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Agriculture Practice

Global Farmer Insights 2026











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Our biennial global survey of 5,500 farmers finds that they are becoming more selective in their spending in the face of economic pressures. AI is making inroads, even as survey respondents continue to rely on trusted advisers for purchasing guidance.

Contents

Foreword

Every growing season, farmers make choices that will have consequences lasting months or years: what to plant, which inputs to apply, what equipment to buy, which technologies to trust, where to sell, and how much risk to take. These decisions are shaped by factors ranging from the intensely local, such as soils, microclimates, or labor dynamics, to the powerfully global, such as commodity market prices or access to trade routes. Together, these choices sustain billions of rural livelihoods and the global food system.

This fourth edition of our biennial Global Farmer Insights survey, fielded between April and July 2026, captures how farmers around the world are making choices in a fast-changing, complex environment. Pressures on agriculture are acutely high, and supply chains are exposed, affecting how farmers manage risk and allocate scarce capital.

Since farmer profitability last peaked in 2021–22, commodity prices have declined, and the cost of fertilizer, labor, land, equipment, and financing have remained elevated or volatile. Geopolitical tensions and conflicts, most recently in the Strait of Hormuz, have shifted trade flows while contributing to higher energy and input costs. These forces—combined with local policy uncertainty, increasingly unpredictable weather, and labor shortages—are making farm-level decisions harder and riskier.

These factors don't just affect farmers; they also put the players serving farmers under pressure. Businesses globally are contending with supply disruptions, persistent cost volatility, and shifting competitive dynamics, particularly as lower-cost products from Asia have proliferated. Now is a dynamic moment across the industry, raising the stakes for how agriculture players invest, innovate, and support their customers.

Our 2026 survey reveals three important trends:

— *Farmers are proceeding with heightened caution as commodity prices and geopolitics create a tumultuous outlook.* The net intent of respondents to increase spending over the next 12–18 months has fallen significantly since 2024. Growers are trading down where possible (for example, shifting from branded products to generics) and delaying some purchases such as fertilizer and farm equipment. This may create pent-up demand that agriculture players will need to anticipate and manage as profitability recovers. Adoption of sustainable agricultural practices has remained steady among farmers but is still contingent on external support such as up-front financing and government subsidies.

— *Growth in adoption of many established agriculture technologies (agtech) has been modest, while gen AI is quickly becoming a daily tool.* Farmers are adopting paid, mass-market gen AI tools at a pace that rivals some of today's most widely used agtech products. This rapid uptake suggests that farmers are willing to try low-cost, low-friction solutions, particularly if they are immediately useful, even if trust in these tools isn't yet fully established and their value is still being proven.

— *Farmers are increasingly valuing digital advice, while trusted technical advisers remain important.* Greater use of digital channels to research products coincides with the declining influence of nontechnical sales representatives, particularly in North America and Europe. Nevertheless, sales representatives and agronomists are ranked equally as the top influencers of purchasing decisions. Farmers still value human advice, but increasingly expect it to be technically credible, locally relevant, and additive to what they can find online.

These trends point to clear opportunities across regions for stakeholders to better partner with farmers. The agriculture players best positioned to do so will be disciplined in focusing their innovation and commercial efforts on farmer needs across product mixes, technology offerings, and engagement channels. As always, there are pockets of opportunity and challenge within specific markets, crops, and grower segments; I am personally excited to share this year's results with you.

David Fiocco
Senior partner, Minneapolis

Executive summary

This report presents the fourth edition of our biennial Global Farmer Insights survey. The survey captures responses from 5,500 farmers across ten countries, adding China, Peru, and Spain this cycle. Our findings show that farmers continue to preserve cash in the challenging markets they have faced since 2023.

Our survey included several themes, with these high-level findings:

— **Economics: Outlook is tight**

- Net spending expectations are down 24 percentage points since 2024, signaling a tighter investment environment, although most farmers still say they are likely to increase spending over the next 12–18 months.
- For the first time in our survey, more than 35 percent of farmers say they would decrease spending on nutrients first, as margins squeeze.
- In Europe, 30 percent of row crop farmers expect to shift toward generic crop protection products, compared with 7 percent toward branded products. Latin America is more mixed: 33 percent expect to shift toward branded products compared with 23 percent toward generics.

— **Innovation: Adoption remains resilient, but uneven**

- Forty-one percent of farmers report adopting biocontrols, and 48 percent report adopting biostimulants. Latin America leads in usage.
- Agtech adoption in the United States has only grown 2 percent since 2024, raising questions about how much growth headroom remains in mature markets.
- In the United States, 11 percent of farmers report adopting paid gen AI solutions, matching the adoption level of variable-rate technology within five years of launch. Early use cases are concentrated in planning and crop management.

