> | catalmedic.com.br | Maringá | PR | S |
| <i>Annora Alimentos</i> | annora.com.br | Pinhais | PR | S |
| <i>Colágeno Líquido - Qualinova</i> | qualinova.com.br | Pinhais | PR | S |
| <i>G-Action Suplementos</i> | g-actionsuplementos.com | São José dos Pinhais | PR | S |
| <i>Flowbar</i> | flowbar.com.br | Arroio do Meio | RS | S |
| <i>Lacin</i> | lacin.com.br | Bom Retiro do Sul | RS | S |
| <i>Santulana Alimentos Saudáveis</i> | santulana.com.br | Caxias do Sul | RS | S |
| <i>TENSEI</i> | tensei.com.br | Farroupilha | RS | S |
| <i>Inovamate</i> | inovamate.com.br | Ilópolis | RS | S |
| <i>LYOH</i> | facebook.com/lyohtec | Novo Hamburgo | RS | S |
| <i>Hart's Naturais</i> | hartsnatural.com.br | Pareci Novo | RS | S |
| <i>Zelee Alimentos Funcionais</i> | zelealimentos.com.br | Portão | RS | S |
| <i>All Protein</i> | allprotein.com.br | Porto Alegre | RS | S |
| <i>Better Life Br</i> | betterlifebr.com.br | Porto Alegre | RS | S |
| <i>FeelJoy</i> | feeljoy.com.br | Porto Alegre | RS | S |
| <i>Broto Facil</i> | brotofacil.com.br | Curitiba | PR | S |
| <i>Burleigh</i> | burleigh.com.br | Curitiba | PR | S |
| <i>Casa Rigani Sem Glúten</i> | casariganisemgluten.com.br | Curitiba | PR | S |
| <i>Le Bio</i> | lebio.com.br | Curitiba | PR | S |
| <i>Molhos Artesanais Curitiba</i> | facebook.com/ Molhos-Artesanais- Curitiba-560736114300283 | Curitiba | PR | S |

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| Agtech | URL | City | State | Region |
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| <i>Nice Foods</i> | nicefoods.com.br | Curitiba | PR | S |
| <i>Nutfree</i> | nutfree.com.br | Curitiba | PR | S |
| <i>Panda Proteico</i> | pandaproteico.com.br | Curitiba | PR | S |
| <i>PerksBreak</i> | perksbreak.com | Curitiba | PR | S |
| <i>PUTZ!</i> | pastaputz.com.br | Curitiba | PR | S |
| <i>Sirnutri</i> | produtosnaturaisirnutre.com | Curitiba | PR | S |
| <i>Mandioca Iguaçu</i> | mandiocasiguacu.com.br | Foz do Iguaçu | PR | S |
| <i>Benni Alimentos</i> | bennialimentos.com.br | Ibiporã | PR | S |
| <i>Viva Mate</i> | vivamatebrasil.com.br | Ivaí | PR | S |
| <i>Catalmedic</i> | catalmedic.com.br | Maringá | PR | S |
| <i>Annora Alimentos</i> | annora.com.br | Pinhais | PR | S |
| <i>Colágeno Líquido - Qualinova</i> | qualinova.com.br | Pinhais | PR | S |
| <i>G-Action Suplementos</i> | g-actionsuplementos.com | São José dos Pinhais | PR | S |
| <i>Flowbar</i> | flowbar.com.br | Arroio do Meio | RS | S |
| <i>Lacin</i> | lacin.com.br | Bom Retiro do Sul | RS | S |
| <i>Santulana Alimentos Saudáveis</i> | santulana.com.br | Caxias do Sul | RS | S |
| <i>TENSEI</i> | tensei.com.br | Farroupilha | RS | S |
| <i>Inovamate</i> | inovamate.com.br | Ilópolis | RS | S |
| <i>LYOH</i> | facebook.com/lyohtec | Novo Hamburgo | RS | S |
| <i>Hart's Naturais</i> | hartsnatural.com.br | Pareci Novo | RS | S |
| <i>Zeal Alimentos Funcionais</i> | zealimentos.com.br | Portão | RS | S |
| <i>All Protein</i> | allprotein.com.br | Porto Alegre | RS | S |
| <i>Better Life Br</i> | betterlifebr.com.br | Porto Alegre | RS | S |
| <i>FeelJoy</i> | feeljoy.com.br | Porto Alegre | RS | S |
| <i>FeitosaGourmet</i> | Feitosagourmet.com.br | Porto Alegre | RS | S |
| <i>GROW FOODS</i> | growfoods.com.br | Porto Alegre | RS | S |
| <i>QuiperFresh</i> | quiperfresh.com.br | Porto Alegre | RS | S |
| <i>TaoKombucha</i> | taokombucha.com | Porto Alegre | RS | S |
| <i>Tidbit Healthy Nutrition</i> | tidbit.com.br | Porto Alegre | RS | S |

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| <i>Linho Lev</i> | linholev.com.br | Santo Ângelo | RS | S |
| <i>DaColônia</i> | dacolonia.com.br | Santo Antônio da Patrulha | RS | S |
| <i>Ocean Drop</i> | oceandrop.com.br | Balneário Camboriú | SC | S |
| <i>Madhu Ghee</i> | madhughee.com.br | Blumenau | SC | S |
| <i>FiberVita</i> | fibervita.com | Chapecó | SC | S |
| <i>Biocelltis Biotecnologia</i> | biocelltis.com | Florianópolis | SC | S |
| <i>BIOGUMMY</i> | biogummy.com | Florianópolis | SC | S |
| <i>Veganway Nutrition</i> | veganway.com.br | Florianópolis | SC | S |
| <i>Aromy Brasile</i> | aromy.com.br | Gaspar | SC | S |
| <i>Donna Asta</i> | donnaasta.com.br | Gaspar | SC | S |
| <i>Santo Óleo</i> | santooleo.com.br | Gaspar | SC | S |
| <i>Seu Divino</i> | seudivino.com.br | Gaspar | SC | S |
| <i>Du Quintal Tempero Natural</i> | duquintal.com.br | Itajaí | SC | S |
| <i>Vitalin</i> | vitalin.com.br | Jaraguá do Sul | SC | S |
| <i>Naturinni</i> | naturinni.com.br | Nova Trento | SC | S |
| <i>Souly</i> | souly.com.br | Palhoça | SC | S |
| <i>Natupalm</i> | natupalm.com.br | Porto Belo | SC | S |
| <i>Essential Nutrition</i> | essentialnutrition.com.br | São José | SC | S |
| <i>Verdali</i> | verdali.com.br | Videira | SC | S |
| <i>Nature Real Nutrition</i> | naturerealnutrition.com | Xaxim | SC | S |

Storage, infrastructure and logistics

Table 22. Storage, infrastructure and logistics agtechs.

| Agtech | URL | City | State | Region |
|-------------|-----------------|------------------------|-------|--------|
| Ataros | ataros.io | Cuiabá | MT | MW |
| Agrimapp | agrimapp.com.br | Luís Eduardo Magalhães | BA | NE |
| Gravel Coin | gravelcoin.com | Salvador | BA | NE |

Continued...

