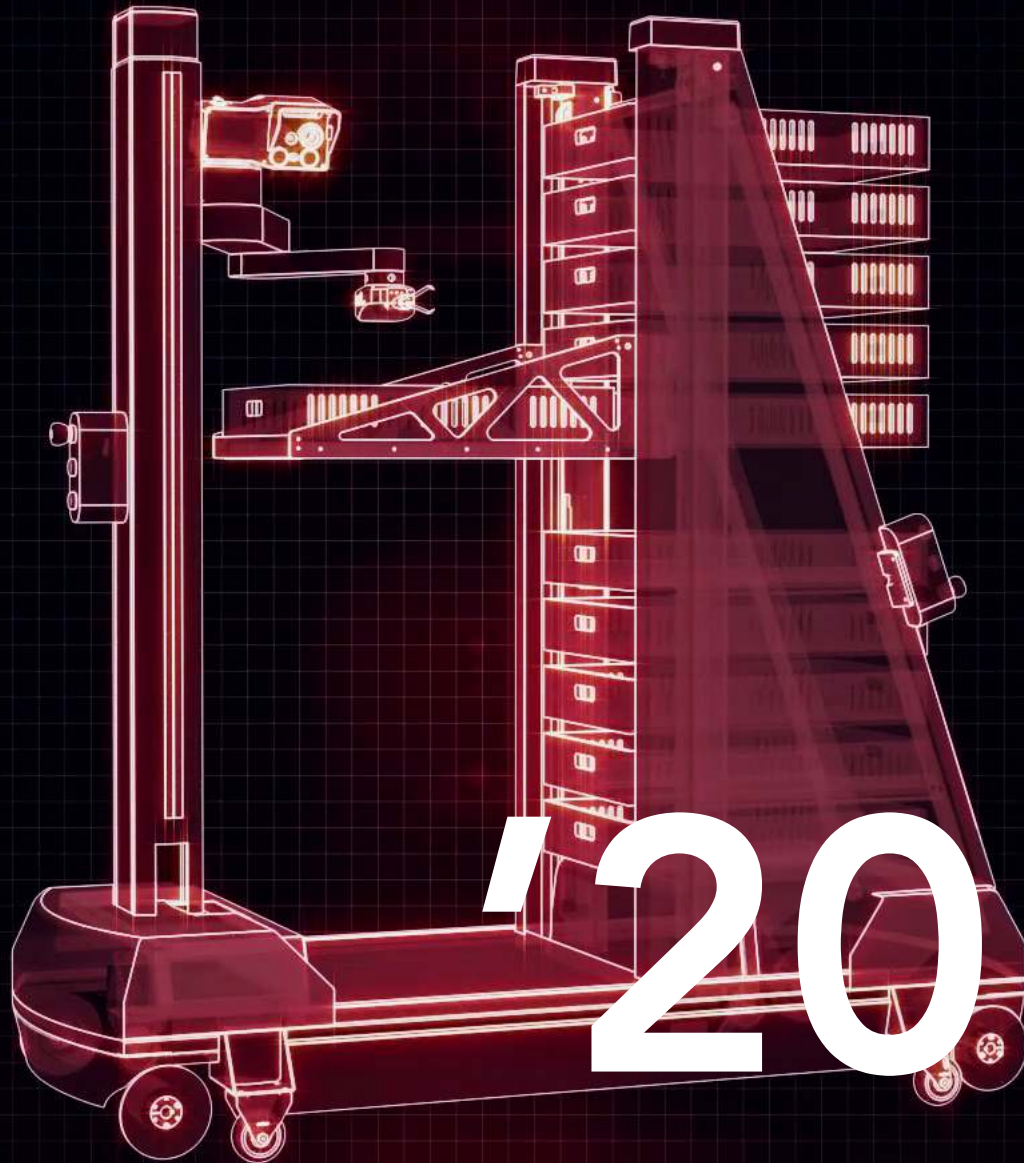




2020 Farm Tech

INVESTING REPORT



'20

Image Courtesy of Root AI



AgFunder is a digitally-native venture capital fund

We invest in bold, transformational
foodtech & agtech founders

AgFunder is one of the world's most active foodtech and agtech VCs. We're rethinking venture capital for the 21st century. We were born online, and with our publication (AFN) we've built a global ecosystem of 75,000+ subscribers. This gives us one of the most powerful networks to help build impactful and important companies. Our research, now in its sixth year, is our love letter to the industry. ❤️

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Farm Tech Funding in 2020

Our flagship *Agri-FoodTech Funding Report* is broad in scope. This whole-value-chain perspective is increasingly important amongst investors, founders, and corporates as we collectively seek to make systematic change to our food system. But while there are many trends impacting innovation across the whole supply chain, such as changing consumer preferences and technological advancements, for those of you focusing upstream, there are some more specific trends to keep aware of relating to how and why certain technologies are being adopted.

Investment trends also differ; consumer tech markets have proven fickle than those upstream. Consistent growth in investment in tech startups operating closer to the farm (upstream) is testament to that, while downstream investment has been volatile in recent years.

We split out upstream from downstream in our flagship report, but it still includes technologies that are not relevant for farmers in the midstream. So for that reason, we've put together a deeper dive on farm tech investment from 2012-2019.

The economic fallout from the Covid-19 pandemic will no doubt impact the consistent growth in farm tech investment – indications for Q1-2020 investment levels are around \$550m, which is far below the ~\$1 billion raised in the first quarter of the past two years, and several hundred thousand less than Q1-2017.

While we believe investment in farmtech, and throughout the supply chain, is imperative to help the world's food system recover from the impact of Covid-19, a fundamental drop in investment appetite is unlikely to buck this trend, albeit providing great opportunities for those of us still investing.

Louisa Burwood-Taylor, Head of Media & Research & The AgFunder Team

Sources & Methodology

Data Sources & Curation

Utilizing new advanced machine-learning algorithms and artificial intelligence to help identify and categorize agri-foodtech startups, our knowledgebase has grown to over 29,939 companies, with new startups and historical data being added each day.

The raw data for the Farm Tech Funding Report comes from Crunchbase, which gathers publicly available information such as press releases and US Securities and Exchange Filings, as well as crowdsourcing directly from the industry. AgFunder contributes data from its own collection methods that include private communications with investors and companies. We collect data from partners across the globe (see page 7) to ensure we have the most comprehensive and accurate data set in agri-foodtech investing.

The raw data is painstakingly curated by the AgFunder team (usually taking several months) to ensure they are relevant, accurate, up-to-date, complete, and categorized according to AgFunder's proprietary tagging system for inclusion in our report.

We update and improve our dataset continuously throughout the year, meaning total figures from previous years' reports will shift as our dataset becomes more complete.

comprehensive and curated knowledgebase of agri-foodtech companies globally.

While we are happy to share our findings, we reserve all rights with respect to AgFunder research and this report and we require it to be fully and accurately cited when any of the data, charts or commentary is used.

Undisclosed Financings

Of the 665 financings in our curated data set for this report, 220 had undisclosed financings, which could not be determined through research or direct sources or were confidential. We excluded undisclosed financings when computing averages and median values. In some cases, we were able to confidentially obtain financing figures directly from the investors, on the condition that they only be included in the aggregate figures.

Multiple Financings

In some cases, Crunchbase displays multiple financings for the same company in the same year. This can be because a company closes subsequent rounds in the same year, but it can also be the result of several closes of the same round. We try to combine these where possible but when they are clearly separate closes, we have kept them separate.

Sources & Methodology

Categorization

AgFunder's categorization system is designed to capture broad themes across the complex agri-foodtech value chain (see *page 17 for a list of categories included in this report*). The agri-food sector has a wide supply chain spanning inputs and industrials, farming, logistics, wholesale distribution, processing, retail distribution and the consumer. In many cases, technologies such as marketplaces connect different links in the supply chain and so in this report we've chosen to focus on high-level themes. To assist with the categorization and to avoid subjectivity, AgFunder first employs over 150 machine learning and artificial intelligence models to suggest category placement and to help tag the company according to the technology and its place in the supply chain. Finally, the AgFunder team manually reviews the suggestions for each company, often with significant research and debate among our team.

In 2019, we added a new category, Cloud Retail Infrastructure, to relieve the Midstream Tech category of "later-stream" deals we felt no longer fit. Cloud Retail Infrastructure includes the growing number of technologies enabling companies to provide customers with on-demand, at-home dining such as ghost kitchens and last mile delivery services including delivery robots.

We've also taken a stricter stance on cannabis and CBD-related startups; there needs to be clear proprietary technology involved. We will not include pure CPG or pure production, as we wouldn't include pure production in any other crop. If we believe the growing facilities are particularly hi-tech or utilize proprietary technology, we will still include it in the Novel Farming System category. The same goes for processed products; if the extraction technique is particularly innovative, we'll include it as a Biomaterials or Midstream startup. Large vertically-integrated cannabis companies are also excluded.

Special Acknowledgement

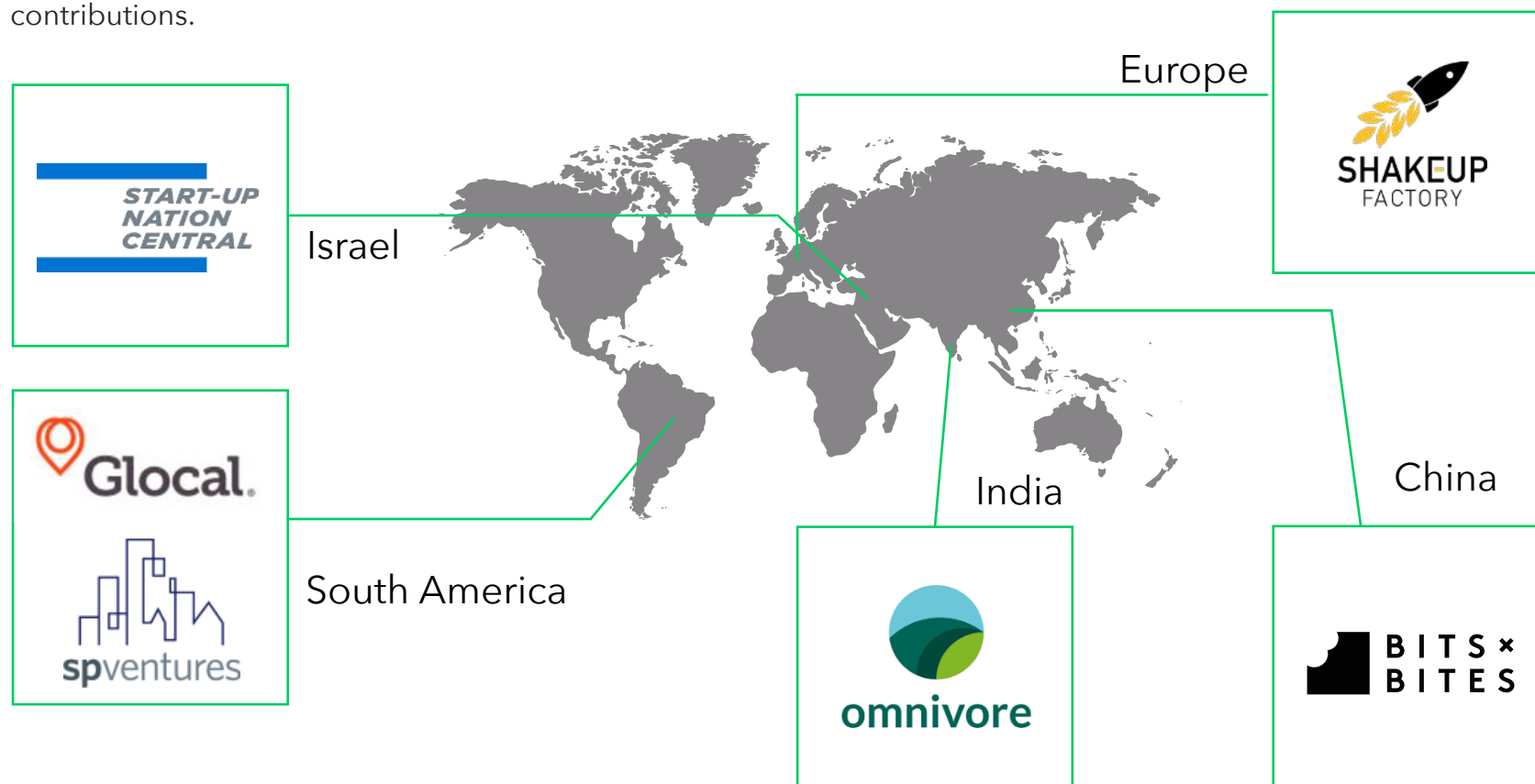
Special thanks to Tim Li, Ellen Ehram and the rest of the Crunchbase team for their support and assistance.

data powered by

crunchbase

Our International Data Partners

In addition to our partnership with **Crunchbase**, we've partnered with several groups from around the world to help us collect more international data at the local level to ensure we can present the most comprehensive data set in the industry. Our partners in 2020 include Start-up Nation Central in Israel, SP Ventures in Brazil, Glocal in Argentina, Bits x Bites in China, ShakeUp Factory in Europe, and Omnivore in India. Thanks also to Sofia Ramirez for her Latin America contributions.



Cover & Section Images

Special thanks to our portfolio companies who contributed images to this year's report.



Solinftec is an IoT based farm management system designed to optimize the farming process to save growers money. Founded by a group of process engineers (think Six-Sigma for ag).

[Learn More](#)



Brightseed discovers edible, plant-based nutrients that are scientifically-proven to improve health and wellness. Its mission is to make food as medicine a reality.

[Learn More](#)



Connecterra is an artificial intelligence startup using sensors, data and machine learning to improve core aspects of farm operations to become more efficient, more productive and more sustainable.

[Learn More](#)



Trace Genomics uses advanced genomics and artificial intelligence to analyze the soil microbiome and provide prescriptions that improve soil health and increase yield.

[Learn More](#)



Aerobotics provides early pest and disease detection enabled by drone imagery and artificial intelligence.