— **The customer journey: Trusted advisers play a steady role in purchasing decisions**

- Thirty-six percent of farmers cite online channels as their preferred source for comparing purchase options across suppliers, up 14 percentage points since 2024.
- Fifty-six percent of farmers cite technical agronomists as a top influencer of purchasing decisions, holding near constant since 2024.

In today's uncertain environment, stakeholders that can help farmers make risk-weighted decisions at a granular level will be better positioned to win trust. Agriculture players will need to ease near-term financial pressure on farmers, improve their own cost competitiveness, and be explicit about the value that they offer to farmers—whether through innovation-driven differentiation or simpler, lower-cost offerings. All of this will also require proving value locally and integrating digital channels with trusted agronomic support at the moments when farmers make purchasing decisions.

Survey methodology

This edition of the survey gathered responses from 5,500 farmers across ten countries. Building on surveys conducted in 2020, 2022, and 2024, the Global Farmer Insights survey is one of the few sources of longitudinal, global data on farmers' perspectives. This year, we added questions about farmers' attitudes toward generative AI, and expanded the geographic scope to include China, Peru, and Spain.

Survey respondents ranged from smallholders with farms of 50 hectares (about 120 acres) or less—accounting for nearly all respondents in India and China—to large-scale operators with more than 2,500 hectares (about 6,000 acres), representing 23 percent of respondents in Canada and 17 percent in the United States. Row crop farmers remained the largest segment: 59 percent of respondents are row crop–only farmers, 22 percent grow both row and specialty crops, and 19 percent are specialty-crop-only farmers. Row crops included canola, corn, cotton, peanuts, sorghum, soybeans, sugar cane, sugar beet, sunflower, rice, wheat, and other cereals. Specialty crops included fruits and berries, vegetables and beans, cocoa, coffee, chickpeas, nuts, olives, peas, quinoa, and tea. Potatoes are considered specialty crops in Argentina, Brazil, Canada, India, Peru, and the United States. In other countries surveyed, they are considered row crops.

We fielded the survey between April and July 2026, during a period of significant disruption. The survey coincided with major shocks to fertilizer and commodity flows following the early 2026 closure of the Strait of Hormuz as well as the onset of El Niño, uncertain economic conditions in Latin America, and broader downturns in China and India. It preceded the European heatwaves of late July and August.

To complement this year's survey results, we interviewed farmers, including survey respondents from Brazil, France, Germany, India, Peru, and the United States, and encompassing both row and specialty crops. Quotes from our conversations are featured throughout this report. While not intended to be representative, these farmers' individual experiences provide valuable context for understanding the broader trends captured in our research.

Economic outlook

Farm economics have been squeezed across the agricultural value chain. Yields have remained relatively strong since the last survey, keeping commodity prices down, while input costs have stayed high. Fertilizer, energy, labor, equipment, and financing costs rose sharply during the last inflationary cycle—exacerbated by geopolitical uncertainty. Farmers are responding to these lower margins by preserving cash, delaying purchases where possible, and requiring a clear near-term return on any new investment.

What spending decisions are farmers making, and how will these decisions ripple through the value chain?

‘Fertilizer costs remain high, crop prices are weak, and drought has made water a much more intense issue. All of those factors are putting pressure on the farm.’
– Potato and wheat farmer, United States

Farmers are proceeding with caution

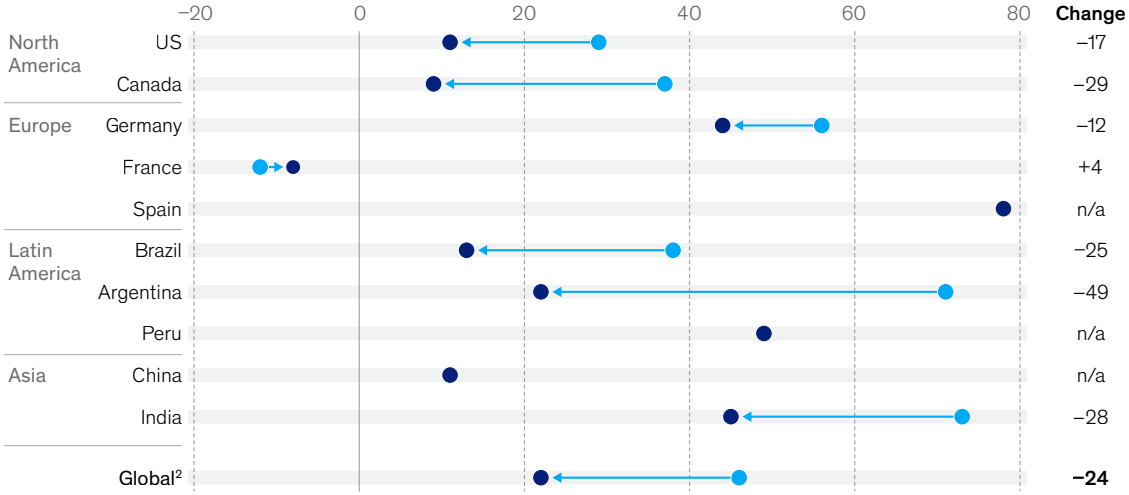
Responses indicate that farmers are acting cautiously. Despite the turbulence the agriculture industry faces, respondents in nearly all countries indicate that they are open to future spending. That said, intent to spend has decreased meaningfully since 2024. The largest decline in net spending[1] sentiment is in Argentina (49 percentage points), followed by Canada, India, and Brazil (29, 28, and 24 percentage points, respectively) (Exhibit 1). In Argentina, the decline could be influenced by ongoing macroeconomic and policy uncertainty, which can make farmers more cautious about committing incremental capital.[2] Spain and France sit at opposite ends of the sentiment spectrum. Spain's larger specialty-crop base and resilient export markets may support a more positive outlook, while French farmers face greater pressure from costs, regulation, climate uncertainty, and—particularly in wine—softer demand.[3]