| Agtech | URL | City | State | Region |
|-------------------------|---------------------------------------|-----------------------|-------|--------|
| E-Log Brasil | facebook.com/elogbrasil | Balsas | MA | NE |
| Moovery | moovery.app | João Pessoa | PB | NE |
| Omniturn | omniturn.com.br | Recife | PE | NE |
| Gekom | gekom.com.br | Vitória | ES | SE |
| Nutriimport | grouponutriimport.com.br | Vitória | ES | SE |
| Campotech | campotech.com | Santa Rita do Sapucaí | MG | SE |
| Azship | azship.com.br | Uberlândia | MG | SE |
| Polifrete | polifrete.com | Uberlândia | MG | SE |
| Web Rota | webrota.com.br | Uberlândia | MG | SE |
| RFID Technologies | rfidtechnologies.com.br | Rio de Janeiro | RJ | SE |
| Target | targetmp.com.br | Rio de Janeiro | RJ | SE |
| Aware Logistics | awarelog.com | Campinas | SP | SE |
| CropChain | cropchain.com.br | Campinas | SP | SE |
| Tiffin Foods | tiffinfoods.com.br | Campinas | SP | SE |
| Agroprox | esalqtec.com.br/site/project/agroprox | Piracicaba | SP | SE |
| MicroControl Innovation | icorpsbrasil.com.br/microcontrol | Ribeirão Preto | SP | SE |
| Box Delivery | boxdelivery.com.br | Santos | SP | SE |
| B2log | b2log.com | São Paulo | SP | SE |
| Brasil Fretes | brasilfretes.com.br | São Paulo | SP | SE |
| Carbono Zero | carbonozero.com.br | São Paulo | SP | SE |
| ChefMeat | chefmeat.com.br | São Paulo | SP | SE |
| ChoppUp | choppup.com.br | São Paulo | SP | SE |
| Collectspot | collectspot.com | São Paulo | SP | SE |
| Eats for You | eatsforyou.com.br | São Paulo | SP | SE |
| goFlux | goflux.com.br | São Paulo | SP | SE |
| Intelipost | inteligpost.com.br | São Paulo | SP | SE |
| Loggi | loggi.com | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|---------------------------------------------|---------------------------------------------------------|---------------|--------------|---------------|
| <i>Mandaê</i> | mandae.com.br | São Paulo | SP | SE |
| <i>Mondial Brands</i> | facebook.com/mondialbrands | São Paulo | SP | SE |
| <i>PegaKi</i> | pegaki.com.br | São Paulo | SP | SE |
| <i>SaideraBrasil</i> | saiderabrasil.com.br | São Paulo | SP | SE |
| <i>Sontra Cargo</i> | linkedin.com/company/sontra | São Paulo | SP | SE |
| <i>Terra Nova Solução em Desinfecção</i> | tnco.com.br | São Paulo | SP | SE |
| <i>Ecotrace Tecnologia da Informação</i> | ecotrace.info | Vinhedo | SP | SE |
| <i>Trucker do Agro</i> | truckerdoagro.agr.br | Campo Mourão | PR | S |
| <i>AddLog</i> | addlog.com.br | Curitiba | PR | S |
| <i>Cargon</i> | cargon.com.br | Curitiba | PR | S |
| <i>Agropacking</i> | agropackingsolutions.com | Londrina | PR | S |
| <i>LebenLOG</i> | lebenlog.com.br | Londrina | PR | S |
| <i>Termoplex</i> | termoplex.com.br/#home | Londrina | PR | S |
| <i>Trace Pack</i> | tracepack.com.br | Londrina | PR | S |
| <i>Ironware</i> | ironware.com.br | Ponta Grossa | PR | S |
| <i>Silos</i> | silosbrasil.com | Rio Azul | PR | S |
| <i>AgroD Inovação e Resultados no Campo</i> | agrodtech.com.br | Caxias do Sul | RS | S |
| <i>Agrolocal</i> | linkedin.com/company/agrolocal | Pelotas | RS | S |
| <i>Melhor Envio</i> | melhorenvio.com.br | Pelotas | RS | S |
| <i>ChoppFácil</i> | choppfacil.com.br | Porto Alegre | RS | S |
| <i>Silo Verde</i> | tecnicosinos.com.br/livrodigital/ company/silo-verde | São Leopoldo | RS | S |
| <i>Closin Tecnologia</i> | closin.com.br | Chapecó | SC | S |
| <i>Neokohm</i> | neokohm.com | Chapecó | SC | S |
| <i>Procer Automação</i> | procer.com.br | Criciúma | SC | S |
| <i>Natago Distribuidora e Serviços</i> | comphia.com.br | Florianópolis | SC | S |
| <i>Quartz Technology</i> | quartz4tech.com | Florianópolis | SC | S |

Biodiversity and sustainability

Table 23. Biodiversity and sustainability agtechs.

| Agtech | URL | City | State | Region |
|-------------------------------------|--------------------------------------------|----------------|-------|--------|
| Aliança da Terra / Produzindo Certo | produzindocerto.com.br | Goiânia | GO | MW |
| Bankarbon | bankarbon.com | Campo Grande | MS | MW |
| TreelD Legal | treeidlegal.com | Natal | RN | NE |
| Universo Saudável | universosaudavel.com.br | Ananindeua | PA | N |
| Amazonfruitfood | amazonfruitofficial.com | Castanhal | PA | N |
| Apse Cosmetics | apsecosmetics.com.br | Vitória | ES | SE |
| Zero Carbono | zerocarbon.com.br | Belo Horizonte | MG | SE |
| Cerrado Científica | cerradocientifica.com.br | Uberlândia | MG | SE |
| BioBureau | biobureau.com.br | Rio de Janeiro | RJ | SE |
| Anubz | sid.anubz.io | Campinas | SP | SE |
| Cosnatech | cosnatech.com.br | Campinas | SP | SE |
| PlantCare | plantcare.com.br | Campinas | SP | SE |
| Rubian | rubian.com.br | Campinas | SP | SE |
| Haka Bioprocessos | linkedin.com/company/haka-bioprocessos | Catanduva | SP | SE |
| Agtttec Inovação | agtttec.com.br | Dois Córregos | SP | SE |
| Aquavale | linkedin.com/in/washington-gervaz-0a85906b | Jaboticabal | SP | SE |
| Tramppo | tramppo.com.br | Osasco | SP | SE |
| Delta CO2 | deltaco2.com.br | Piracicaba | SP | SE |
| Equilíbrio Florestal | equilibrioflorestal.com.br | Piracicaba | SP | SE |
| Geplant | geplant.com.br | Piracicaba | SP | SE |
| ProInsecta | icorpsbrasil.com.br/proinsecta | Piracicaba | SP | SE |
| Comunitaria Consultoria Social | comunitaria.com.br | São Paulo | SP | SE |
| <i>Cotton Droplet</i> | cottondroplet.com | São Paulo | SP | SE |
| <i>Eccaplan</i> | eccaplan.com.br | São Paulo | SP | SE |
| <i>geoflorestas</i> | geoflorestas.com.br | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|------------------------------------------|----------------------------------|--------------|--------------|---------------|
| <i>Graha agroflorestas urbanas</i> | graha.com.br | São Paulo | SP | SE |
| <i>JustyBioSolutions</i> | facebook.com/justybiosolutions | São Paulo | SP | SE |
| <i>Seiva Brasilis</i> | seivabrazilis.com.br | São Paulo | SP | SE |
| <i>NanoMetallis</i> | nanometallis.com.br | Curitiba | PR | S |
| <i>Sustentec - Produtores Associados</i> | sustentec.org.br | Pato Bragado | PR | S |
| <i>Grupo Nanomax®</i> | facebook.com/Nanomaxltda | Toledo | PR | S |
| <i>Terramares</i> | facebook.com/terramaresambiental | Pelotas | RS | S |
| <i>ArboreaBiotech</i> | arboreabiotech.com | Porto Alegre | RS | S |
| <i>Regenera Moléculas do Mar</i> | regeneramoleculas.com.br | Porto Alegre | RS | S |
| <i>Turma da Árvore</i> | turmadaarvore.com.br | Lages | SC | S |
| <i>Cotton Droplet</i> | cottondroplet.com | São Paulo | SP | SE |
| <i>Eccaplan</i> | eccaplan.com.br | São Paulo | SP | SE |
| <i>geoflorestas</i> | geoflorestas.com.br | São Paulo | SP | SE |
| <i>Graha agroflorestas urbanas</i> | graha.com.br | São Paulo | SP | SE |
| <i>JustyBioSolutions</i> | facebook.com/justybiosolutions | São Paulo | SP | SE |
| <i>Seiva Brasilis</i> | seivabrazilis.com.br | São Paulo | SP | SE |
| <i>NanoMetallis</i> | nanometallis.com.br | Curitiba | PR | S |
| <i>Sustentec - Produtores Associados</i> | sustentec.org.br | Pato Bragado | PR | S |
| <i>Grupo Nanomax®</i> | facebook.com/Nanomaxltda | Toledo | PR | S |
| <i>Terramares</i> | facebook.com/terramaresambiental | Pelotas | RS | S |
| <i>ArboreaBiotech</i> | arboreabiotech.com | Porto Alegre | RS | S |
| <i>Regenera Moléculas do Mar</i> | regeneramoleculas.com.br | Porto Alegre | RS | S |
| <i>Turma da Árvore</i> | turmadaarvore.com.br | Lages | SC | S |