[Learn More](#)



Root AI is an ag robotics company developing an intelligent and dexterous robots for picking fruits and vegetables in greenhouses.

[Learn More](#)



2019 Overview



Farm Tech Funding Breakdown 2019

\$4.7bn

INVESTED

+6.8%

INVESTMENT GROWTH

695

DEALS

-13%

DEAL GROWTH

940

UNIQUE INVESTORS

\$205m

BIGGEST DEAL



Key Insights

1. Consistent Funding Growth Bucks Global VC Trend

Investment in Farm Tech startups has grown consistently since 2013; 370% to be exact. That's not been the case for investment in technologies across the whole food supply chain, where downstream startups – those operating closer to the consumer – have experienced more volatile investment levels, influenced by food delivery tech investment swings.

In 2019, Farm Tech startups raised \$4.7 billion, a 6.8% year-over-year growth, bucking the trend in global VC across sectors where investment dropped 16%, according to the Venture Pulse report. That growth was due to larger deals as the number of deals actually dropped 13% year-over-year.

Eleven deals over \$100 million contributed \$1.5 billion to the total as some startups broke fundraising records. Ynsect, the roboticized mealworm farm in France, kicked off the year with a \$125 million Series C, smashing records for farm tech in Europe. Another three Novel Farming Systems startups raised north of \$100 million including Germany's InFarm, California's Plenty and New Jersey's AeroFarms.

The largest deal of the year was ProducePay's \$205 million debt financing to fund upfront payments to farmers selling produce on its platform.

2. Where Will Investors Focus in 2020, Amid Covid-19?

While we expect investment to drop in 2020 with the economic fallout of Covid-19, some farm tech categories could become more attractive to investors.

With the benefit of 2020 hindsight, some 2019 deals look foolhardy while others look prescient as the pandemic squeezes supply chains, locks down consumers, spooks investors, and sparks a sudden rise of food nationalism.

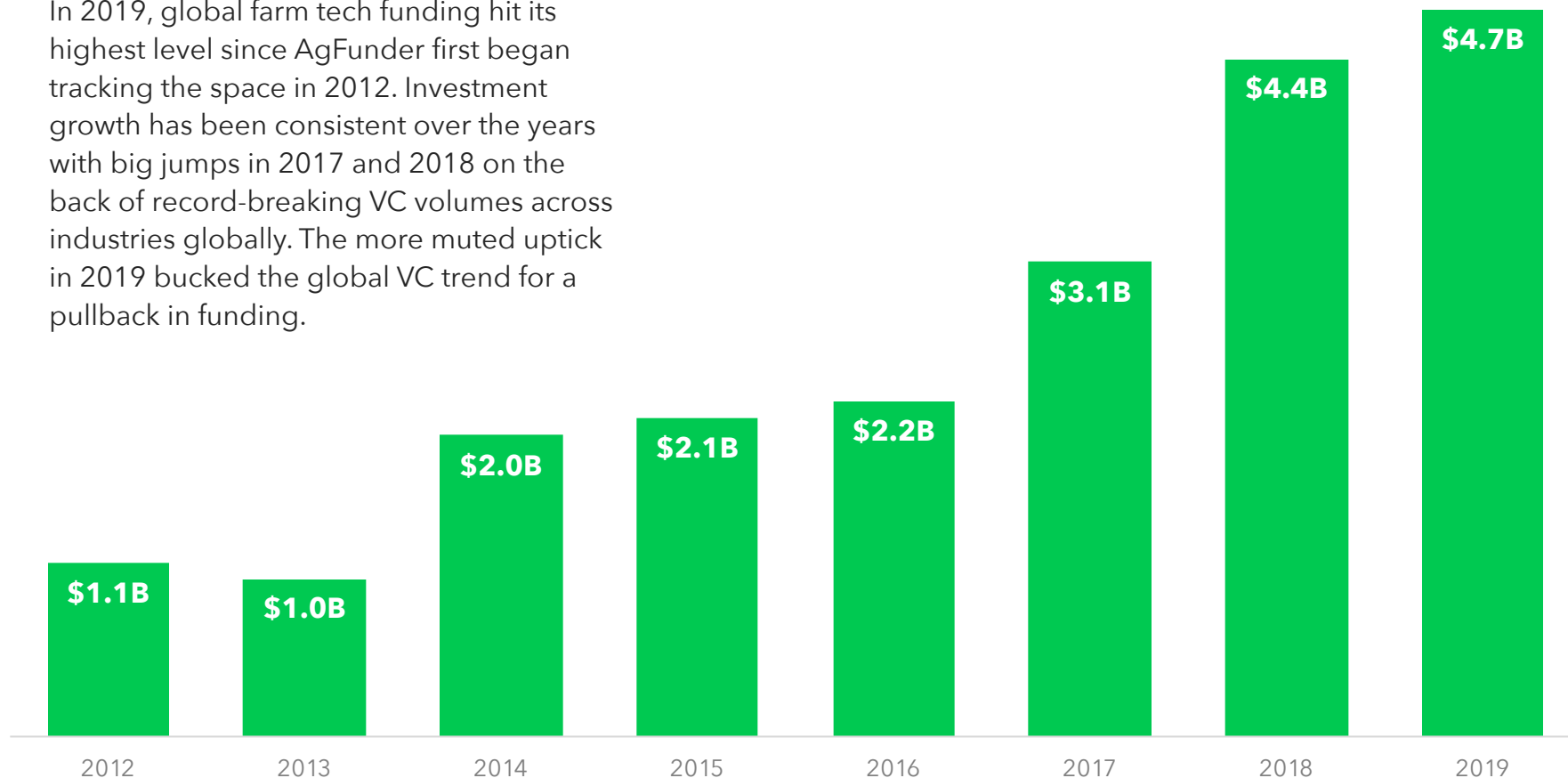
Startups supporting local supply chains and food security would seem prescient, including several of the year's largest deals: ProducePay, Plenty, InFarm, AeroFarms and Ninjacart.

With the crumbling of the food service industry, online services connecting farmers to consumers have become increasingly in demand. Farm-to-Consumer eGrocery has typically represented a relatively small portion of the farm tech landscape, raising \$202 million in 2019, but investors could look to bolster local food systems further in 2020.

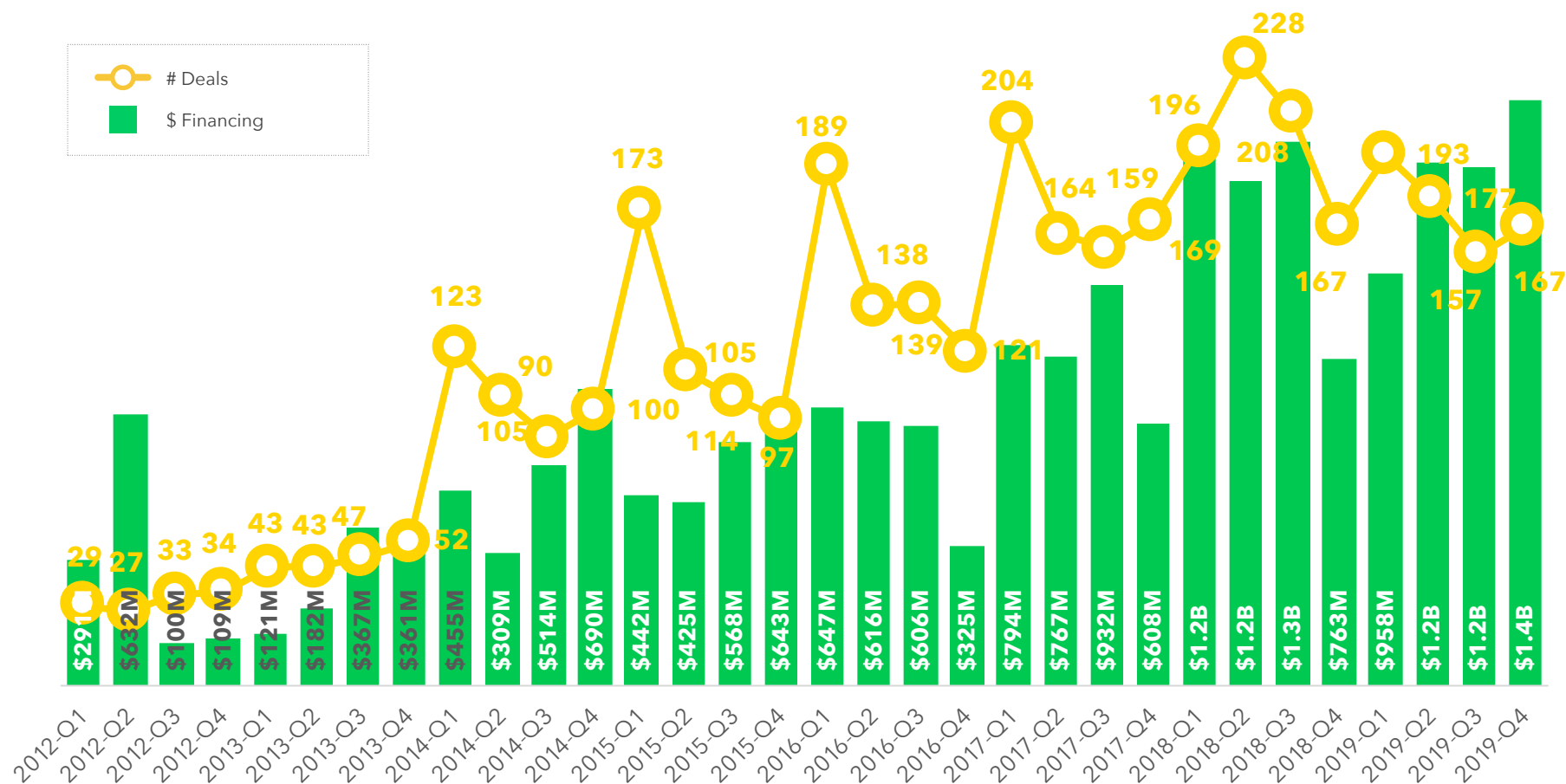
Farm Robotics could experience more investor interest in 2020 as startups receive increased demand from labor-challenged farmers during Covid-19. Investment reached just \$179 million over 70 deals in 2019, a 46% drop in funding across eight fewer deals year-over-year.

Annual Financings | 2012-2019

In 2019, global farm tech funding hit its highest level since AgFunder first began tracking the space in 2012. Investment growth has been consistent over the years with big jumps in 2017 and 2018 on the back of record-breaking VC volumes across industries globally. The more muted uptick in 2019 bucked the global VC trend for a pullback in funding.



Quarterly Deal Volume and Activity



A large, irregular pile of bright yellow, granular material, possibly seeds or soil, is scattered on a dark purple background. The material is piled in the center, with smaller clumps and individual grains scattered around it. The lighting creates strong shadows, emphasizing the texture of the granules.

Deals by Category

Image Courtesy of Brightseed
Photography by Nicola Paris

Key Insights - Category

1. Farm Management Software, Sensing & IoT continues to be the most active category in farm tech by number of deals. Arguably this category propelled agtech into the venture capital spotlight; The Climate Corporation, which Monsanto bought for \$1 billion, would fit into this category! But as sensor-based technology proliferates globally, other countries are catching up to the US in this category – for example, some 28% of deals in the category took place in Asia, most of them at Seed stage.
2. Farm Management SW, Sensing & IoT raised \$886 million in 2019, which was still a way below Ag Biotech at \$1.1 billion and Novel Farming Systems at \$945 million. But understandable when the median deal size of \$1.4m was less than half that of the other two more capital intensive categories.
3. Novel Farming Systems startups enjoyed a 37% increase in funding year-over-year as the category's most mature startups raised larger rounds to primarily meet demand for protein alternatives.
4. Gene editing again took the stage for Ag Biotech, contributing the two largest deals and several others in the category.
5. Investment in robotics startups is still surprisingly low; at \$179 million over 70 deals, the category saw a 46% drop in funding across 8 fewer deals in 2019 compared to 2018. We're hopeful this could change, especially as robotics startups are receiving renewed interest from labor-challenged farmers today in the wake of the Covid-19 pandemic.
6. Another category increasingly in the spotlight today in light of Covid-19 is the Farm-to-Consumer eGrocery category. These online platforms for farmers to sell and deliver their produce direct to consumers are more relevant today than ever before as consumers look to local food systems to secure food without needing to visit a local grocery store. Prior to this, they've represented a relatively small portion of the farm tech landscape – raising \$202 million in 2019. But today we're hearing about increasing numbers of farmers building their own ecommerce channels that could no doubt benefit from teaming up with some of the existing startups such as Barn2Door, which offers a plug-and-play e-commerce solutions for farmers who don't want to build a website in-house.

Farm Tech Category Definitions



Ag Biotechnology

On-farm inputs for crop & animal ag including genetics, microbiome, breeding, animal health.



Farm-to-Consumer eGrocery

Online platforms for farmers to market and deliver their produce direct to consumers



Agribusiness Marketplaces

Commodities trading platforms, online input procurement, equipment leasing.



Farm Robotics, Mechanization & Equipment

On-farm machinery, automation, drone manufacturers, grow equipment.



Bioenergy & Biomaterials

On-farm ag waste processing, biomaterials production, anaerobic digesters.



Midstream Technologies

Food safety & traceability tech, logistics & transport services used by farmers.



Farm Management Software, Sensing & IoT

Ag data capturing devices, decision support software, big data analytics.