[1] Net spending is the difference between the percentage of farmers expecting to increase versus decrease spend in the next 12–18 months.
[2] Although the peso has stabilized and alleviated pressure from dollar-denominated cost items such as equipment and international inputs, local cost items such as labor, transport, and facilities remain sensitive to inflation; Maria Alejandra Amado and Ernesto Tavli, "Argentina under currency competition: The future of exchange rate policy and dollarization," Elcano Royal Institute, May 28, 2025.
[3] Between 2024 and 2026, wine exports in France declined by 3 percent in volume and 9 percent in value; National Establishment for Agriculture and Sea Products, FranceAgriMer, March 2026.

Exhibit 1

Spending intent has cooled sharply since 2024 but remains positive in most geographies.

Net spending sentiment,[1] by country, 2024 vs 2026, percentage points



[1]Question: How do you expect the current economic environment to affect your planned spending over the next 12–18 months? Net spending sentiment = share of respondents expecting to increase spending minus share expecting to decrease spending.
[2]Reflects the 7 countries surveyed in both the 2024 and 2026 editions: Argentina, Brazil, Canada, France, Germany, India, and US; China, Peru, and Spain were surveyed only in 2026.
Source: McKinsey Global Farmer Insights (2024, n = 4,053; 2026, n = 5,500)

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Farmer pressures vary by region. In Europe and North America, the top concern is input costs, cited by roughly six in ten farmers. This sentiment likely reflects supply chain disruptions prevalent at the time the survey was fielded. Weather risk is most acutely felt in Latin America, where 58 percent of farmers cited it as a top concern. Intense El Niño conditions are expected to persist through the spring of 2027,[4] hammering Latin America and the Caribbean with significant drought, heat, wildfires, and extreme rainfall, indicating that weather will likely continue to be a top strain in this region.[5] Asia also faces intensifying weather conditions, and both weather and input prices rank highly among farmer concerns there.[6] Labor shortages are of particular concern in India, reflecting the country's large share of smallholder farms with uneven access to machinery (Exhibit 2).

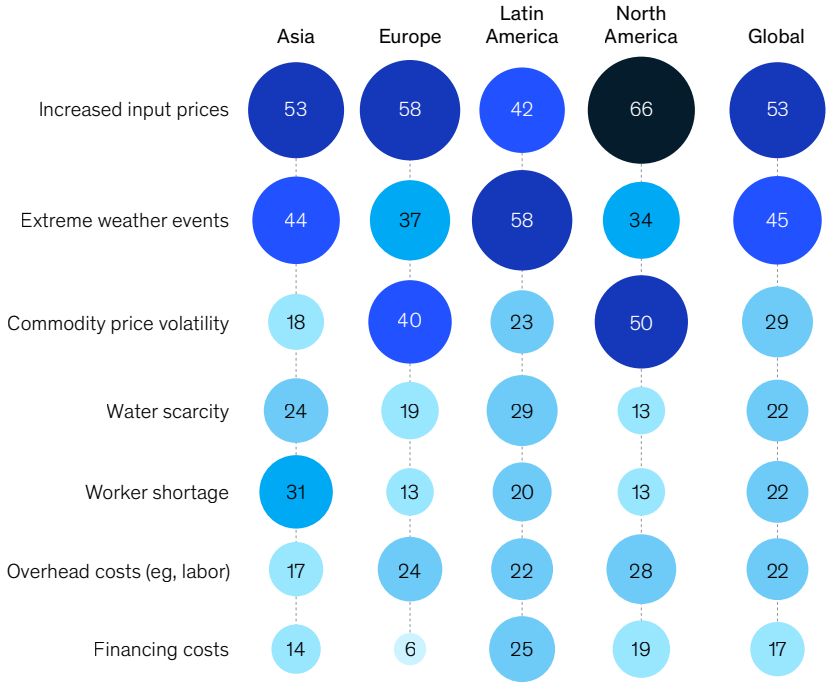
"Because of El Niño, we are facing many problems: high temperatures, rain, cloudy days, and very strong thermal shocks. The high temperatures shorten each pest's reproductive cycle and make them very difficult to control."
– Asparagus farmer, Peru