Bioenergy and renewable energy

Table 24. Bioenergy and renewable energy agtechs.

| Agtech | URL | City | State | Region |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------|-------|--------|
| Inovathys | Linkedin.com/in/celsopadilha | João Pessoa | PB | NE |
| Brazilian Biocombustíveis | brazilianbiocombustiveis.com | Macaíba | RN | NE |
| Puro Fogo | purofogo.com.br | Andrelândia | MG | SE |
| Solarbid | solarbid.com.br | Belo Horizonte | MG | SE |
| BChem | bchem.com.br | Itaúna | MG | SE |
| eco3energia | eco3energia.com.br | Nova Lima | MG | SE |
| Inocas | inocas.com | Patos de Minas | MG | SE |
| Globalyeast | globalyeast.com | Rio de Janeiro | RJ | SE |
| Syra Solar | syrasolar.com | Rio de Janeiro | RJ | SE |
| Vignis | vignis.com.br | Campinas | SP | SE |
| Algae | algae.com.br | Holambra | SP | SE |
| CH4 Soluções | ch4agroenergia.wixsite.com/ ch4agroenergia | Piracicaba | SP | SE |
| Sunalizer | sunalizer.com.br | Ribeirão Preto | SP | SE |
| BioativosGroup | bioativosgroup.com.br | São Paulo | SP | SE |
| Carbosolo | cietec.org.br/project/carbosolo | São Paulo | SP | SE |
| Fermentec | fermentec.com.br | São Paulo | SP | SE |
| iSolis Brasilis Praticas Sustentaveis | isolis.com.br | São Paulo | SP | SE |
| SEER | seer-tecnologia.webnode.com | Tabapuã | SP | SE |
| Bley Energias | linkedin.com/in/cicero-bley-jr- 38321523 | Curitiba | PR | S |
| Eletricow | penseagro.paniclobster.com/ teams/41 | Curitiba | PR | S |
| Hidreo (antiga Metha) | hidreo.com.br | Curitiba | PR | S |
| Biotechnos | biotechnos.com.br | Santa Rosa | RS | S |

Cloud kitchen and ghost kitchen

Table 25. Cloud kitchen and ghost kitchen agtechs.

| Agtech | URL | City | State | Region |
|---------------|----------------------------------|----------------|-------|--------|
| SmartKitchens | smartkitchens.com.br | Belo Horizonte | MG | SE |
| Le Manjue | lemanjue.com.br | São Paulo | SP | SE |
| Mimic | linkedin.com/company/mimicbrasil | São Paulo | SP | SE |

Food industry and processing 4.0

Table 26. Food industry and processing 4.0 Agtechs.

| Agtech | URL | City | State | Region |
|----------------------------|------------------------------------------|----------------------|-------|--------|
| Shimejito | shimejito.com | Brasília | DF | MW |
| Cogni | cogni.group | Goiânia | GO | MW |
| <i>Industrycare</i> | industrycares.com.br | Goiânia | GO | MW |
| <i>Senfio</i> | senfio.com | Recife | PE | NE |
| <i>Amazondreams</i> | br.linkedin.com/company/amazon-dreams-sa | Belém | PA | N |
| <i>AS31</i> | facebook.com/As31-600218513504572 | Belo Horizonte | MG | SE |
| <i>Orbita</i> | orbitaei.com.br | Belo Horizonte | MG | SE |
| <i>MilkChain</i> | milkchain.com.br | Juiz de Fora | MG | SE |
| <i>Aimirim Pulse</i> | aimirimsti.com.br | Uberlândia | MG | SE |
| <i>Inspire - La Food</i> | inspirealimentos.com | Rio de Janeiro | RJ | SE |
| <i>IBY FOODS</i> | ibyfoods.com.br | Campinas | SP | SE |
| <i>if.IntelligentFoods</i> | intelligentfoods.com.br | Itupeva | SP | SE |
| <i>Intelup</i> | intelup.com.br | Piracicaba | SP | SE |
| <i>Smart Yeast</i> | smartyeast.com.br | Piracicaba | SP | SE |
| <i>Pentagro</i> | pentagro.com.br | São Carlos | SP | SE |
| <i>SetYou</i> | setyou.com.br | São Paulo | SP | SE |
| <i>Ag-Solution</i> | ag-solution.co | Vargem Grande do Sul | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------------------------|-------------------------|---------------|-------|--------|
| <i>Manfing</i> | manfing.com | Toledo | PR | S |
| <i>GreenB Biological Solutions LTDA</i> | greenbtech.com | Criciúma | SC | S |
| <i>Aquarela Advanced Analytics</i> | aquare.la | Florianópolis | SC | S |
| <i>Biossintese Pesquisa e Desenvolvimento Ltda</i> | biossintesegroup.com.br | Florianópolis | SC | S |
| <i>S3nano Indústria de Aditivos Químicos Ltda</i> | s3nano.com | Florianópolis | SC | S |
| <i>Agapys</i> | agapys.com | Joinville | SC | S |
| <i>Mais Soluções Inteligentes</i> | maissi.com.br | Lages | SC | S |
| <i>Scienco Biotech</i> | scienco.bio.br | Lages | SC | S |
| <i>Siosi</i> | siosi.com.br | Pinhalzinho | SC | S |