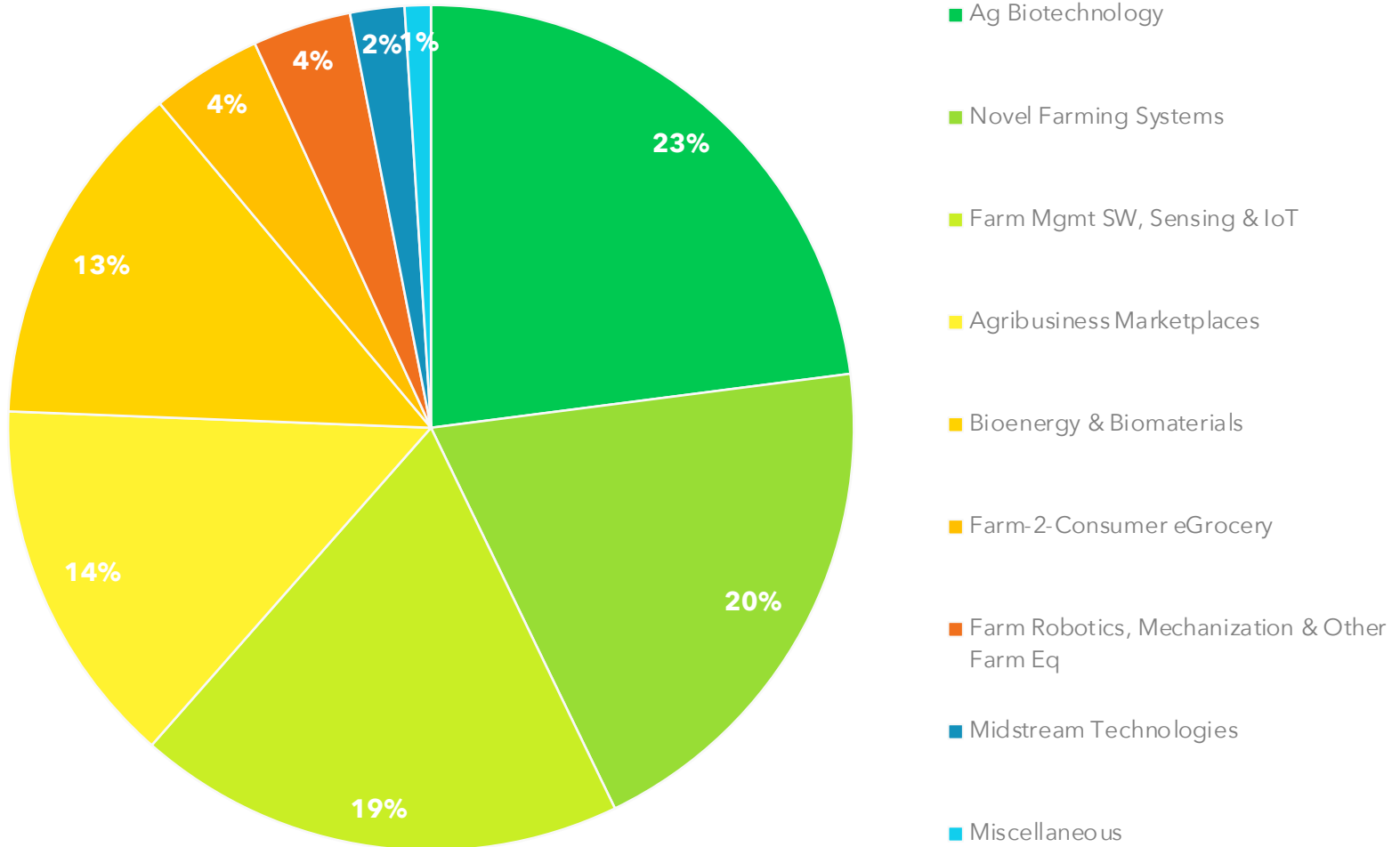
Novel Farming Systems

Indoor farms, aquaculture, insect, & algae production.



Miscellaneous e.g. fintech for farmers

2019 Farm Tech Investment



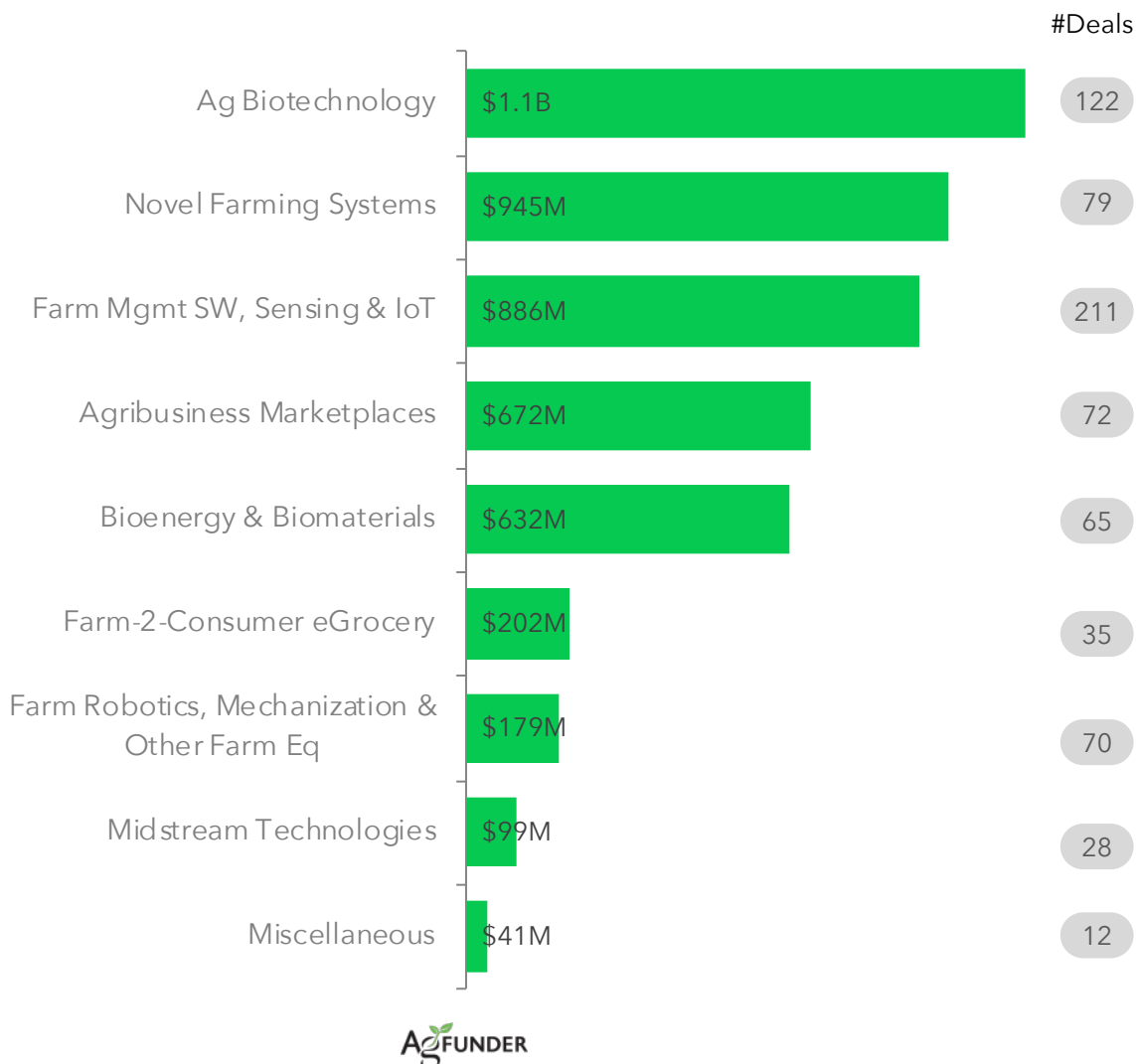
Deal Volume and Activity by Category

Novel Farming Systems posted the biggest gains in 2019, increasing 38% despite 16% fewer deals. This was a result of more mature startups raising later stage rounds.

Ag Biotech deal activity dropped 22% year-over-year while dollar investment declined 33%.

Farm Management Software, Sensing & IoT continues to be the most active category with the proliferation of sensor-based technology globally. Other countries are catching up to the US in this category - for example, some 28% of these deals took place in Asia, most of them at Seed stage explaining why the total dollars raised was not higher considering the high number of deals close.

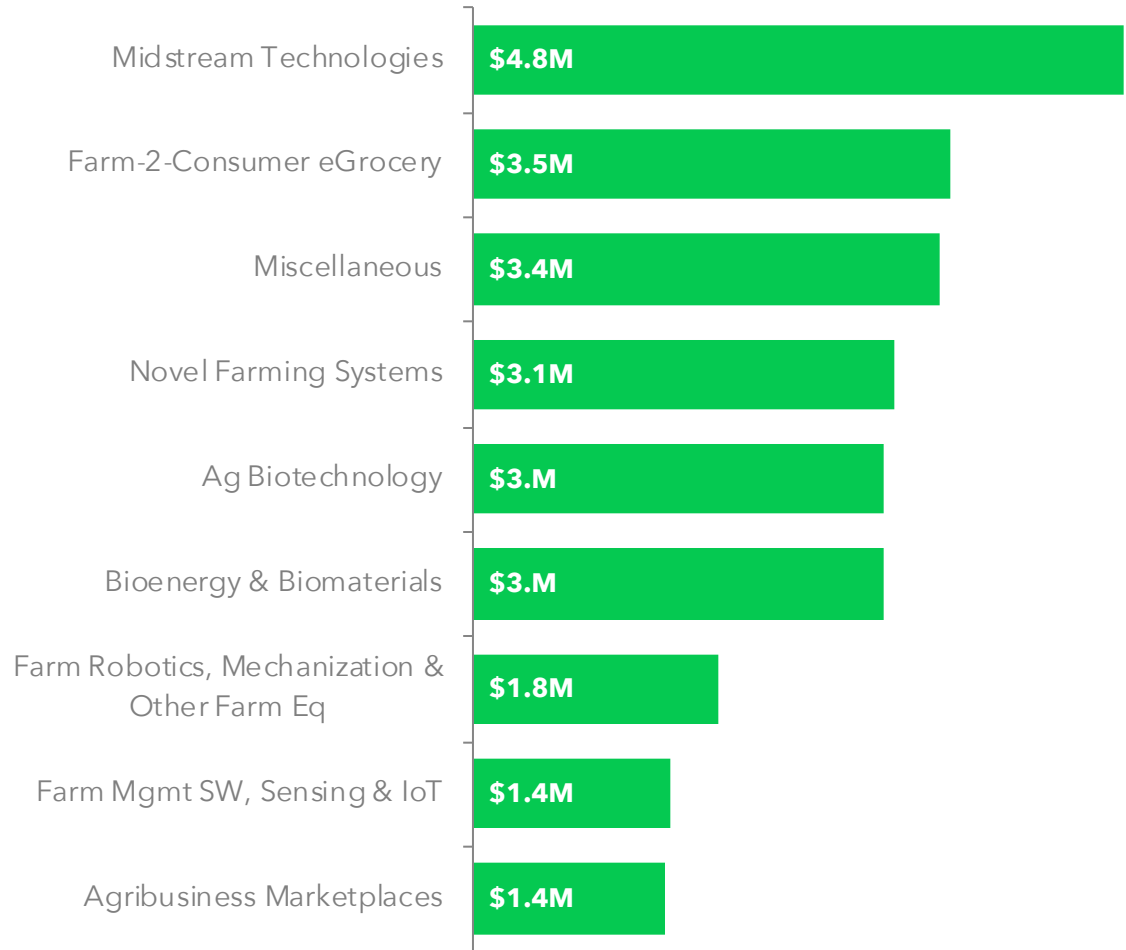
Midstream Tech deals relevant on the farm included end-to-end logistics and transportation startups, cold chain tech, and tracking, freshness, and traceability tools.



Median Deal Size by Category

The Midstream category included a few later stage equity and debt rounds for logistics companies pushing the median size up; 42% of deals in the category had undisclosed funding sizes, meaning they were excluded from the median calculation.

While 45% of the Farm-2-Consumer funding rounds were at the Seed stage, several were undisclosed. With about 40% of deals over \$3 million in size, the median was relatively high.





FUND III - Global Agrifood Tech

Second Close



AgFunder's one of the most active agtech and foodtech investors globally, and we've coinvested with some of the world's top VCs including Andreessen Horowitz, Bessemer, Data Collective, Horizons, TPG, True Ventures, S2G, Sequoia, and 8VC. Join us in Fund III, as we invest in the next generation of early stage startups aiming to transform the future of our food and agriculture system.

Professionals/Accredited Investors: \$25k+

Family Offices: \$250k+

Corporates: \$500k+

Learn More: <http://agfunder.com/invest/fund-iii>

Top 20 Novel Farming Systems Deals

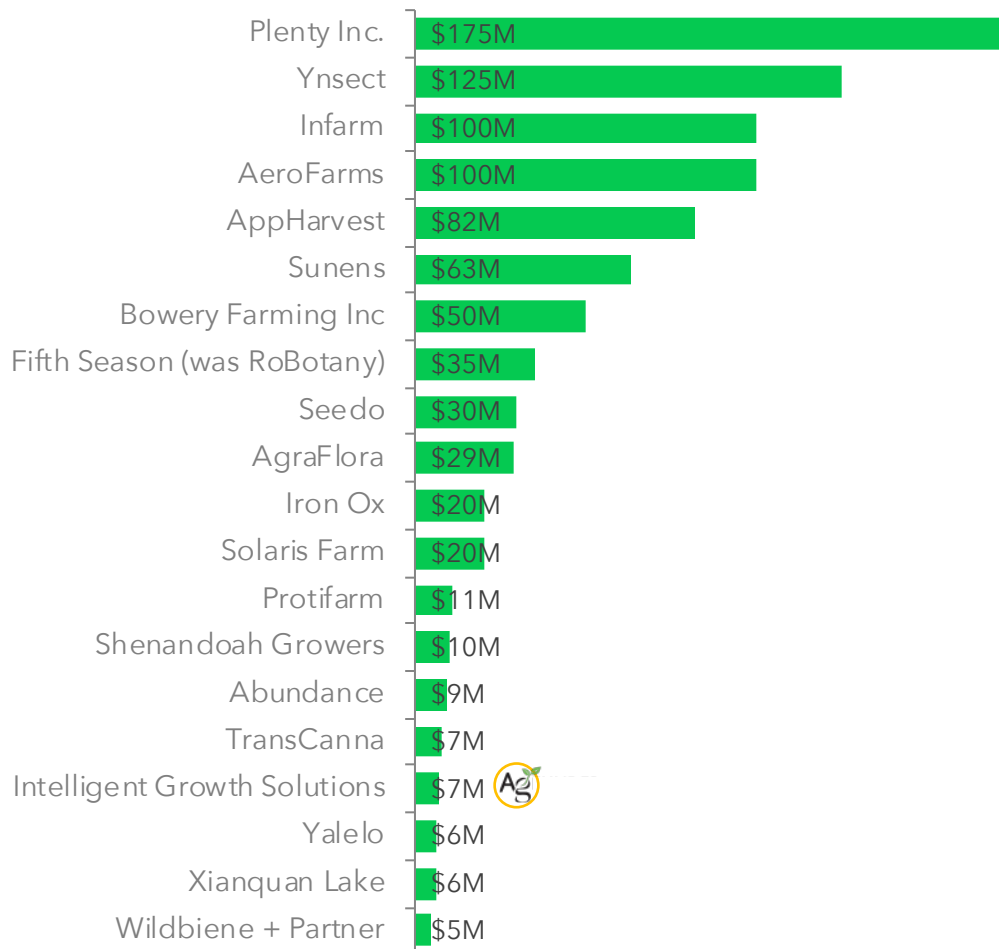


Novel Farming Systems startups enjoyed a 37% increase in funding year-over-year as the category's most mature startups raised larger rounds to primarily meet demand for protein alternatives.