[4] "El Niño/Southern Oscillation (ENSO) diagnostic discussion," National Weather Service, July 9, 2026.
[5] "Projected regional implications of El Niño," Famine Early Warning Systems, accessed July 2026.
[6] "China's progress report on adapting to climate change (2025)," Ministry of Ecology and Environment of the People's Republic of China, June 17, 2026; "Statement on the climate of India during 2025," India Meteorological Department press release, January 1, 2026.

Exhibit 2

Input costs are farmers' top profit risk in most regions, while extreme weather is the top concern in Latin America.

Top profit risks over the next 2 years, by region,[1] % of respondents citing risk among their top 3



Note: Includes top 7 global profit risks shown above; response options not shown include supply shortages of inputs, herbicide/insecticide resistance, unfavorable regulation, deteriorating soil health, unfavorable trade/tariff/subsidy, succession plan, and other.
[1]Question: What do you believe are the top 3 risks to your profits over the next 2 years?
Source: McKinsey Global Farmer Insights 2026 (n = 5,500)

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TAKEAWAYS

Farmers are proceeding with caution

Understanding regional stressors is important for stakeholders in agriculture. In Latin America, where farmers are especially exposed to extreme weather, pest pressure, and pest resistance challenges, appetite is strong for yield protection solutions across inputs, equipment, and technology. In Europe and North America, where high input costs and commodity price volatility are the greatest risks to profits, agriculture players may need to adapt their portfolios and offerings to farmers who are deferring purchases or trading down on fertilizer and crop protection products. Adapting to these shifts may require sharper value communication, flexible financing options, or careful inventory management.

Preserving cash is a priority

When faced with margin pressure, farmers maximize short-term ROI. Fertilizer is the clearest example: It is often the first major input farmers cut when margins tighten and the first they restore as profits recover (Exhibit 3). While this may preserve cash in the near term, under-fertilizing could reduce yield potential down the line.[7] Although our survey may have coincided with heightened fertilizer supply concerns resulting from the Middle East conflict, the takeaway remains consistent: When margins tighten, farmers scrutinize even core inputs if the cash outlay is large and the near-term payback is uncertain. They may also switch to less input-intensive crops.

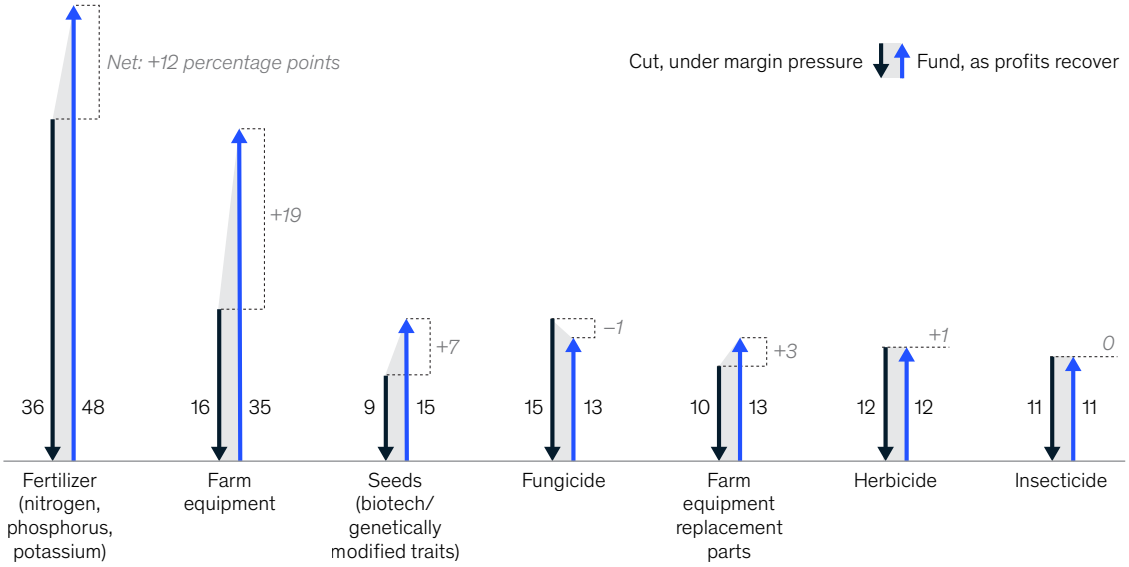
Farm equipment shows a similar dynamic. Sixteen percent of farmers cite equipment as an area to cut first, while 36 percent expect to fund it first as profits recover—the largest positive swing across categories. Machinery purchases are often relatively easy to defer, setting the stage for a sharper rebound when profitability improves or replacement can no longer be postponed.