Marketplaces and trade and sales platforms for agriculture and livestock products

Table 27. Marketplaces and trade and sales platforms for agriculture and livestock products agtechs.

| Agtech | URL | City | State | Region |
|-----------------------------------|--------------------------------|------------------------|-------|--------|
| Conecta Campo Business | app.vc/conectacampobusiness | Caldas Novas | GO | MW |
| eBarnPortal de Negócios Agrícolas | ebarn.com.br | Goiânia | GO | MW |
| TrackingCoop | trackingcoop.com.br | Goiânia | GO | MW |
| Feira Delivery | dafeiradelivery.com.br | Rio Verde | GO | MW |
| Agrotonic | agrotronic.com.br | Lucas do Rio Verde | MT | MW |
| Compre Rural | comprerural.com | Campo Grande | MS | MW |
| Direto da Roça | diretodaroca.net.br | Campo Grande | MS | MW |
| Iagro | iagro.tech | Campo Grande | MS | MW |
| Trucadão | trucadao.com.br | Campo Grande | MS | MW |
| Lojas Country | lojascountry.com.br | Recife | PE | NE |
| Pitiba | instagram.com/pitibahortifruti | Vitória de Santo Antão | PE | NE |
| Embry | embry.com.br/home | Natal | RN | NE |

Continued...

| Agtech | URL | City | State | Region |
|------------------------------|--------------------------------------|--------------------------|-------|--------|
| Feirinha Orgânica | feirinhaorganica.com | Natal | RN | NE |
| Agrobatida | agrobatida.com.br | Aracaju | SE | NE |
| Onisafra | onisafra.com | Manaus | AM | N |
| Coop Carne | coopcarnes.com.br | Araguaína | TO | N |
| Olá Rancho | instagram.com/olarancho | Araguaína | TO | N |
| Wine | wine.com.br | Serra | ES | SE |
| Haveacoffee | haveacoffee.com.br | Venda Nova do Imigrante | ES | SE |
| Ecopen Engenharia de Pesca | facebook.com/ecopenproducaodepescado | Vila Velha | ES | SE |
| Rede do Campo | rededocampo.com.br | Alfenas | MG | SE |
| Da Horta na Porta | dahortapraporta.com.br | Belo Horizonte | MG | SE |
| Farmly | farmlyclub.com | Belo Horizonte | MG | SE |
| Materre | Materre.com.br | Belo Horizonte | MG | SE |
| The Best Coffee in Brazil | thebestcoffeeinbrazil.com | Poços de Caldas | MG | SE |
| Agrorigem | agrorigem.com.br | Santa Rita do Sapucaí | MG | SE |
| <i>Agritrade</i> | agritrade.com.br | São Sebastião do Paraíso | MG | SE |
| <i>E-ctare</i> | ectare.com.br | São Sebastião do Paraíso | MG | SE |
| <i>Grão Direto</i> | graodireto.com.br | Uberaba | MG | SE |
| <i>Agromercantil</i> | agromercantil.com.br | Uberlândia | MG | SE |
| <i>Gavea Marketplace</i> | gavea.com | Rio de Janeiro | RJ | SE |
| <i>FooDivine</i> | foodivine.com.br | Rio de Janeiro | RJ | SE |
| <i>YBY Online</i> | ybyonline.com.br | Rio de Janeiro | RJ | SE |
| <i>Restin</i> | restin.com.br | Americana | SP | SE |
| <i>Busca Terra</i> | buscaterra.com.br | Campinas | SP | SE |
| <i>Meu Quintal Orgânicos</i> | meuquintalorganicos.com.br | Cordeirópolis | SP | SE |
| <i>Seu Gado</i> | seugado.com | Franca | SP | SE |
| <i>hortify</i> | hortify.app | Holambra | SP | SE |
| <i>Agroplace</i> | agroplace.on-line | Junqueirópolis | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|------------------------------------|----------------------------------|-----------------------|--------------|---------------|
| <i>MFRural</i> | mfrural.com.br | Marília | SP | SE |
| <i>Commotech</i> | commotech.net | Piracicaba | SP | SE |
| <i>Agromercador</i> | agromercador.ag | Ribeirão Preto | SP | SE |
| <i>Cofferoo</i> | facebook.com/pg/cofferoo | Ribeirão Preto | SP | SE |
| <i>HF Rural</i> | hfrural.com | Ribeirão Preto | SP | SE |
| <i>JV Biotec</i> | jvbiotec.com.br | Ribeirão Preto | SP | SE |
| <i>Rural Sale</i> | ruralsale.com.br | Ribeirão Preto | SP | SE |
| <i>Terravi</i> | terravi.com.br | Ribeirão Preto | SP | SE |
| <i>CompreGados</i> | compregados.com.br | São José do Rio Preto | SP | SE |
| <i>Fazenda Aberta</i> | fazendaaberta.com.br | São José do Rio Preto | SP | SE |
| <i>4vets</i> | grupo4vets.com.br | São Paulo | SP | SE |
| <i>Agricativo</i> | gust.com/companies/agricativo | São Paulo | SP | SE |
| <i>AgriMart</i> | agrimart.com.br | São Paulo | SP | SE |
| <i>AgriPad</i> | agripad.com.br | São Paulo | SP | SE |
| <i>Agrishare</i> | agrishare.com.br | São Paulo | SP | SE |
| <i>Agrobooks</i> | agrobooks.com.br | São Paulo | SP | SE |
| <i>Agvali</i> | agvali.com | São Paulo | SP | SE |
| <i>Boi na Linha</i> | boinalinha.com | São Paulo | SP | SE |
| <i>BPSS</i> | bpss.com.br | São Paulo | SP | SE |
| <i>CargoX</i> | cargox.com.br | São Paulo | SP | SE |
| <i>CBC Agronegocios</i> | cbcagronegocios.com.br | São Paulo | SP | SE |
| <i>Clicampo</i> | clicampo.com.br | São Paulo | SP | SE |
| <i>Cotabest</i> | cotabest.com.br | São Paulo | SP | SE |
| <i>Edafo Pec</i> | edafopec.com | São Paulo | SP | SE |
| <i>Evino</i> | evino.com.br | São Paulo | SP | SE |
| <i>Fazen</i> | instagram.com/_fazen | São Paulo | SP | SE |
| <i>Finpec</i> | finpec.agr.br | São Paulo | SP | SE |
| <i>Frutas Exoticas Brasileiras</i> | frutasexoticasbrasileiras.com.br | São Paulo | SP | SE |
| <i>Frutas na Mesa</i> | frutasnamesa.com.br | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------|------------------------------|------------------|--------------|---------------|
| <i>Fungo de Quintal</i> | fungodequintal.com.br | São Paulo | SP | SE |
| <i>Grãos.Online</i> | grao.on-line | São Paulo | SP | SE |
| <i>Instaagro</i> | instaagro.com | São Paulo | SP | SE |
| <i>Karavel</i> | karavel.trade | São Paulo | SP | SE |
| <i>Natue</i> | natue.com.br | São Paulo | SP | SE |
| <i>Netfoods</i> | netfoods.com.br | São Paulo | SP | SE |
| <i>Numenu</i> | numenu.info | São Paulo | SP | SE |
| <i>Pangea Parts</i> | pangeaparts.com.br | São Paulo | SP | SE |
| <i>Pingo</i> | usepingo.com | São Paulo | SP | SE |
| <i>Smartagro</i> | smartagro.com.br | São Paulo | SP | SE |
| <i>Supermercado Now</i> | supermercadonow.com | São Paulo | SP | SE |
| <i>Vida Em Grãos</i> | vidaemgraos.com.br | São Paulo | SP | SE |
| <i>Webgados</i> | webgados.com.br | São Paulo | SP | SE |
| <i>Rural Vende</i> | ruralvende.com.br | Sorocaba | SP | SE |
| <i>Orgânicos da Vila</i> | organicosdavila.com.br | Suzano | SP | SE |
| <i>Osalim Agribusiness</i> | osalim.com.br | Curitiba | PR | S |
| <i>Supercampo</i> | supercampo.com | Curitiba | PR | S |
| <i>Agrallis Imóveis</i> | agrallisimoveis.com.br | Jandaia do Sul | PR | S |
| <i>AgPay</i> | agpay.com.br | Cachoeira do Sul | RS | S |
| <i>Agroclube</i> | agroclube.net | Camobi | RS | S |
| <i>AgriHome</i> | agrihome.com.br | Passo Fundo | RS | S |
| <i>Alpago</i> | alpago.com.br | Pelotas | RS | S |
| <i>Alpago</i> | alpago.com.br | Pelotas | RS | S |
| <i>Aurora</i> | sigaurora.com | Porto Alegre | RS | S |
| <i>Campear</i> | campear.com | Porto Alegre | RS | S |
| <i>Central do Boi</i> | centraldobo.com | Porto Alegre | RS | S |
| <i>Moagro</i> | facebook.com/pg/moagro/posts | Porto Alegre | RS | S |
| <i>Somos PMP</i> | somospmp.com.br | Porto Alegre | RS | S |
| <i>Gestor Orgânico</i> | gestororganico.com.br | Blumenau | SC | S |
| <i>Unibov</i> | facebook.com/unibov | Blumenau | SC | S |