Ynsect's robotized mealworm farming tech broke records with this Series C led by UK-based impact fund Astanor. It was later followed by an unannounced insider round for Plenty, which will likely roll into a larger Series C later.

Indoor ag appears to be having a renewed bout of interest as startups select different routes to market. Distributed business models like Germany's Infarm, which deploys its connected growing cabinets in supermarkets, are catching more attention.

Plant factories are still snagging capital, however, including Bowery's Google Ventures-backed Series B extension to construct a third facility near Baltimore.



AgFunder Portfolio Company 

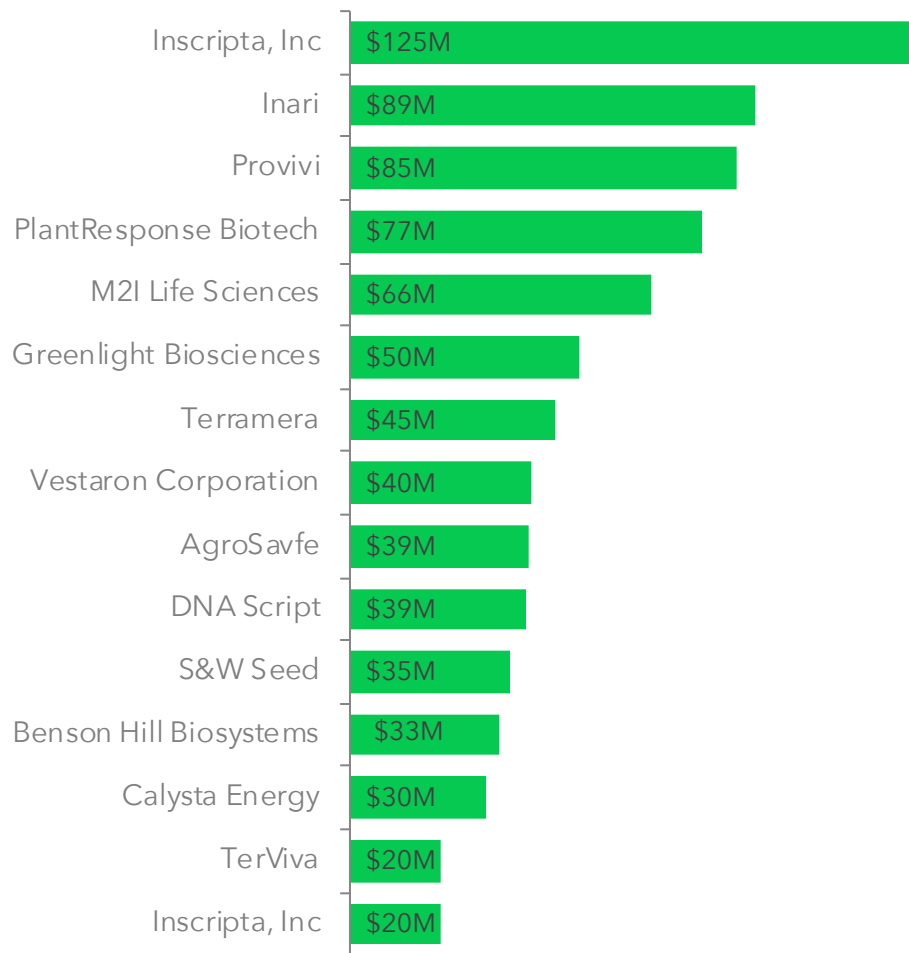
Top 15 Ag Biotechnology Deals

Gene editing took the stage for Ag Biotech, with the two largest deals and several others in the category.

Inscripta's Series D came just months after an extended Series C closed on around \$100m. The Boulder, CO startup aims to democratize gene-editing by selling equipment to researchers and giving away enzymes for free.

Inari's Series C marked the largest funding round secured by a female CEO in Ag Biotech so far. The Flagship-founded company brought in Dubai's sovereign wealth fund, Asia's EDBI and Acre Venture Partners as investors in the round.

Novel crop protection is another growing segment in the category (Provivi, Vestaron, AgroSavfe, and Greenlight).



Top 15 Ag Marketplace Deals

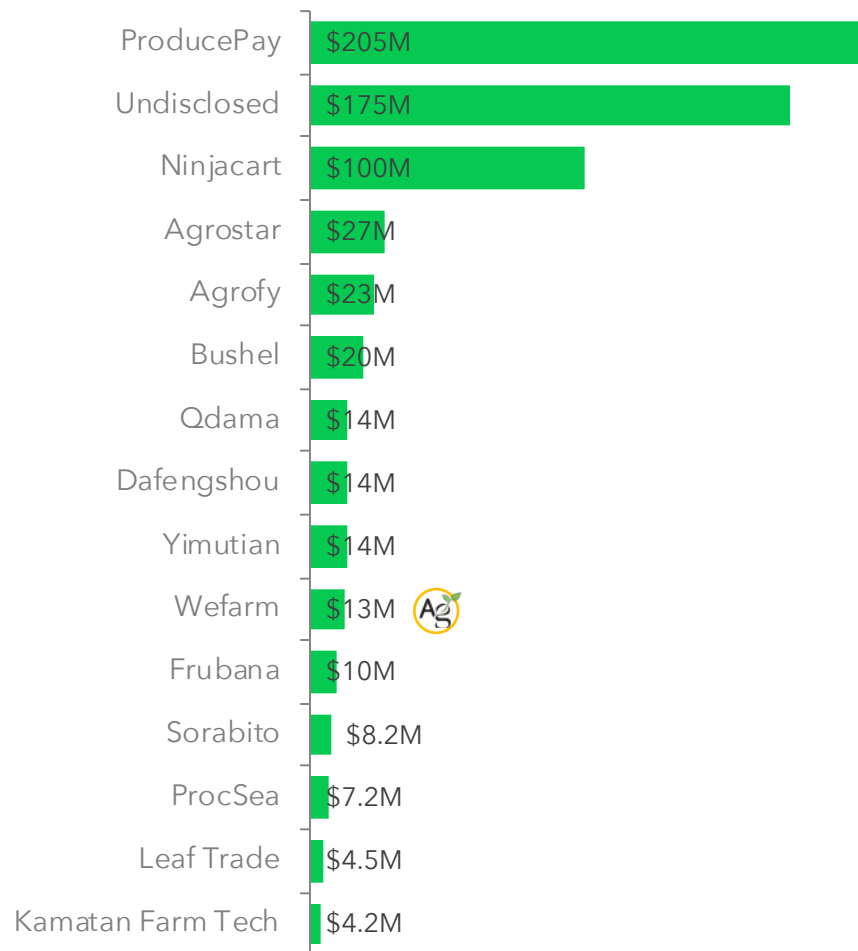


Ag marketplaces connect farmers with resources like financing, agronomic support, and marketing.

It's worth pointing out that Produce Pay's category-leading raise was a debt facility to fund its upfront payments to farmers selling their produce through its platform.

Ninjacart, which also helps farmers trade their produce, snagged India's largest ever farm tech deal to-date. Indian farmers need access to markets to sell their produce but also purchase inputs. Agrostar helps with the latter.

Argentina's Agrofy closed the largest agtech deal on record for LatAm at the end of the year for its diversified ag products marketplace while Wefarm (AgFunder portfolio company) closed a Series A to develop a marketplace for African farmers to access much needed, quality inputs.



AgFunder Portfolio Company 

Top 20 Farm Management SW, Sensing & IoT

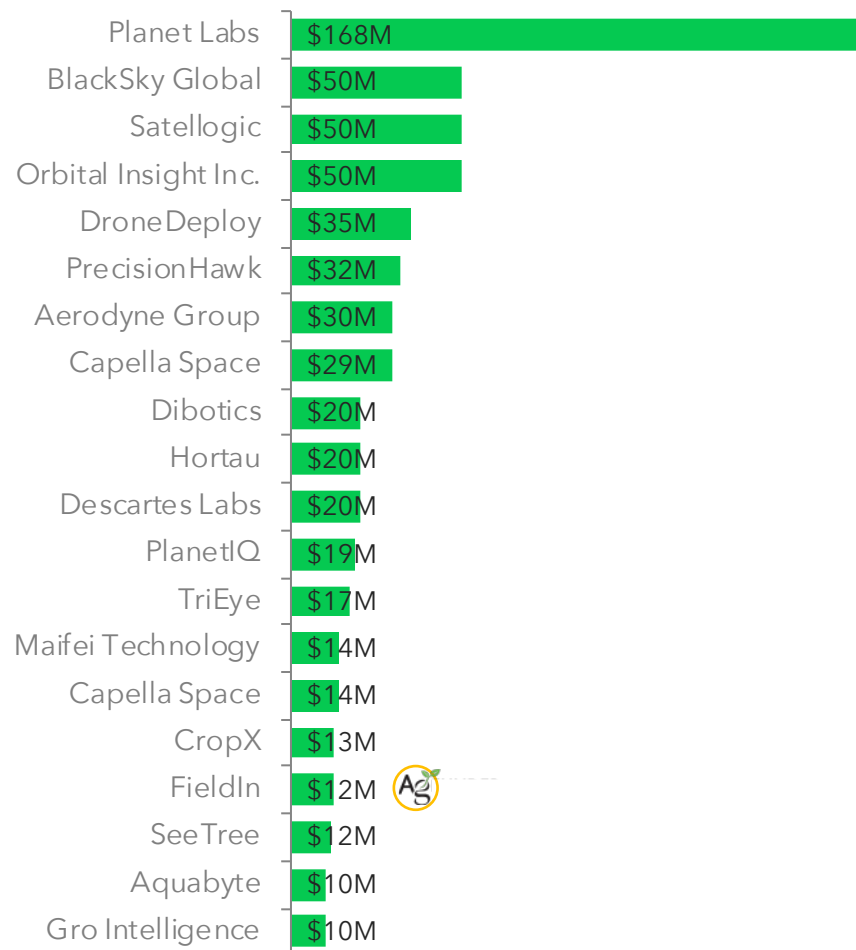
Remote sensing dominated this category in 2019.

Planet's Series D straddled 2018-2019 and was prematurely reported last year before it's full close. We have moved the deal to 2019.

Satellite-powered intelligence company BlackSky secured debt financing from Intelsat to boost its Earth observation constellation. Argentinian Satellogic's Series C also fuelled expansion with the goal of capturing Earth at 1-meter resolution weekly.

While many drone tech startups have pivoted away from ag, put off by the complexity and challenge of creating value for farmers, a few first movers remain, including PrecisionHawk, which raised a Series D to build AI-powered aerial data analytics, and DroneDeploy, which raised a Series D backed by Bessemer VP, albeit to expand into new industries.

While farm management SW is an increasingly crowded space, Israel's FieldIn (AgFunder portfolio company) stood out to us for its in-depth offering in fresh produce and nuts.