"We have a total spending freeze: no new machinery or new technology. We are doing minimal tillage to cut costs. Our diesel costs about €2.20 per liter, but colleagues in neighboring European countries are paying somewhere between €1.00 and €1.20 after refunds. We cannot compete with that."
– Corn and rye farmer, Germany

Exhibit 3

Fertilizer and farm equipment are the most sensitive categories to spending cuts but are also the top areas of reinvestment when profits recover.

Top areas of cutting and funding based on farm profitability,[1] % of respondents



Note: Figures may not sum, because of rounding.
[1]Question: During periods of lower profitability, including recent downturns, in which categories do you decrease spending? As your profits improve, what actions do you anticipate taking? Select up to 3. Includes top 7 categories for each question. Not shown: biocontrols, biostimulants, conventional seeds, farm equipment maintenance services, farm management software, farm storage and conveyance, and precision agriculture hardware.
Source: McKinsey Global Farmer Insights 2026 (n = 5,500)

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[7] Consequences to yield potential depend on existing soil fertility and type of fertilizer (for example, nitrogen is more likely to affect in-season yield, whereas phosphorus and potassium have longer-term soil fertility).

Crop protection follows a different pattern. Rather than cutting spending outright, farmers are more likely to trade down to generics. This is most pronounced among North American row crop farmers, among whom 36 percent expect to shift to generics in the next two years, versus 12 percent toward branded products (Exhibit 4). This trend holds true across Europe and China, where trust in the quality of generics is generally high. In Latin America, the picture is more mixed: Greater pest pressure and resistance concerns in this region can push farmers to branded, higher-efficacy products, yet the expansion of global input players with lower-cost products is pulling some farmers toward generics. The picture also varies by age. In North America, farmers aged 55 and older are nearly seven times as likely to shift to generics from branded products as the reverse (35 percent versus 5 percent). Among farmers under age 40, however, preferences are evenly split (31 percent versus 28 percent).

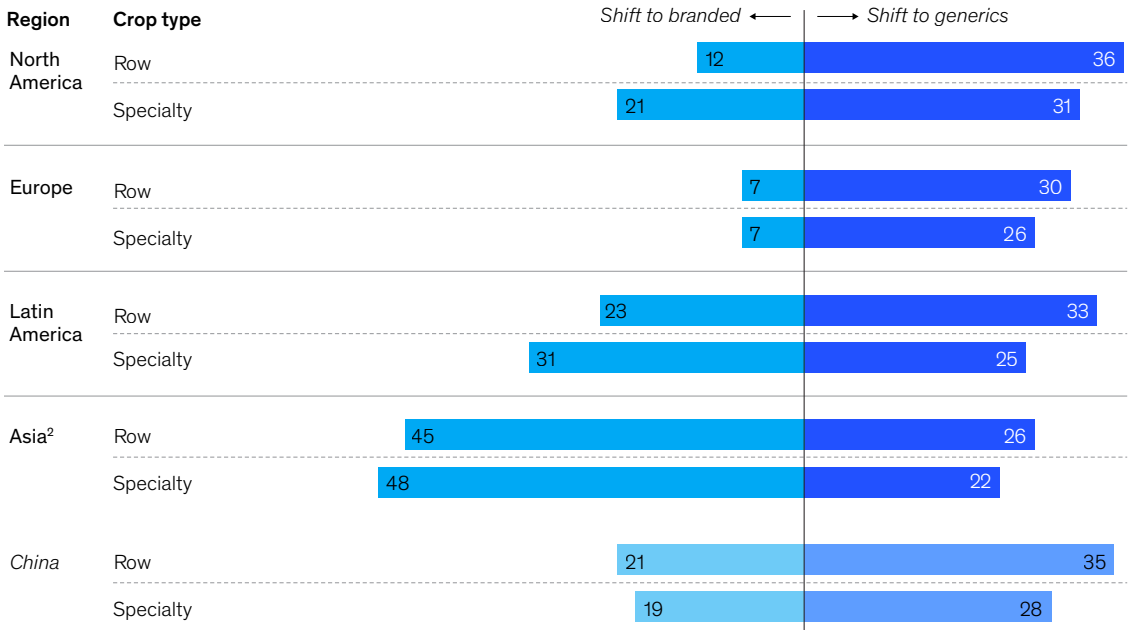
"Our profits come from exporting quality products to very demanding markets, so we rely on branded products that we trust. They cost more than the market average, but working with generic suppliers is too risky for us." – Asparagus farmer, Peru

"If my adviser says a generic residual herbicide is performing just as well as the name brand, I'll try it. I'm always looking for ways to get the best deal possible, and by using generics, I can save a few dollars here and there." – Potato and wheat farmer, United States

Exhibit 4

North America and Europe expect to see the largest shift from branded crop protection products to generics.