Continued...

| Agtech | URL | City | State | Region |
|------------------------|-------------------------|---------|-------|--------|
| <i>Central do Agro</i> | centraldoagro.com.br | Lages | SC | S |
| <i>Biomercado</i> | biomercadobrasil.com.br | Palhoça | SC | S |

Online grocery

Table 28. Online grocery agtechs.

| Agtech | URL | City | State | Region |
|-------------------------|--------------------------|----------------|-------|--------|
| Ubaiacestasdesaúde | portalubaia.com.br | Brasília | DF | MW |
| Cachaça Samanaú | cachacasamanau.com.br | Natal | RN | NE |
| eMercado | emercadoapp.com | Manaus | AM | N |
| Laszlo Aromatologia | emporiolaszlo.com.br | Belo Horizonte | MG | SE |
| Suub | fb.com/suub.me | Belo Horizonte | MG | SE |
| Encart.es | encart.es | Juiz de Fora | MG | SE |
| Clube Orgânico | clubeorganico.com | Rio de Janeiro | RJ | SE |
| Comida da Gente | comidadagente.com | Rio de Janeiro | RJ | SE |
| Orgânicos in Box | organicosinbox.com.br | Rio de Janeiro | RJ | SE |
| Organomix | organomix.com.br | Rio de Janeiro | RJ | SE |
| AgroPad | agropad.com.br | Barueri | SP | SE |
| Nutrir Orgânicos | nutrir.agr.br | Botucatu | SP | SE |
| Colheita Direta | colheitadireta.com.br | São Paulo | SP | SE |
| <i>deBetti</i> | debetti.com.br | São Paulo | SP | SE |
| <i>Feira na Box</i> | feiranabox.com.br | São Paulo | SP | SE |
| <i>Feiríssima</i> | feirissima.com.br | São Paulo | SP | SE |
| <i>Food Finder</i> | foodfinder.eco.br | São Paulo | SP | SE |
| <i>Frexco</i> | frexco.com.br | São Paulo | SP | SE |
| <i>Fruta Imperfeita</i> | frutaimperfeita.com.br | São Paulo | SP | SE |
| <i>Go Green</i> | gogreenhortifruti.com.br | São Paulo | SP | SE |
| <i>Go! Horti</i> | facebook.com/gohorti | São Paulo | SP | SE |
| <i>GreensMarket</i> | greens.market | São Paulo | SP | SE |
| <i>Home Refill</i> | homerefill.com.br | São Paulo | SP | SE |
| <i>Içougue</i> | icougue.com | São Paulo | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------------------|----------------------------|--------------------|-------|--------|
| <i>menu.com.vc</i> | menu.com.vc | São Paulo | SP | SE |
| <i>Mercado Fresh</i> | mercadofresh.com.br | São Paulo | SP | SE |
| <i>Minnis</i> | minnis.com.br | São Paulo | SP | SE |
| <i>Natural Meat</i> | naturalmeat.com.br | São Paulo | SP | SE |
| <i>Ndays</i> | ndays.com.br | São Paulo | SP | SE |
| <i>Neovita Foods Ingredientes Online</i> | ingredientesonline.com.br | São Paulo | SP | SE |
| <i>Pede Sabores</i> | pedesabores.com.br | São Paulo | SP | SE |
| <i>Raizs</i> | raizs.com.br | São Paulo | SP | SE |
| <i>Bertolin</i> | chacarabertolin.com.br | Colombo | PR | S |
| <i>Cooltivando</i> | cooltivando.com.br | Curitiba | PR | S |
| <i>Fru-Fruta</i> | frufruta.com.br | Curitiba | PR | S |
| <i>Themarket</i> | themarket.com.br | Curitiba | PR | S |
| <i>Divina Castanha</i> | divinacastanha.com.br | Maringá | PR | S |
| <i>Cesta Feira</i> | cestafeiraorganicos.com.br | Porto Alegre | RS | S |
| <i>Fresh Organicos</i> | freshorganicos.com.br | Porto Alegre | RS | S |
| <i>Shoppr</i> | shoppr.com.br | Porto Alegre | RS | S |
| <i>Tribo Viva</i> | facebook.com/triboviva | Porto Alegre | RS | S |
| <i>Zaply</i> | zaply.com.br | Porto Alegre | RS | S |
| <i>Sumá</i> | appsuma.com.br | Balneário Camboriú | SC | S |
| <i>Raeasy</i> | raeasy.com | Campo Alegre | SC | S |
| <i>UpPoints</i> | uppoints.com | Florianópolis | SC | S |

Urban farming: plant factory and new ways of farming

Table 29. Urban farming: plant factory and new ways of farming agtechs.

| Agtech | URL | City | State | Region |
|---------------|---------------------|----------------|-------|--------|
| Be Green | begreen.farm | Belo Horizonte | MG | SE |
| Brota Company | brotacompany.com.br | Rio de Janeiro | RJ | SE |
| Nucleário | nucleario.com/pt | Rio de Janeiro | RJ | SE |

Continued...