AgFunder Portfolio Company 

Top 20 Farm Robotics Deals

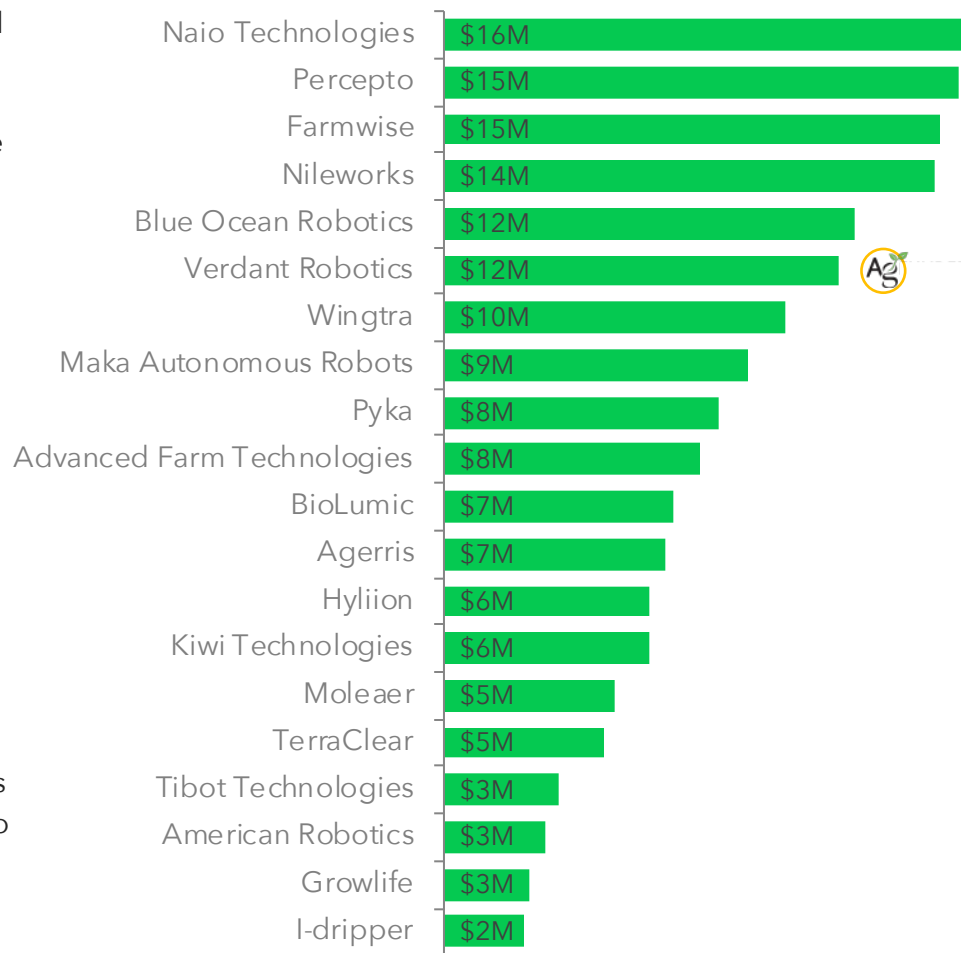


While robotics could receive some renewed interest from entrepreneurs and investors in the wake of the Covid-19 pandemic as farmers become extra labor-challenged, the category saw a 46% drop in funding across 8 fewer deals in 2019 compared to 2018.

With a number of single-digit deals, skepticism over farm robotics efficacy and durability remains. Offerings can also be narrow in their application such as strawberry harvesting or weed pruning.

French startup Naio led the pack with its Series A round led by France's national investment bank Bpifrance for its weeding robots. Cavallo Ventures-backed FarmWise is also in the weeding robot market.

Verdant Robotics provides robotics-as-a-service for the tree crop sector, while Pyka is working on autonomous electric airplanes to perform tasks like crop dusting. Kiwi Technologies is also working on autonomous spraying technology but via drone instead. TerraClear provides robotic rock clearing service.



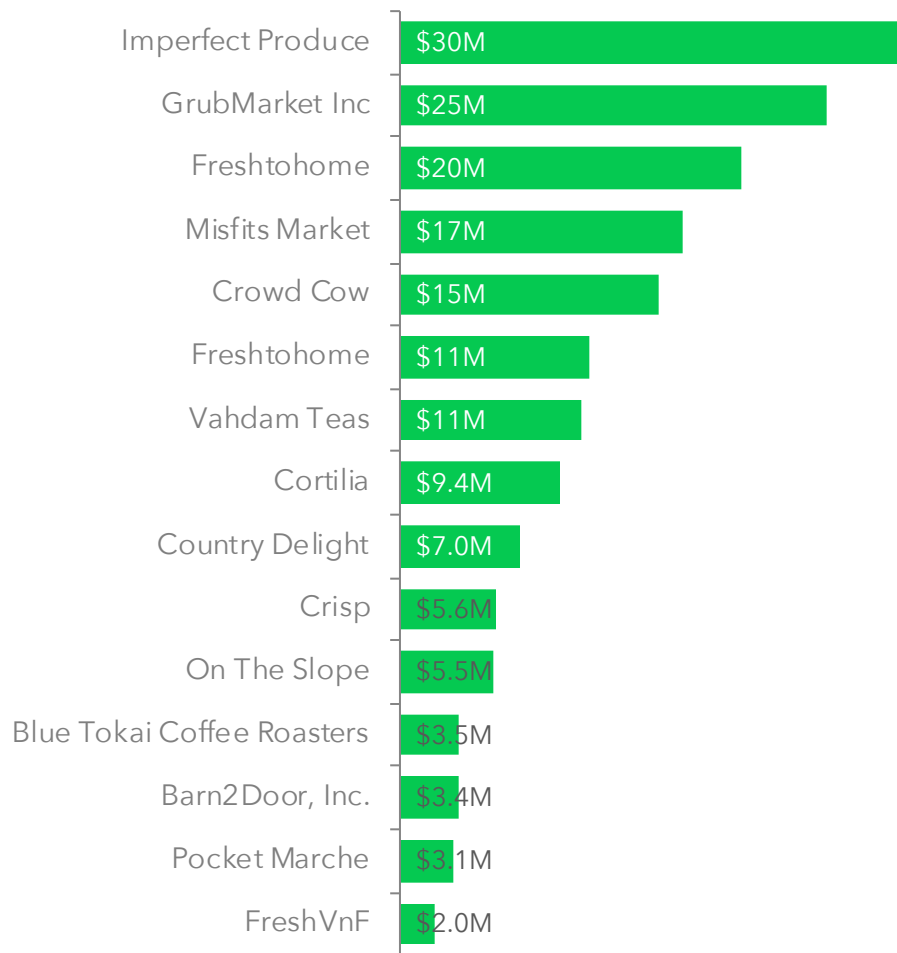
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Top 15 Farm-to-Consumer eGrocery

These online platforms for farmers to sell and deliver their produce direct to consumers are more relevant today than ever before in the wake of the Covid-19 pandemic. Prior to that, they represented a relatively small portion of the farm tech landscape. But today we're hearing about increasing numbers of farmers building their own ecommerce channels that could no doubt benefit from teaming up with some of the existing startups such as Barn2Door, which offers a plug-and-play e-commerce solutions for farmers who don't want to build a website in-house.

Concerns about food waste gave rise to many services in this category to connect farmers to outlets interested in buying ugly, misshapen, or less-than-prime produce like Imperfect Produce and Misfits Market.

Other startups are filling the gap for consumers seeking food products grown according to specific management practices or standards like Crowd Cow, Freshtohome, and Country Delight.



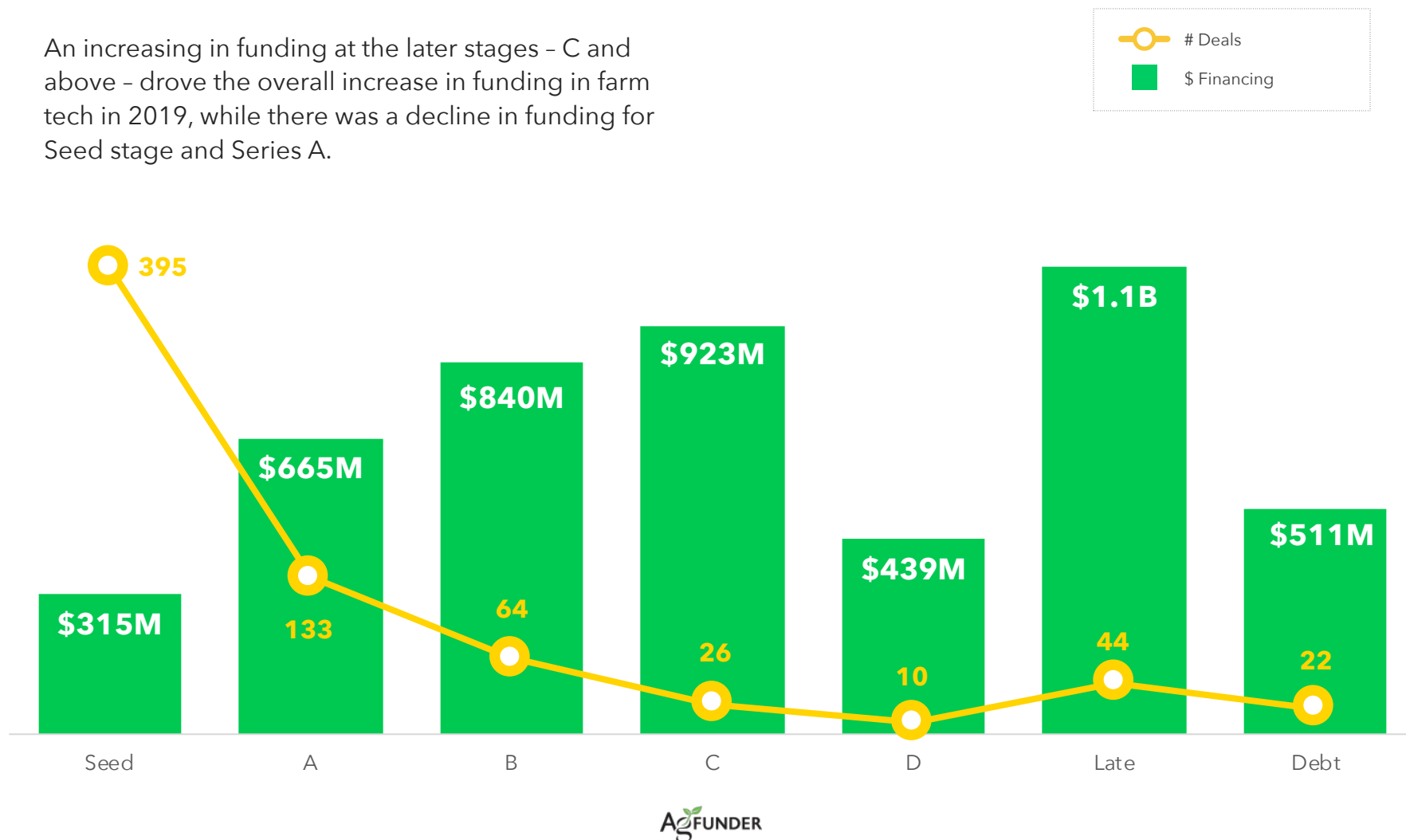
Deals by Stage

Image Courtesy of Connecterra



Overall Deal Volume and Activity by Stage

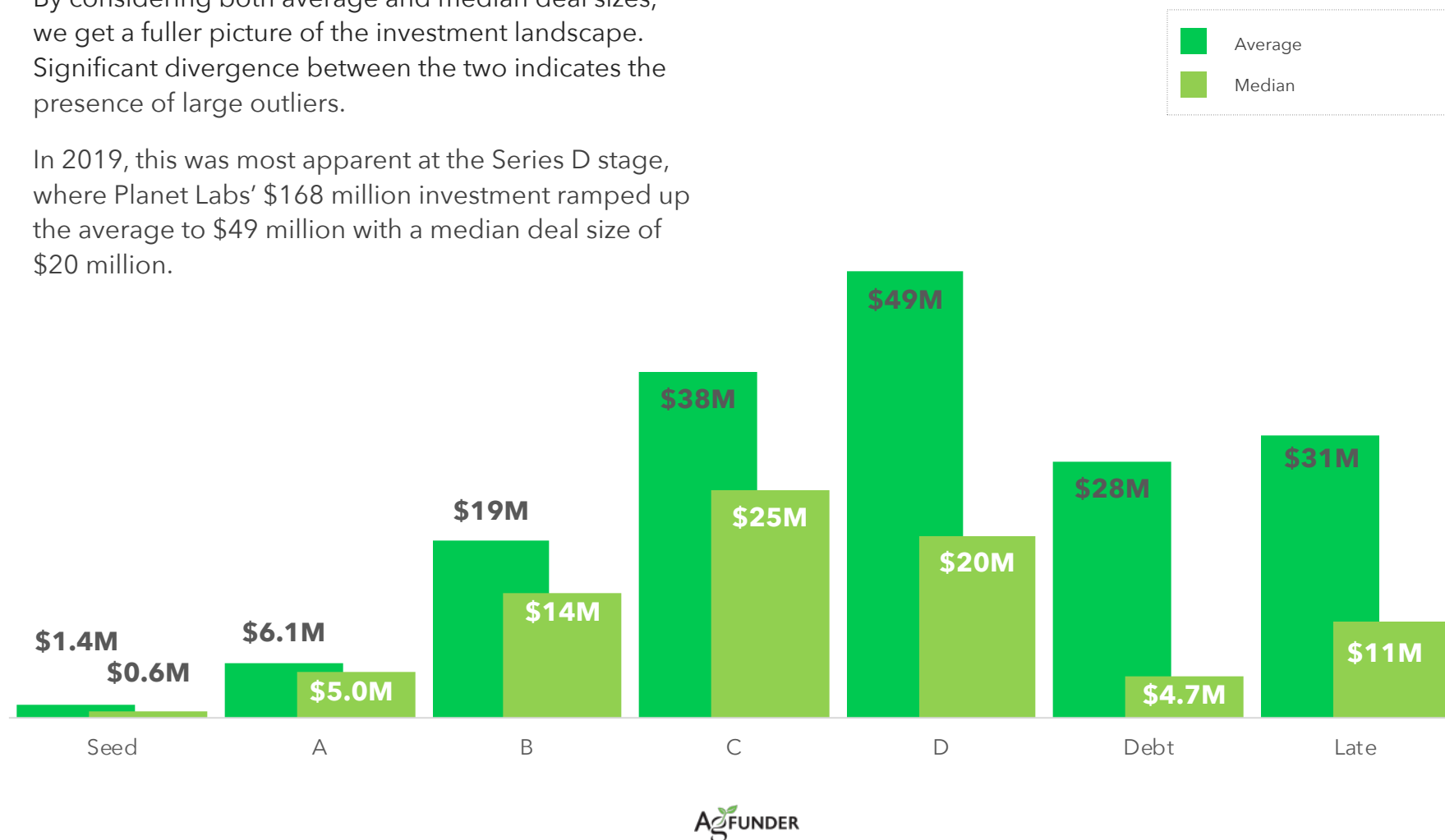
An increasing in funding at the later stages - C and above - drove the overall increase in funding in farm tech in 2019, while there was a decline in funding for Seed stage and Series A.



Deal Average and Median by Stage

By considering both average and median deal sizes, we get a fuller picture of the investment landscape. Significant divergence between the two indicates the presence of large outliers.

In 2019, this was most apparent at the Series D stage, where Planet Labs' \$168 million investment ramped up the average to \$49 million with a median deal size of \$20 million.