Expected crop protection shift over the next 2 years,[1] % of respondents



[1]Question: Over the next 2 years, how do you expect your mix of crop protection products to change? Options: "shift to use more generic products relative to branded products," "shift to more branded products relative to generic products," and "I do not expect my mix of branded vs generic crop protection products to change." Respondents who answered "I do not expect my mix of branded vs generic crop protection products to change" are not shown.
[2]India-specific results not shown. Indian farmers showed a shift to branded crop protection products, which influences the aggregated findings for Asia. The trend in India is likely partially attributable to the rapid professionalization of farmers in the region, who see branded products as desirable. Local context may also have led some farmers to interpret "branded" and "generic" differently than elsewhere in the world.
Source: McKinsey Global Farmer Insights 2026 (n = 5,273)

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TAKEAWAYS

Preserving cash is a priority

The broader implication of farmers' current cash preservation behavior is that spending recovery is likely to be uneven. Spending on essential categories for production, such as seeds, is more stable than on more flexible categories, such as fertilizer and equipment. Agronomists and other trusted advisers can help farmers prioritize investments by translating farm data into recommendations tailored to each farmer's conditions and objectives (as we discuss in "The purchasing journey"). For input and equipment companies, enabling that advice—through better data and tools—is critical, while managing inventory in expectation of spending recoveries.

The opportunities surrounding farmers' brand versus generic preferences vary across the value chain. Agriculture companies will need to identify where differentiation still matters and where the market is becoming commoditized. Retailers and distributors may gain share through stronger private-label portfolios. Lower-cost generics producers may find that select investments in technical support can generate meaningful reach and returns. Branded players, meanwhile, will need to concentrate their innovation efforts where they can create measurable incremental value—and demonstrate that value through local trials and strong technical support.

Innovation adoption

Innovation remains part of the farmer agenda despite the challenging economic environment. But as with spending on established products, technology adoption is becoming more sharply focused. The categories gaining the most traction are those that address specific farm-level problems, fit into existing workflows, and demonstrate value under local conditions. In this section, we assess farmer adoption and attitudes across three categories of innovation: biologicals, established agtech solutions, and gen AI.

How are farmers evaluating innovative agricultural products, and what technologies are making the cut?

‘Bringing in a new technology and proving that it will deliver a favorable result does not happen overnight. We bring it in gradually, little by little, and calculate the cost and return at the end.’ – Soybean, corn, and cotton farmer, Brazil

Biologicals are a bright spot

Biologicals are an important area of innovation in agriculture, spanning a wide range of technologies, from products such as plant extracts that predate conventional chemical inputs, to emerging platforms such as designed proteins and peptides. Innovation in this category is therefore driven not only by new product classes but also by improvements in consistency, formulation, and targeting. Our 2026 survey examines the adoption of biostimulants (which support plant growth, nutrient uptake, stress tolerance, and crop quality) and biocontrols (which manage pests and disease through biological modes of action).[8]

More than half of specialty crop farmers now use at least one biological, whether a biocontrol or a biostimulant. Adoption among row crop farmers is lower globally, with 36 percent using biocontrols and 43 percent using biostimulants. The higher commercial value of specialty crops can help justify the greater investment in biologicals. Latin America, led by Peru, has the highest adoption rates, supported by a mature input-distribution network and high pest and disease pressure in tropical cropping systems (Exhibit 5). Across regions, adoption of biostimulants exceeds that of biocontrols, in part due to the more general applicability of many biostimulants; biocontrols are much more targeted toward specific pests and diseases.