| Agtech | URL | City | State | Region |
|-------------------------------------|-------------------------------|----------------|-------|--------|
| Eacea Soluções em Cultivo Protegido | eacea.com.br | Cunha | SP | SE |
| Instituto Cidade Jardim | institutocidadejardim.com.br | Itu | SP | SE |
| Asolum | linkedin.com/company/asolum | Jundiaí | SP | SE |
| Aeropônica | startups.ag/agtech/aeroponica | Mococa | SP | SE |
| Ecojardim | ecojardimfranquias.com.br | Porto Ferreira | SP | SE |
| 100% Livre | cemporcentolivre.com | São Paulo | SP | SE |
| Aguapé Horta Urbana | aguapefazendaurbana.com.br | São Paulo | SP | SE |
| Fazenda Cubo | fazendacubo.com.br | São Paulo | SP | SE |
| Fazenda Urbana | fazendaurbana.com.br | São Paulo | SP | SE |
| fazu | fazu.bio | São Paulo | SP | SE |
| HomePonic | homeponic.com | São Paulo | SP | SE |
| Pink Farms | pinkfarms.com.br | São Paulo | SP | SE |
| Favo | favotecnologia.com.br | Curitiba | PR | S |
| Growpower | produtos.growpower.com.br | Curitiba | PR | S |
| Minhorta | minhorta.com | Curitiba | PR | S |
| Vasos Autoirrigáveis Raiz | vasosraiz.com.br | Novo Hamburgo | RS | S |
| Farfarm | farfarm.co | Porto Alegre | RS | S |
| Fazendas Bioma | fazendasbioma.com.br | Joinville | SC | S |
| Semente Urbana | sementeurbana.com | Schroeder | SC | S |

Online restaurants and meal kits

Table 30. Online restaurants and meal kits agtechs.

| Agtech | URL | City | State | Region |
|------------------------|---------------------|----------------|-------|--------|
| Hamgo | hamgo.com.br | João Pessoa | PB | NE |
| Empório Semente do Bem | sementedobem.net.br | Aracaju | SE | NE |
| Almoço Grátis | almocogratis.com.br | Vitória | ES | SE |
| RobinFood | robinfood.com.br | Juiz de Fora | MG | SE |
| Chefsclub | chefsclub.com.br | Rio de Janeiro | RJ | SE |
| Pranzo | pranzo.com.br | Rio de Janeiro | RJ | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------------|------------------------------|----------------|-------|--------|
| Upaladar | upaladar.com.br | Rio de Janeiro | RJ | SE |
| WeseekFood | weseekfood.com | Rio de Janeiro | RJ | SE |
| Zuppitos | zuppitos.com | Rio de Janeiro | RJ | SE |
| Beergo | beergo.app | Volta Redonda | RJ | SE |
| Appedidos | appedidos.com.br | Araçatuba | SP | SE |
| Alecrim Integrais | alecrimintegrais.com.br | Leme | SP | SE |
| ifood | ifood.com.br | Osasco | SP | SE |
| Alfred Delivery | alfreddelivery.com | Ribeirão Preto | SP | SE |
| du local | app.dulocal.eco | São Carlos | SP | SE |
| Alecrim | linkedin.com/company/alecrim | São Paulo | SP | SE |
| Apptite | apptite.com | São Paulo | SP | SE |
| Beleaf | beleaf.com.br | São Paulo | SP | SE |
| Casa Da Coxinha Vegana | casadacoxinhavegana.com.br | São Paulo | SP | SE |
| Cheftime | cheftime.com.br | São Paulo | SP | SE |
| Green Station | greenstation.com.br | São Paulo | SP | SE |
| Gym Chef | gymchef.com.br | São Paulo | SP | SE |
| lechefbrasil | lechefbr.com | São Paulo | SP | SE |
| Legurmê | legurme.com.br | São Paulo | SP | SE |
| LibreAlimentos | librealimentos.com.br | São Paulo | SP | SE |
| Liv Up | livup.com.br | São Paulo | SP | SE |
| LocalChef | localchef.com.br | São Paulo | SP | SE |
| Luccofit | luccofit.com.br | São Paulo | SP | SE |
| Mandala Comidas Especiais | mandalacomidas.com.br | São Paulo | SP | SE |
| <i>Santa Food</i> | santafood.com.br | São Paulo | SP | SE |
| <i>Vipfood</i> | vipfood.com.br | São Paulo | SP | SE |
| VYA | vya.com.br | São Paulo | SP | SE |
| <i>James Delivery</i> | jamesdelivery.com.br | Curitiba | PR | S |
| <i>QrDrinks</i> | qrdrinks.com | Canela | RS | S |
| <i>Allps Alimentos Saudáveis</i> | allps.com.br | Caxias do Sul | RS | S |
| <i>Delivery Much</i> | deliverymuch.com.br | Santa Maria | RS | S |

Continued...

| Agtech | URL | City | State | Region |
|---------------------|-----------------|---------------|-------|--------|
| <i>Amo Delivery</i> | amo.delivery | Chapecó | SC | S |
| <i>FoodFitting</i> | foodfitting.com | Florianópolis | SC | S |
| <i>OhBeer!</i> | ohbeerapp.com | Florianópolis | SC | S |

Food safety and traceability

Table 31. Food safety and traceability agtechs.

| Agtech | URL | City | State | Region |
|---------------------------|-------------------------|-------------------|-------|--------|
| SCL Rota | sclrota.com.br | Belo Horizonte | MG | SE |
| Safe Trace | safetrace.com.br | Itajubá | MG | SE |
| Brasil Beef Quality - BBQ | bbq-br.com | Piracicaba | SP | SE |
| Aurratech | aurratech.com | Santo André | SP | SE |
| InQuímica | inquimica.wordpress.com | São Paulo | SP | SE |
| Suflex | suflex.com.br | São Paulo | SP | SE |
| Veg Oxi MP | vegoxi.com.br | São Paulo | SP | SE |
| DataMatte | datamatte.com.br | São Mateus do Sul | PR | S |
| Hyperfarm | hyperfarm.com.br | Canoas | RS | S |
| Agtrace | agtrace.ag | Florianópolis | SC | S |
| LotsApp | lotsapp.io | Florianópolis | SC | S |
| Paripassu | paripassu.com.br | Florianópolis | SC | S |

Food stores and services autonomous management system

Table 32. Food stores and services autonomous management system agtechs.