Top 15 Seed Deals

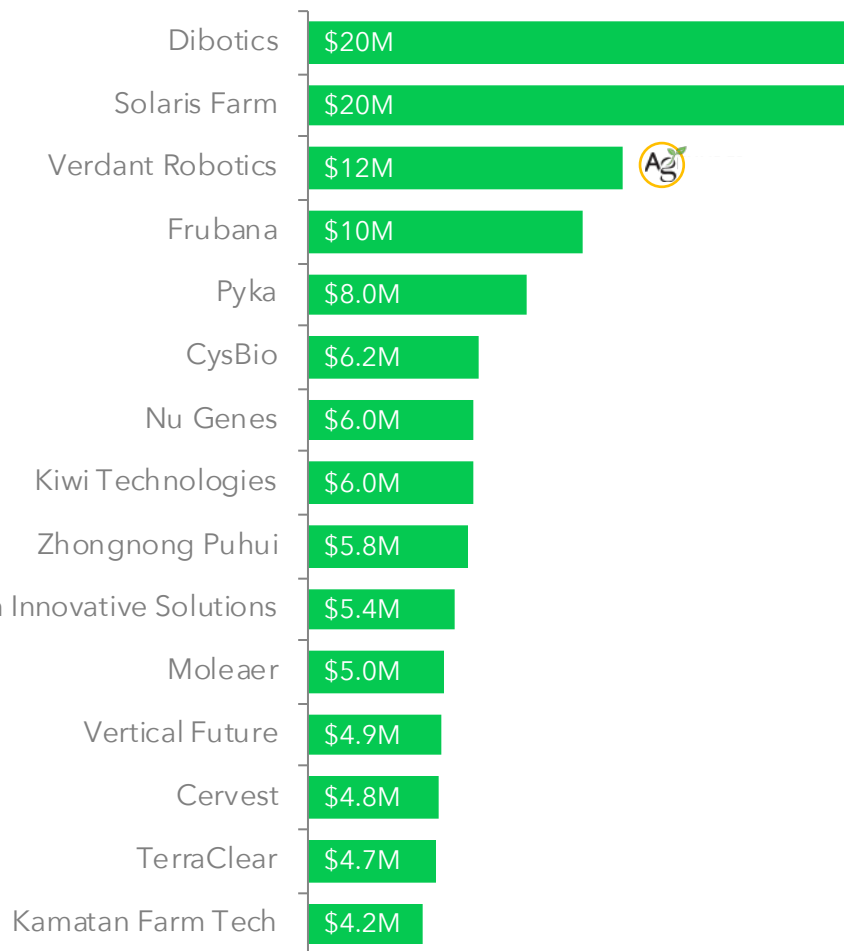
Seed stage deals ran the gamut in terms of deal size and category.

Robotics startups represent many of the largest deals at this stage, which is understandable considering the capital intensity of the category. Verdant Robotics provides robotics-as-a-service for the tree crop sector, while Pyka is working on autonomous electric airplanes to perform tasks like crop dusting. Kiwi Technologies is also working on autonomous spraying technology but via drone instead. TerraClear provides robotic rock clearing service.

Dibotics is more focused on imagery analytics in ag while deploying automation in others.

Indoor ag startups also appeared including Solaris Farm's desert-based cannabis greenhouse technology. Vertical Future wants to improve health in cities through urban ag.

Frubana is a Latin American ag marketplace aiming to eliminate fruit trading intermediaries.



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Top 15 Series A Deals

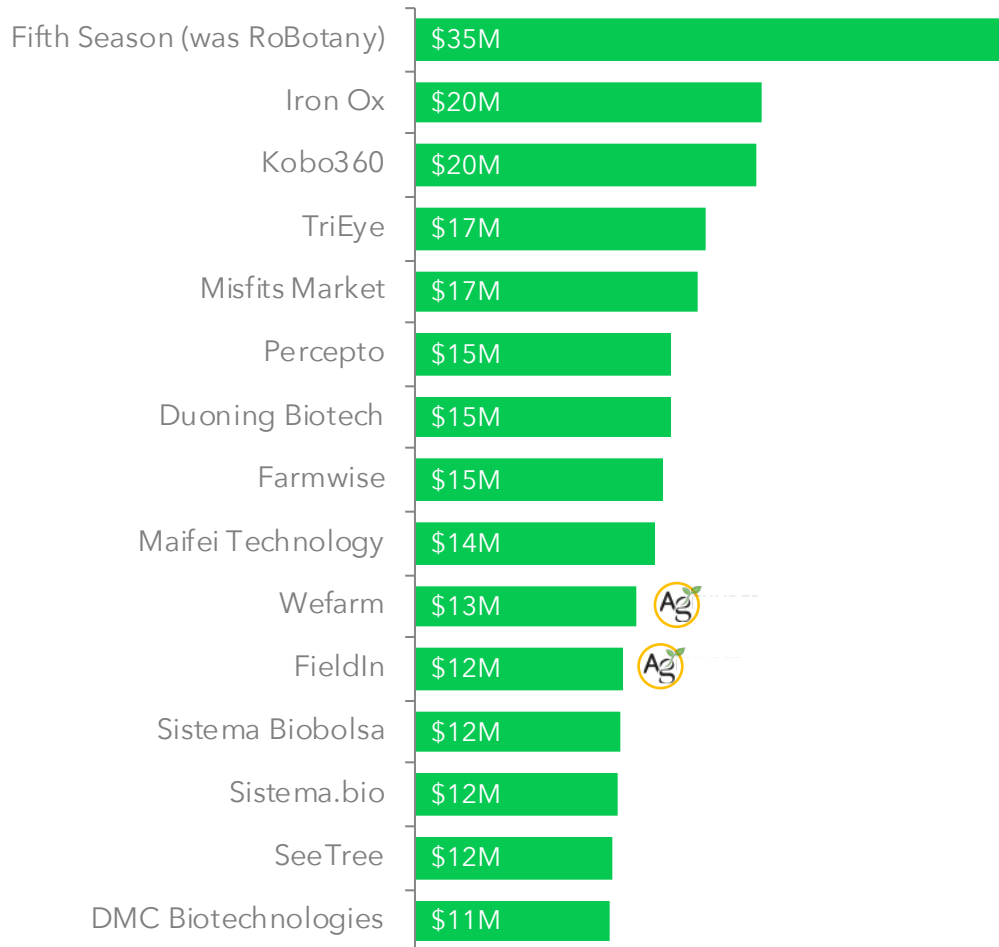
There was also a mix of categories at Series A stage but less divergence in deal size, except vertical farming group Fifth Season's raise; the US company came out of stealth to announce this deal and its farms equipped with labor-providing robots.

Kobo360 is aggregating end-to-end hauling in the transportation industry while Misfits Markets matches farmers' ugly produce with consumers.

Percepto raised funding for its drone-in-a-box offering and Duoning Biotech to develop animal cell culture.

TriEye manufactures a camera for use on autonomous vehicles on the farm and elsewhere.

Wefarm is architecting a farmer-to-farmer network and input marketplace for producers in developing regions.



AgFunder Portfolio Company 

Top 15 Series B Deals

The top three Series B deals were all indoor growing technologies. The sector accelerated substantially in 2019 and no doubt will further in 2020 as the Covid-19 pandemic exposes the frailty of global food supply chains leaving some countries exposed.

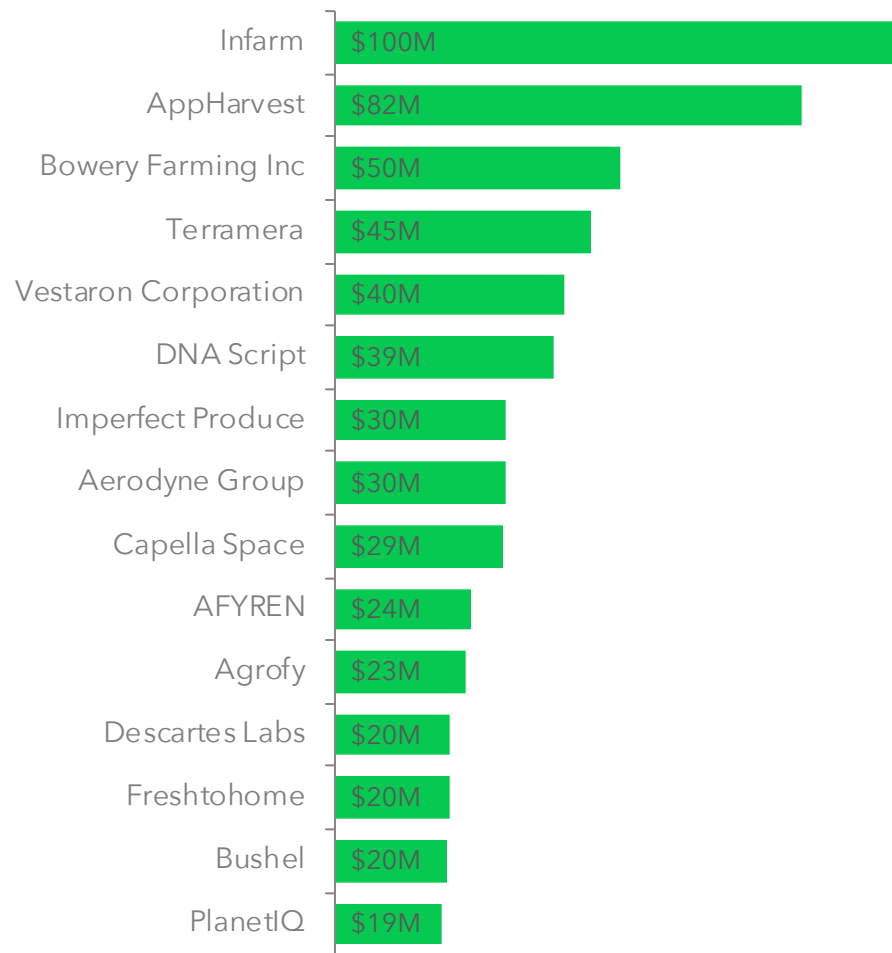
Differing business models proliferated too.

Infarm operates distributed in-store grow units while AppHarvest is constructing large-scale greenhouses in Appalachia. Bowery, on the other hand, has opted for the large-scale, urban-based plant factory approach.

Terramera increased this round to \$48.5m in early 2020 to advance its targeted crop protection technology for the biological and natural crop input space.

Aerodyne Group and Capella Space are offering drone and satellite services respectively, while Descartes Labs is tackling geospatial analytics.

Bushel aims to give farmers a leg up in grain trading.



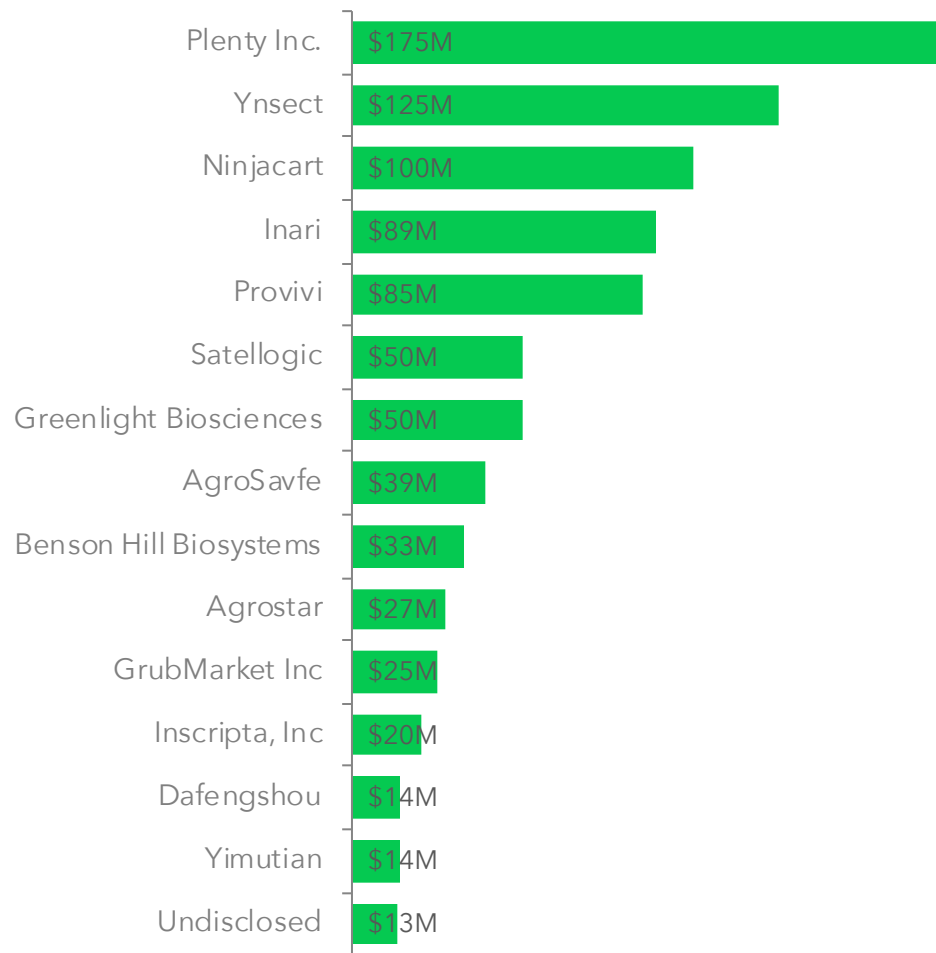
Top 15 Series C Deals

Ag biotech companies showed up in force at the Series C stage. Inari, Benson Hill and Inscripta are all developing gene-editing among other seed diversity tools, while Provivi is working on microbial inputs. Greenlight Biosciences and AgroSavfe (now Biotalys) are working on novel crop protection products.

Most of those businesses are based in the US except Belgium's Biotalys. The largest two Series C deals were outside the US, however.