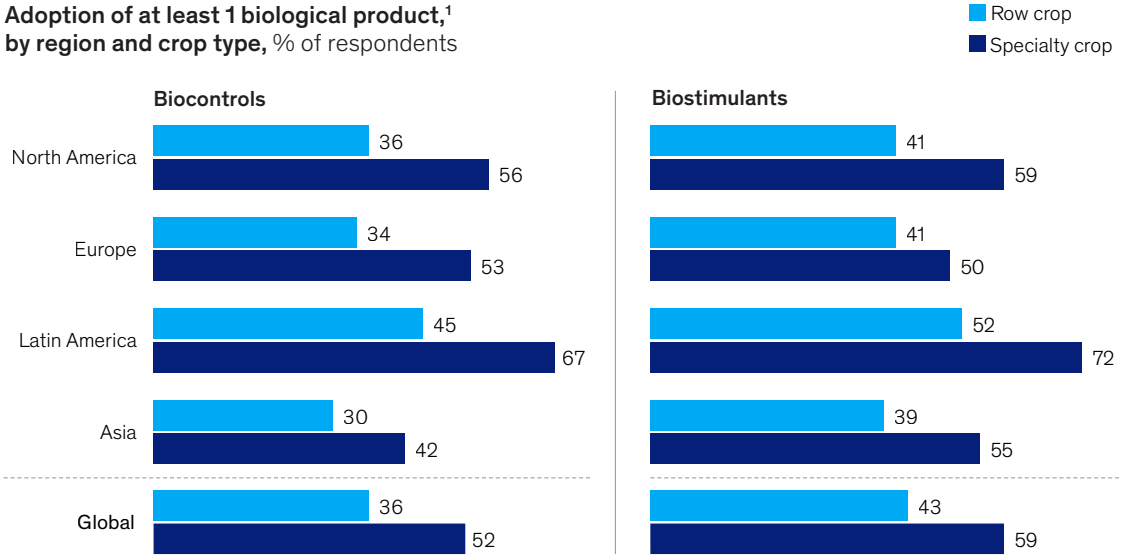
"Our product can be rejected or fined if we exceed certain chemical residue levels, so we've switched to sulfur and seaweed extracts. Now we use seaweed-based biological products and vegetable oil extracts to cover the foliage and prevent the sun from dehydrating or burning the plant. The temperature is very strong and cannot be controlled otherwise." – Asparagus farmer, Peru

[8] Questions about biologicals were more specific in 2026 than in 2024, so the results are not comparable across years.

Exhibit 5

Most specialty growers use at least one biological product, well ahead of row crop growers.

Adoption of at least 1 biological product,[1] by region and crop type, % of respondents



[1] Question for biocontrols: For each of the following biological crop protection technologies, please indicate your level of use as part of your pest and disease management protocol. Options include small-molecule natural products, pheromones, plant extracts, microbial insecticides and fungicides, macrobials (eg, mites, nematodes), proteins and peptides. Question for biostimulants: For each of the following biostimulant product types, please indicate your level of use as part of your pest and disease management protocol. Options include seaweed extracts, organic acids (eg, humic or fulvic acid), amino acids, and microbial biostimulants.
Source: McKinsey Global Farmer Insights 2026 (n = 5,500)

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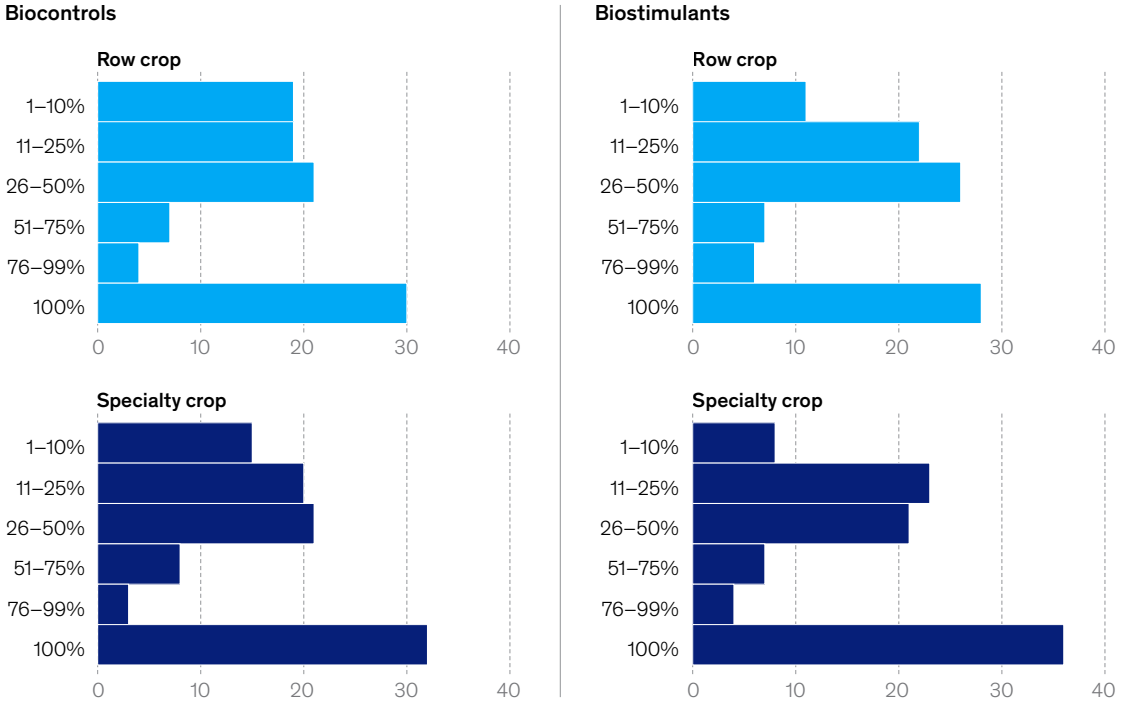
Responses regarding acreage penetration reveal that roughly one-third of adopters use biologicals on 100 percent of their land (Exhibit 6). For other adopters, more limited use likely reflects a deliberate approach: testing a product before scaling it or deploying it selectively on particular crops, fields, pest windows, or residue-sensitive applications.