| Agtech | URL | City | State | Region |
|----------------|-----------------------|----------------|-------|--------|
| Food Flow | foodflow.com.br | Brasília | DF | MW |
| Supermenu | supermenu.com.br | Fortaleza | CE | NE |
| Zaitt | zaitt.com.br | Vitória | ES | SE |
| Cliente Fiel | appclientefiel.com.br | Belo Horizonte | MG | SE |
| iZap Softworks | izap.com.br | Belo Horizonte | MG | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------------|---------------------------------------|---------------------|-------|--------|
| Reservatio | reservatio.com.br | Juiz de Fora | MG | SE |
| Easemix Varejo Inteligente | easemix.com | Campinas | SP | SE |
| 5smart | 5smart.com.br | Ribeirão Preto | SP | SE |
| Suplax | suplax.com.br | Santana de Parnaíba | SP | SE |
| Onion menu | onionapp.com.br | São Carlos | SP | SE |
| Alyment | alymente.com.br | São Paulo | SP | SE |
| Collact | collact.com.br | São Paulo | SP | SE |
| Get In App | getinapp.com.br | São Paulo | SP | SE |
| Hand in Food | handinfood.com.br | São Paulo | SP | SE |
| isyBuy | isybuy.com | São Paulo | SP | SE |
| Luckro | luckro.com | São Paulo | SP | SE |
| Mangos | mangos.com.br | São Paulo | SP | SE |
| Menyoo | menyoo.me | São Paulo | SP | SE |
| Onyo | site.onyo.com | São Paulo | SP | SE |
| ReservLy | reservly.com.br | São Paulo | SP | SE |
| ShelfPix | shelfpix.com.br | São Paulo | SP | SE |
| Territorio da Carne | oterritoriodacarne.com.br | São Paulo | SP | SE |
| VocêQpad | voceqpad.com.br | São Paulo | SP | SE |
| XPR AJÁ | gooxxy.com | São Paulo | SP | SE |
| DriveTrue Delivery | drivetrue.com.br | Sorocaba | SP | SE |
| Goomer | goomer.com.br | Sorocaba | SP | SE |
| Primeira Mesa | primeiramesa.com.br | Sorocaba | SP | SE |
| Indcard | indcard.com.br | Cascavel | PR | S |
| <i>Brastag</i> | facebook.com/pg/ brastagtecnologia | Curitiba | PR | S |
| <i>Pedelogo</i> | pedelogo.on-line | Curitiba | PR | S |
| <i>Supra Ervas</i> | supraervas.com.br | Maringá | PR | S |
| <i>Guia 66</i> | guia66.com.br | Santa Helena | PR | S |
| <i>Bionicook</i> | bionicook.com | Caxias do Sul | RS | S |
| <i>Saipos</i> | saipos.com | São Leopoldo | RS | S |
| <i>OiMenu</i> | oimenu.com.br | Araranguá | SC | S |

Continued...

| Agtech | URL | City | State | Region |
|--------------------|--------------------|---------------|-------|--------|
| <i>Mercasy</i> | mercasy.com.br | Chapecó | SC | S |
| <i>ConnectFOOD</i> | connectfood.com.br | Florianópolis | SC | S |
| <i>Di Coffee</i> | dicoffee.com.br | Joinville | SC | S |

Packaging systems, environment and recycling

Table 33. Packaging systems, environment and recycling agtechs.

| Agtech | URL | City | State | Region |
|-------------------------|-----------------------------------------------------------------|----------------|-------|--------|
| Selletiva | selletiva.com.br | Fortaleza | CE | NE |
| Maifredo Embalagens | maifredo.com.br | Serra | ES | SE |
| Neogranel | neogranel.com.br | Vila Velha | ES | SE |
| NanoPack | linkedin.com/company/ nanopack-tecnologias-em- embalagens | Ouro Branco | MG | SE |
| Monitorar | monitorarconsultoria.com.br | Rio de Janeiro | RJ | SE |
| BioSmart Nanotechnology | biosmartnano.com | Araraquara | SP | SE |
| Oka bioembalagens | okabioembalagens.com.br | Botucatu | SP | SE |
| Incubapack | incubapack.com.br | Carapicuíba | SP | SE |
| Pexon Nanotechnology | pexon.com.br | Guarulhos | SP | SE |
| Biopolix | biopolix.com.br | Ribeirão Preto | SP | SE |
| Nanox | nanox.com.br | São Carlos | SP | SE |
| B.Live | bliveinchange.com.br | São Paulo | SP | SE |
| Bio & Green | bioegreen.com.br | São Paulo | SP | SE |
| Boomera | boomera.com.br | São Paulo | SP | SE |
| Econudo | econudo.com.br | São Paulo | SP | SE |
| Green Cup | gcup.com.br | São Paulo | SP | SE |
| Molecoola | molecoola.eco | São Paulo | SP | SE |
| Morada da Floresta | moradadafloresta.eco.br | São Paulo | SP | SE |
| Protectmais | protectmais.com | São Paulo | SP | SE |
| Reciclapac | reciclapac.com | São Paulo | SP | SE |
| Camargo Embalagens | camargociaembalagens.com.br | Tietê | SP | SE |

Continued...

| Agtech | URL | City | State | Region |
|----------------------|-----------------------------------|----------------|-------|--------|
| Macpet Embalagens | macpet.com.br | Curitiba | PR | S |
| Ecooler | ecooler.com.br | Carlos Barbosa | RS | S |
| BioSmartPack | linkedin.com/company/ granmoar | Caxias do Sul | RS | S |
| Korui Ciclos De Vida | korui.com.br | Florianópolis | SC | S |
| Meu Copo Eco | meucopoeco.com.br | Florianópolis | SC | S |

Final Considerations

The mapping of Brazilian agtechs gathered quantitative and qualitative information essential to follow up the main movements of the national agriculture and food innovation environment. In addition to that, it has identified the main innovation ecosystems and the various players involved in it, as well as how they relate to each other. Understanding this dynamics enables an increasingly positive impact in the Brazilian agribusiness, qualifying and strengthening the open innovation initiatives to generate value and economic prosperity for Brazil, collaborating with the sustainability in several agricultural productive chains. This closing chapter revisits the Brazilian context, shines light on key results of the mapping of agtechs and investments in agtechs, and explores perspectives for Radar Agtech Brazil.

In the last decades, Brazil shifted from agricultural importer to exporter, with global importance. The future of Brazilian agriculture, according to analysis from different scenarios, will be guided by seven megatrends: a) Socioeconomic and Spatial Changes in Agriculture; b) Intensification and Sustainability of Agricultural Production Systems; c) Climate Change; d) Risks in Agriculture; e) Value-Adding in Agricultural Productive Chains; f) Consumer Protagonism; g) Technological and Knowledge Convergence in Agriculture. There is also evidence that the most dynamic products of the Brazilian agribusiness will be: pork, soy beans, plume cotton, cellulose, corn, poultry and sugar. The main fruits will be mango, melon and apple.

The Country has been establishing a path to maintain its position as food supplier, as well as to consolidate as a major player in the global agriculture and livestock trade. In this sense, investments and programs are needed to keep evolving the industry, both concerning incentive and infrastructure for digitalization, transportation logistics and energy supply and for promoting practices which are increasingly ecologically sustainable. It is essential to seek to structure the Brazilian innovative environments, focused on connectivity and data transfer with increasingly larger sizes, higher speed and flow. It is also necessary to focus on the traceability of products and services offered in the various segments of the Brazilian agricultural and food chain, ensuring the access to specific information about them throughout the production process, enabling the adjustment of productive and commercial techniques.

Thus, specially still in the context of the pandemic, the following themes are considered as highly promising: digital solutions in general, food safety and quality, traceability, technological inclusion of rural producers, relationship of startups with public players and investors, strengthening the resilience of the farming industry, incentives to the interaction between players of the innovation ecosystem, network performance for the development of pro-innovation actions, online trade systems, structured databases, identification of patterns, and others.

The continuous improvement of stimulation mechanisms for technological development is vital for the increasingly significant continuity and consolidation of the agricultural and food chain's innovation environments. As a result, knowledge is generated and techniques are improved, catering to the singularities of the domestic farming reality and strengthening the social and economic structures associated to the production of food in a sustainable and efficient manner.