France's Ynsect raised the largest farmtech deal on record at the time for its roboticized insect farm, while India's Ninjacart brought in New York-based hedge fund Tiger Global for its farm-to-consumer marketplace. A similar service for the US GrubMarket also closed a round.

Plenty did not formally announce this round, which we understand consisted of existing investors, so it's likely they could announce a larger, combined round in 2020.





Deals by Geography

Image Courtesy of Trace Genomics

Key insights – by Geography

1. The US continues to dominate the global farm tech funding landscape. Though it recorded fewer deals than in 2018, the country accounted for 34% of farm tech fundings last year - and 6% of global investment in dollar terms. It also notched up a 23% increase in total investment value, from 2018's \$2.25 billion to \$2.77 billion in 2019.
2. The US was responsible for the year's largest deals, including ProducePay's \$205 million debt deal and SoftBank-backed indoor ag player Plenty landing \$175 million in an insider round.
3. While Canada saw a drop in both the number of deals and volume, North America overall clocked a 17% year-on-year rise in total funding value to \$3.04 billion from \$2.6 billion.
4. Europe as a whole also saw a 23% rise in the total value of farm tech investments last year. Leading the charge was France, where the amount of capital flowing into farm tech startups more than doubled compared to 2018, to \$346 million from \$149 million. The country played host to 2019's biggest farm tech deal outside of the US, with Paris-based Ynsect securing \$125 million in Series C funding in February for its mealworm farming and processing operations.
5. Other French farm tech startups that closed significant rounds last year include M2I Life Sciences, DNA Script, and Afyren - all of which were among 2019's top 15 ex-US deals by dollar value.
6. Beyond North America and Europe, the story was mixed. Africa and Oceania recorded drops in farmtech investment of -53% and -11%, respectively.
7. Asia saw total investment value decrease 32% year-on-year, from \$975 million in 2018 to \$665 million. This was largely driven by a downturn in China, where total funding dropped to \$152 million from \$685 million in 2018 - a 78% decrease. The country's economic slowdown amid a 'trade war' with the US likely fueled the chill in investor sentiment, while the ongoing African swine fever outbreak - and the emergence of Covid-19 towards the end of the year - further deteriorated the situation.
8. More encouraging data came out of India, which recorded the second highest number of deals after the US. It also saw 87% year-on-year total funding growth, from \$133 million to \$249 million in 2019.



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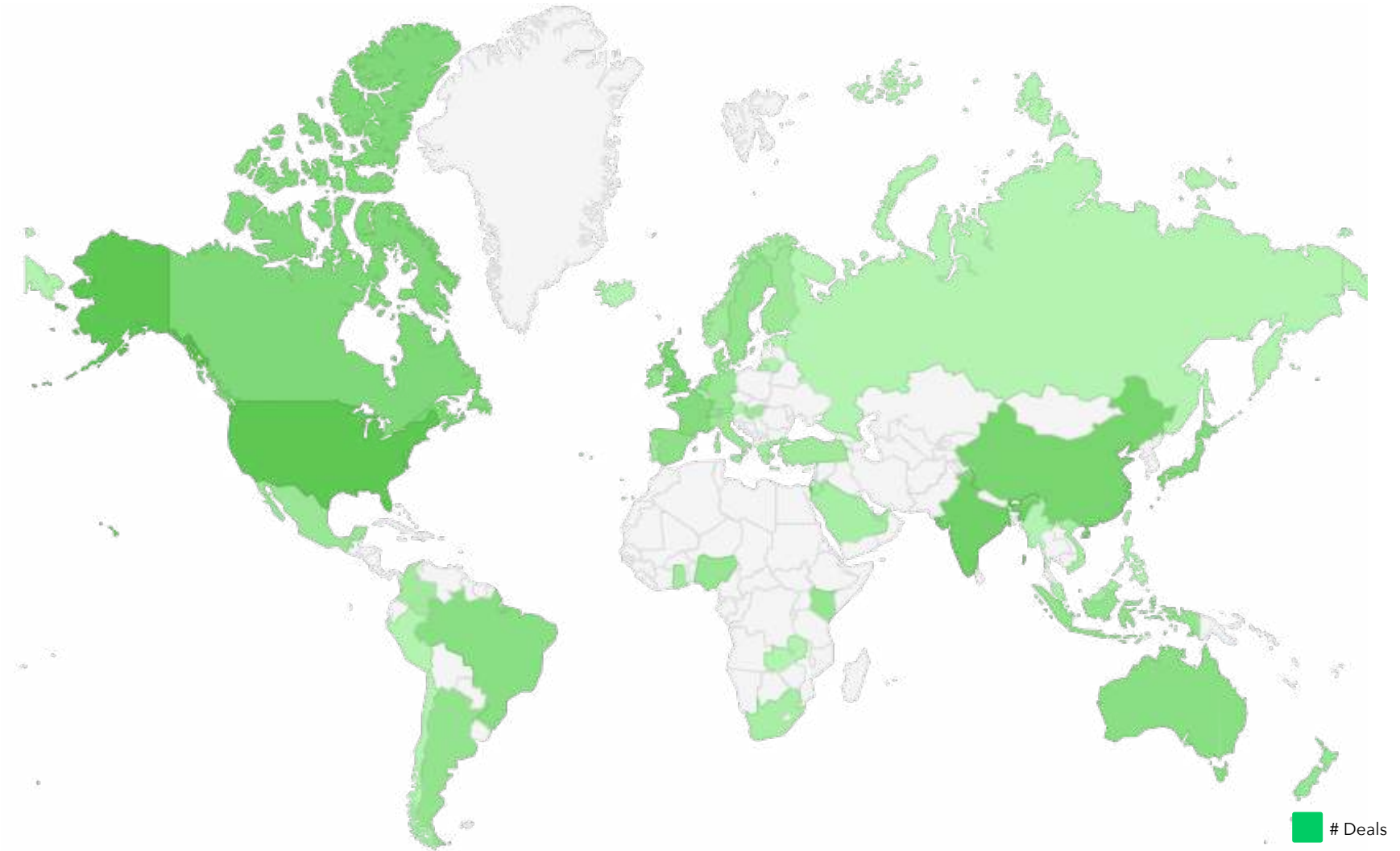


Accredited Investors only. Spots are limited.

<https://agfunder.com/invest/grow-fund/>

This does not constitute an offer to sell or a solicitation of an offer to buy any securities.

Global Investment World Map



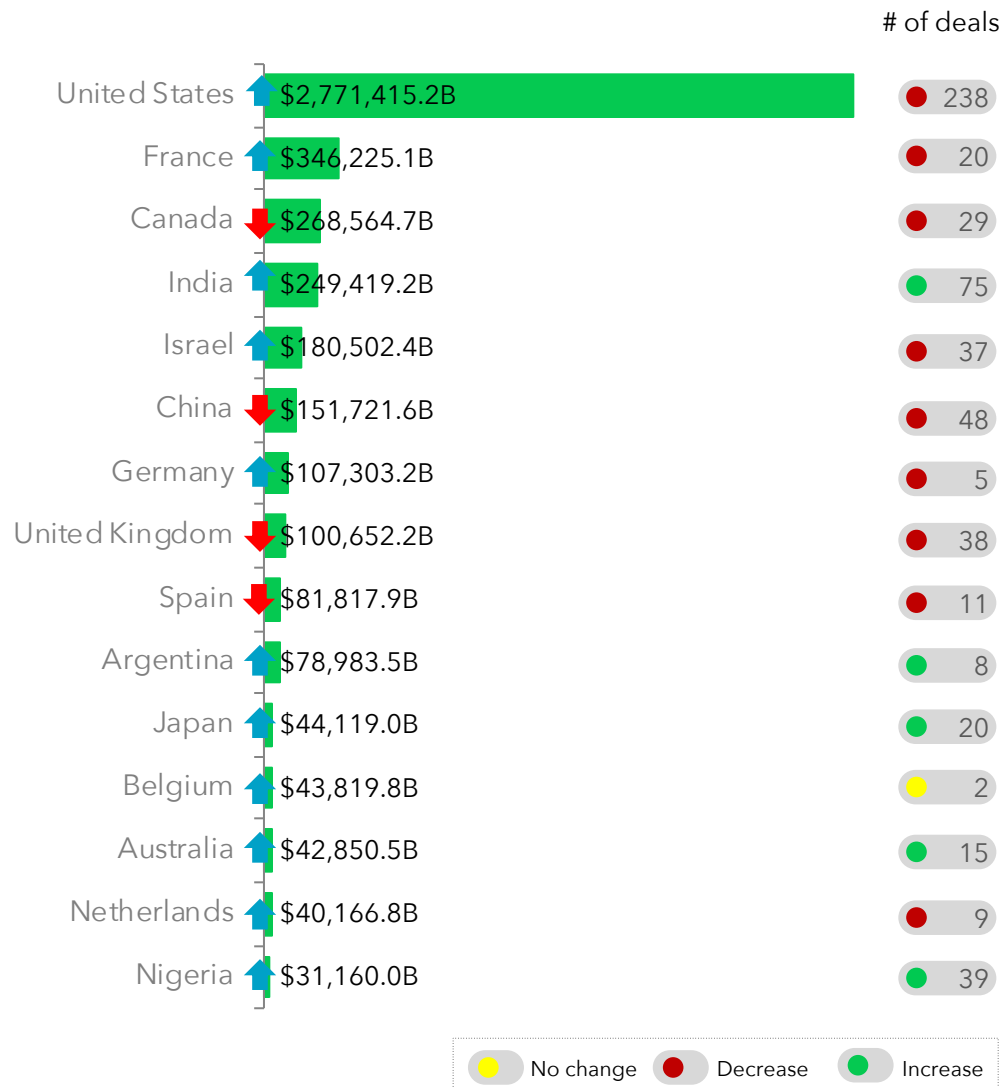
Top 15 Countries by Investment

The US is still far and away the largest market when it comes to deals in the farm tech space. It was way out in front in dollar terms too, with a 23% increase on 2018's \$2.25 billion.

That's way ahead of 2019's second largest market, France, which included Ynsect's record-breaking \$125 million Series C fundraise in February.

However, several other major farm tech hubs - including China, Canada, the UK, and Spain - saw a decrease in both deal numbers and investment volume compared to 2018. China's total investment value was slashed by 78%, from \$685 million in 2018.

Racing up the rankings was India, posting the second highest number of deals and 87% year-on-year growth in dollar funding. Australia, Japan, and Nigeria also notched up more deals and more investment dollars year-on-year.



Top 15 Non-US Deals

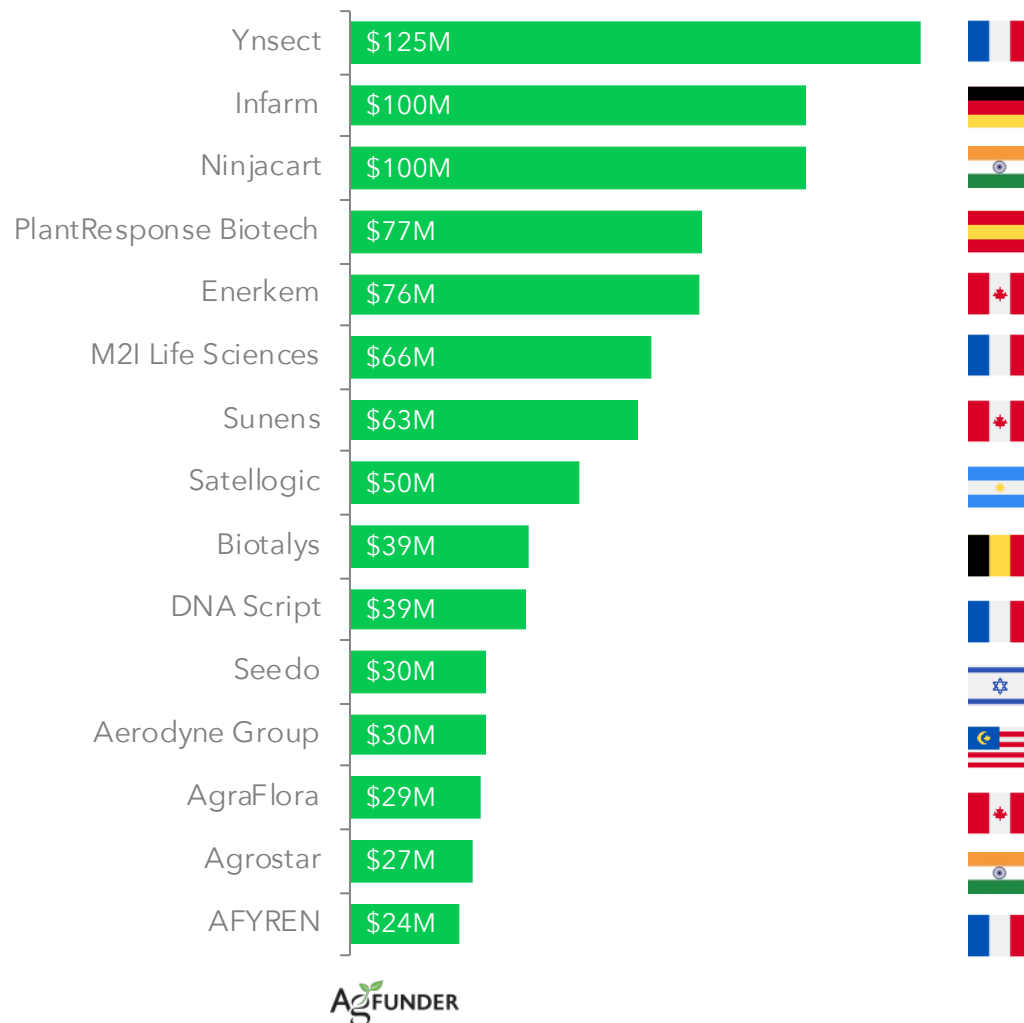
Some regions saw a fall in total investment value in 2019.

Asia raised 32% less funding year-over-year, from \$975 million in 2018. Africa and Oceania also recorded drops in farmtech investment, of -53% and -11%, respectively.

However, Europe bucked the trend with a 23% annual increase. This growth was driven by 2019's largest ex-US farm tech deal – Ynsect's Series C raise -- as well as large investments for German vertical ag startup Infarm, Spain's PlantResponse Biotech, and Belgium's Biotalys.

Latin America also fared better than in 2018, with funding skyrocketing by a whopping 760%.

As the country showing some of the highest year-on-year investment growth, India provided two of 2019's top ex-US deals: B2B fresh produce marketplace Ninjacart's Tiger Global-led round; and farmer inputs provider Agrostar's Series C.



Top 15 US Deals

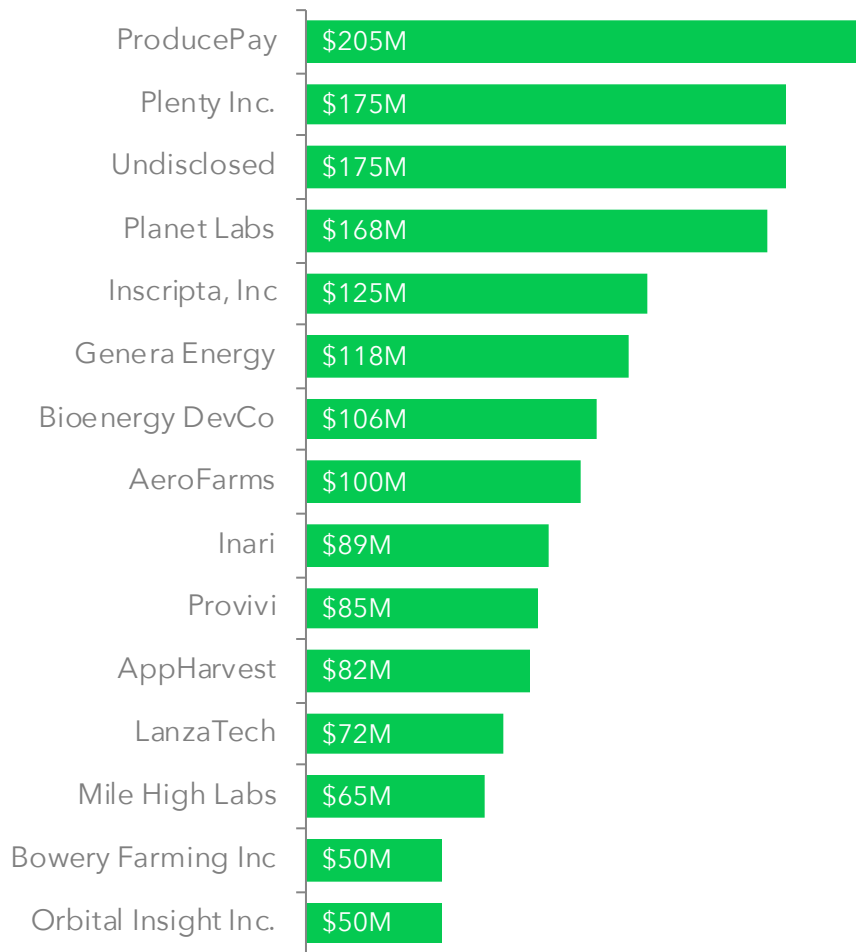
Although US deals covered a diverse range of sectors, indoor farming snagged several top spots, including AeroFarms, AppHarvest, and Bowery Farming.

The largest deal, ProducePay's \$205m debt financing, also targets the produce space. The company has a multi-pronged approach to improving the produce market, primarily by connecting buyers and sellers while providing secure transactions.

Ag Biotech also dominated with deals from Inscripta, Inari, Provivi, and Greenlight Biosciences.

Planet Labs and BlackSky global are focusing on satellite data while Mile High Labs is developing packaged-in-house CBD products while

Genera Energy and Lanza Tech are both working on the intersection of energy production and upcycled biomass.








Investor Activity

Image Courtesy of Aerobotics

Most Active Investors

RANK	INVESTOR	LOCATION	# INVESTMENTS
1	SOSV	Princeton, NJ	23*
2	S2G Ventures	Chicago, IL	21
3	Hatch	Bergen, Norway, Singapore	12
4	Ycombinator Anterra Capital Innova Memphis	Mountain View, CA Amsterdam, The Netherlands Memphis, TN	11*
5	 AgFunder TechStars The Yield Lab Innova Memphis	San Francisco, CA Global St Louis, MO, Rosario, Argentina Memphis, TN	10*
8	500 Startups	San Francisco, CA	9*
9	Radicle	San Diego, US	7
10	Ospraie Ag Science		6
11	IIM Calcutta Omnivore	Mumbai, India	6
12	Cavallo Ventures Soffinova Plug & Play Ventures Finistere Ventures		5

*includes investments made by multiple accelerators and/or follow-on funds

M & A



VERDANT
P A R T N E R S TM

Farm Tech M&A Insights

from **VERDANT**
P A R T N E R S

Following a very strong year for digital and precision ag M&A in 2018, there was a slight decrease in activity in 2019. We observed nearly 20 acquisition announcements during the year across digital farm management, advanced breeding and microbiology, precision equipment and mechanization, and other agriculture technologies. Precision and equipment companies, notably Raven and CNH, were the most active acquirers in 2019, purchasing both precision hardware and digital software platforms. Meanwhile, Syngenta continued its global emphasis on agtech through the purchase of Cropio. Over half of 2019's M&A deals included a US-based seller and nearly 40% were companies involved in digital farm management.

There was growth in the announcement of partnerships in lieu of acquisitions. We've still noticed inquiries from strategic input providers, equipment manufacturers, and retail distributors aggressively seeking solutions to both improve internal operations and grow markets with a comprehensive technological offering for customers, but the agtech landscape remains competitive and the large field of technology companies makes the identification and selection of acquisition targets challenging for big companies.

Meanwhile, technology companies have benefited by

gaining access to the customer through partnerships without having to organically build expensive distribution channels. A downside to these partnerships has been a loss of independence and technology identity for agtech companies. Further, early stage companies become dependent on their partners' supply chains, which limits future market interest from potential buyers in a competitive business sales process. This is not necessarily true for all partnerships, but some of these limiting factors could be part of the drivers for consolidation in the future.

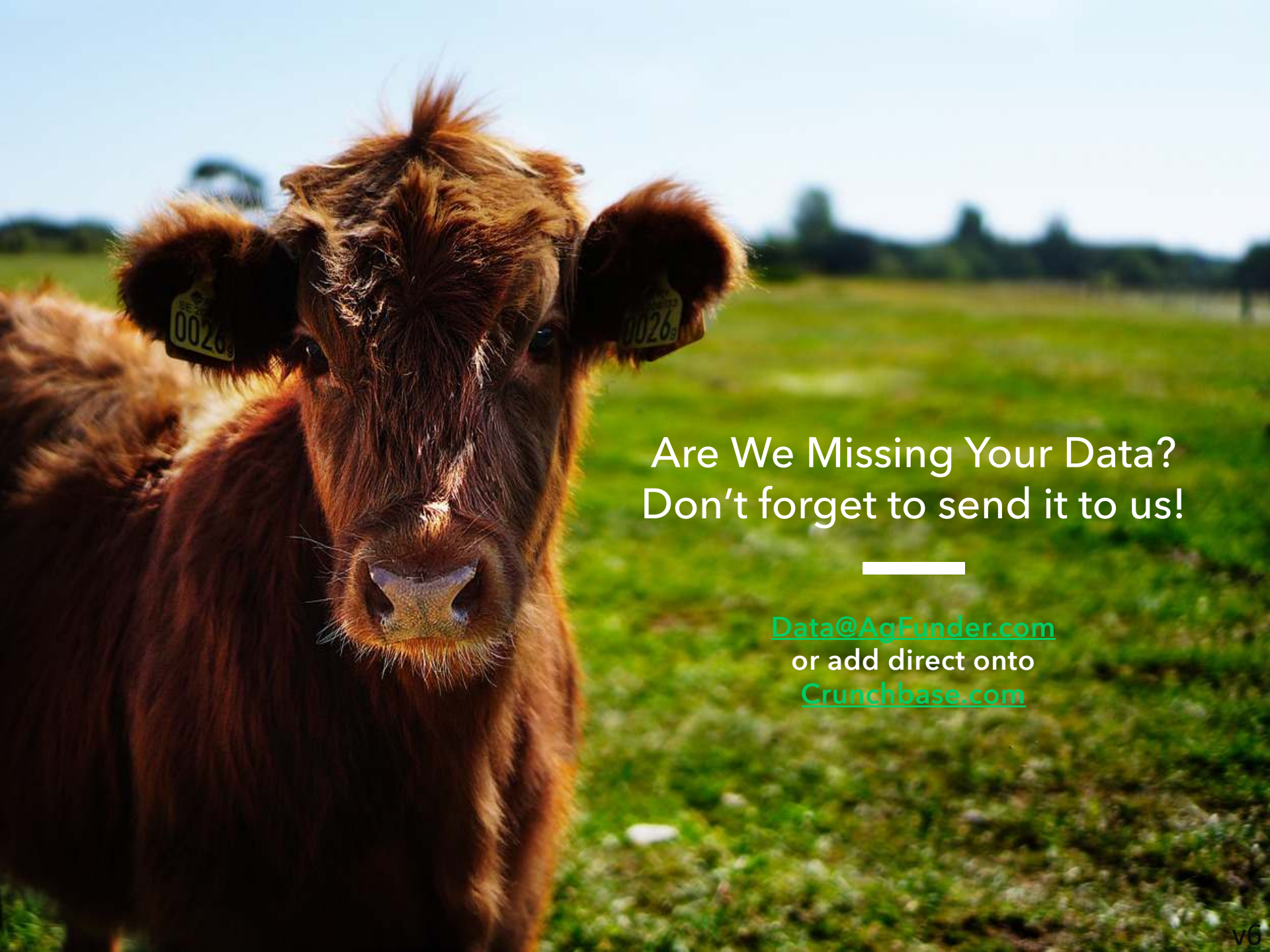
Verdant anticipates an increase in M&A activity in 2020 driven by strategic companies' continued demand for technological innovation that can only be acquired; continued pressure on startups from investors to make returns; and a reduction in partnership structures that are undervaluing the technology companies and lacking exclusivity and desired control for strategics. We expect an uptick in deal volume for companies with resource efficiency technologies (water, energy, and sustainability), commodity monitoring and handling technology (identify preservation and specialty ingredients), and profitability optimization technology. The current year is off to a strong start with several deal announcements, which we foresee as an indication of greater consolidation in 2020.

Farm Tech M&A and Exits | 2019

Target	Target Country	Acquirer	Technology	Est. Price	Select Investors
AgSync, Inc.	USA	Raven Industries	Farm Management SW	\$7m	
Multiform Harvest	USA	Ostara	Animal - Manure Tech		
Purfresh	USA	Wheatsheaf Group	Midstream Tech		Foundation Capital, Chrysalix VC, Chilton Investments
First Pass Technologies	Canada	Whipcord	Farm Management SW		
IntelliFarms	USA	Ag Growth International	Farm Management SW		
Midas Nursery Solutions	USA	TreeTown USA	Farm Robotics & Automation		
Precision BioSciences	USA	IPO	Ag Biotech - Gene Editing	\$145.4m	venBio Partners, Arrowmark Partners
Scan Aqua	Norway	Merck Animal Health	Aquaculture Health		
Vertical Farm Mechanics	USA	Summit Harbor Holdings	Novel Farming Systems		
Viewtrak Technologies	Canada	Reco Northern Alberta	Digital Animal Agtech		
Aratana Therapeutics	USA	Elanco Animal Health	Pet Therapeutics	\$245m	MPM Capital, Avalon Ventures, Kansas Bioscience Authority
Once Inc.	USA	Signify	Animal AgTech		
Webstech	Denmark	TeleSense	Sensing & IoT		
iLOX	Germany	Signify	Animal AgTech		
Veterinary Insights	UK	Carus Animal Health	Animal AgTech		
Medi-Productions	United Kingdom	Carus Animal Health	Digital Animal Agtech		
IDT (Animal Health Business)	Germany	Ceva Santé Animale	Animal Pharma		
Atlas Team	USA	Deveron UAS Corp.	Farm Management SW		

Farm Tech M&A and Exits | 2019

Target	Target Country	Acquirer	Technology	Est. Price	Select Investors
Prevtec Microbia	Canada	Elanco Animal Health	Animal Biotech	\$59.9m	Investissement Quebec, Infu Capital, Desjardins-Innovatech, Telesystem
Osprey Biotechnics	USA	Phibro Animal Health	Animal Biotech		
AgDNA	Australia	CNH Industrial	Farm Management SW		
The Cropio Group	Ukraine	Syngenta	Farm Management SW		
Pro Farm Technologies	Finland	Marrone Bio Innovations	Ag Biotech	\$31.8m	
Animal Consulting Enterprises	Australia	Apiam Animal Health	Animal	\$16m	
DOT Technology Corporation	USA	Raven Industries, Inc.	Robotics		
Plant Response Biotech	USA	Koch Biological Solutions	Advanced Breeding		Monsanto Growth Ventures, Caixa Capital, Middleland Capital, Novozymes
Smart Ag	USA	Raven Industries, Inc.	Automation		Stine Seed Inc.
Decisive Farming	Canada	Telus	Farm Management SW		McRock Capital, Export Development Canada, VA Angels
Geoprospectors	Austria	CNH Industrial (AGXTEND)	Sensing & IoT		CNH Industrial
Vaki (Pentair)	Iceland	Merck Animal Health	Aquaculture sensing		Technology Development Fund
AgSense (49%)	USA	Valmont	Farm Management SW	\$42m	
CropMetrics	USA	CropX	Farm Management SW		Invest Nebraska
Greenbook	USA	AgWorld	Farm Management SW		
Affinity Management	Canada	Ag Growth International	Farm Management SW		



Are We Missing Your Data?
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