Brazil was the destination of 90% of the Venture Capital (VC) investment in Latin America, nearly reaching its record of investments in the first half of 2020 (Crunchbase, 2020). Corporations have also been cooperating, investing, accelerating and acquiring startups, acting to create investment funds and other activities in order to strengthen their market strategy and portfolio of products and services. The agile structure and mentality of the emerging companies add to the new companies the flexibility and oxygenation needed to adapt to new market scenarios.

In this context, Radar Agtech Brasil 2020/2021 intended to strengthen the databases about agtechs and investments in agtechs. An active mapping was performed, seeking various sources to complete and update the database of the 2019 edition, such as the organizers' contact database, the list of startups enrolled in acceleration programs and agtech events promoted by the partners, the monitoring of studies, the research of those selected in public biddings concerning agtechs and search in startup ecosystems database. Additionally, a survey was carried out, identifying a few extra agtechs.

The map presented in this study identifies, analyzes and consolidates publicly available (online) information about the universe of Brazilian agtechs. The 2020/2021 mapping also had its methodology improved regarding inclusion/removal criteria involving startup profiles and adjustments in the categories to classify the fields of the agtechs. Such adjustments occur naturally due to an increased maturity of the technical team involved in the elaboration of Radar Agtech Brasil 2020/2021 regarding the object of study. However, these differences restrict the comparison of results between the current and the 2019 editions. Therefore, results cannot be considered to represent a longitudinal analysis, since the protocols are adjusted in order to obtain a more consistent and accurate database.

Considering these limitations, the data analysis of Radar Agtech Brasil 2020/2021 establishes a few comparisons, especially geographic comparisons, in order to understand the dispersion of the agtech movement and any locations that stand out in this scenario.

The map identified 1574 startups acting in the Brazilian agriculture and food industry, even during the pandemic. The percentage of the total agtechs mapped by region is: Southeast 62.4% (983), South 25.2% (397), Midwest 6.0% (96), Northeast 4.6% (72) and North 1.8% (28). Five states concentrate 82.4% of the total of agtechs mapped: São Paulo (757, 48.1%), Paraná (151, 9.6%), Minas Gerais (143, 9.1%), Rio Grande do Sul (124, 7.9%) and Santa Catarina (122, 7.8%). With 347 startups, the city of São Paulo/SP is followed by Piracicaba/SP (60), Curitiba/PR (59), Rio de Janeiro/RJ (55), Campinas/SP (48), Porto Alegre/RS (42), Belo Horizonte/MG (40),

Ribeirão Preto/SP (39), Florianópolis/SC (36) and Londrina/PR (28) which, together, concentrate 47.8% of the total of agtechs mapped.

Among the categories, five stand out with the highest number of agtechs mapped: (i) Before the farm: Fertilizers, Inoculants and Plant nutrition (46); Credit, exchange, insurance, carbon credits and fiduciary analysis (43); Laboratory tests (33); Seeds, seedlings and plant genomics (24); and Animal nutrition and health (19); (ii) Inside the farm: Rural property management system (154); Integrating platforms for systems, solutions and data (111); Drones, machines and equipment (79); Remote sensing, diagnosis and image monitoring (70); and Content, education, social media (58); and (iii) After the Farm: Innovative foods and new food trends (293); Marketplaces and Trade and sales Platforms for agriculture and livestock products (100); Storage, infrastructure and logistics (56); Online grocery (45); Online restaurants and meal kits (39).

This scenario of geographic and sector distribution indicates that the agtechs ecosystem is strengthened based on the consolidation of the main innovation centers as startups centers and, also, that there is a capilarization with agtechs in smaller and/or less traditional cities.

The agtechs investment database was highly expanded regarding the 2019 edition, reflecting the dynamics of the ecosystem. In this part of the study, data regarding events related to 78 incubation, acceleration and investment institutions were gathered, distributed in 223 agtechs, resulting in a total of 337 events tracked. With this survey in hands, Radar Agtech Brasil 2020/2021 team analyzed the distribution of events and technological and geographic locations of the ecosystem startups, in order to assess if the potential to attract foment institutions and investors is similar or not to the distribution of technologies provided and geography tackled by national agtechs.

Due to the complexity and plurality within the Brazilian agribusiness there are important challenges and opportunities for the innovation ecosystems. Nevertheless, the market of technological solutions for the agribusiness is promising throughout all steps of the chain. Radar Agtech Brasil 2020/2021 highlights Brazilian agtechs, emphasizing their geographic locations and their segments. The purpose is to enable support for actions of entrepreneurship and innovation stimulation and incentive, encouraging partnerships between startups, education and research institutions, mechanisms to generate new enterprises, investors and the agricultural productive sector.

Facing a dynamic environment, in which startups quickly arise and disappear, Radar Agtech Brasil 2020/2021 was comprehensive but not exhaustive, seeking to overcome the challenges in compiling agtechs acting in the Brazilian market. In addition, there was a need of quick adaptation due to the restrictions arising from the covid-19 pandemic in the national and international contexts, causing difficulty in the connections between the players that make up the main Brazilian innovation ecosystems.

In each edition, the Radar Agtech Brasil project is improved and grows along the ecosystem. The 2019 edition of the map shows changes in the levels regarding previous years, analyzed by other studies, but the investments scenario still wasn't as dynamic as the scenario described in the 2020/2021 edition. With the launch of the 2020/2021 edition, in addition to providing free access to this map, Radar Agtech Brasil also provides a data analysis tool in its website radaragtech.com.br.

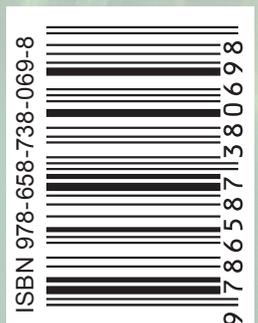
For the next editions, the map may be increased to include other themes and dimensions, such as: local productive arrangements; national, state and municipal public policies to support agtechs and their regulatory aspects; private programs of relationship with agtechs and internationalization of Brazilian agtechs. There is also a possibility to provide a deeper view of the categories regarding the technology, market and profile of agtechs concerning aspects such as characteristics of the founders and stakeholders, organizational needs and development stage, continuous content production and other actions and activities. In this perspective, Radar Agtech Brasil is open for partnerships with new institutions, seeking to continuously contribute with the development of the agtech ecosystem.

Brazil leads the way in terms of digitalization in agriculture, and, according to studies conducted by McKinsey, in 2019, the Brazilian agriculturists were, in average, the heaviest users of digital media for their transactions. During the covid-19 pandemic, in 2020, Brazil has grown 10 percentage points, moving from 36% to 6% of agriculturists who use some digital media, surpassing American and European producers who presented a usage rate of 31% and 22%, respectively.

The growth of digitalization in agriculture places our country in a distinguished position that can facilitate competitiveness and the future of the agriculture and livestock industry, bringing new tools and approaches to the diversity of Brazilian agriculture and food systems, which have growing demands regarding sustainability and food safety. In this context, new technologies, such as robotics, gene editing, artificial intelligence, blockchain, nanotechnology, synthetic protein, cellular agriculture and machine learning bring the future agriculture into our current days, opening a vast market for technology-based companies.



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