Exhibit 6

Most adopters of biologicals apply them to less than half their total acreage.

Biologicals adoption,[1] % of adopters, by share of crop area covered



Note: Coverage measured among current biological adopters. Row crop and specialty-crop bases are independent.
[1]Question: In what percentage of your crop area are you currently using these biological products?
Source: McKinsey Global Farmer Insights 2026 (biocontrols, n = 2,263; biostimulants, n = 2,638)

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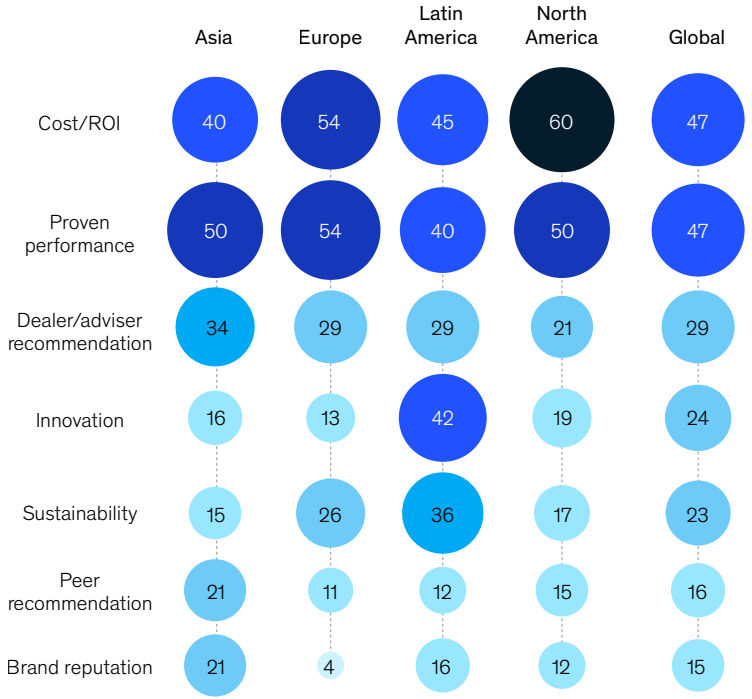
"If I get a trusted recommendation, I'll put it on half a field to start and try it over a couple of different seasons. . . . Then if I don't see a path to a return on investment, I'll pull it back."
– Corn and soybean farmer, United States

The reported purchase drivers support the premise that farmers are adopting biologicals based on value. Cost and ROI, along with proven performance, are the leading drivers of adoption in Europe and North America. Brand reputation plays a relatively minor role, especially in Europe, where only 4 percent of farmers cite it as a top reason for purchasing biological inputs. Across regions, dealer and adviser recommendations carry more weight than peer recommendations. Latin America is the outlier: innovation and sustainability rank higher as adoption drivers there than in other regions, cited by 42 and 36 percent of farmers, respectively. This emphasis may reflect greater openness to new modes of action in markets facing significant pest and resistance pressure (Exhibit 7).

Exhibit 7

Cost and ROI, along with proven performance, drive biologicals purchases, while brand reputation plays a relatively minor role.

Most important factors when buying biological inputs,[1] % citing factor among their top 3



[1]Question: When buying agricultural input products, which factors are most important to you for each product category? Select up to 3. Regional shares may not tie to global, because of rounding and differing sample sizes.
Source: McKinsey Global Farmer Insights 2026 (n = 5,214)

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"Pests and costs have driven us to use more biologicals. Whether for seed treatment, foliar application, or in-furrow, the results have been satisfactory. We're now doing 100 percent of the area in seed treatment for nematodes, pests, and soil bacteria." –Soybean, corn, and cotton farmer, Brazil

TAKEAWAYS

Biologicals are a bright spot

Large input companies benefit from scale, channel access, and R&D resources—but the survey results reveal that brand alone will not be sufficient to build trust in biologicals. Smaller, more specialized players may be able to better partner with growers by generating strong local evidence, building support among advisers, and showing how their products fit within existing crop programs. The gap between category- and product-level adoption also reveals meaningful room for growth, as many growers already using one biological may be open to additional products. Building trust with farmers requires players to prove consistent efficacy and returns, distinguish selective use from unrealized scale-up potential, and demonstrate how products work together and alongside conventional inputs.

Agtech adoption is local

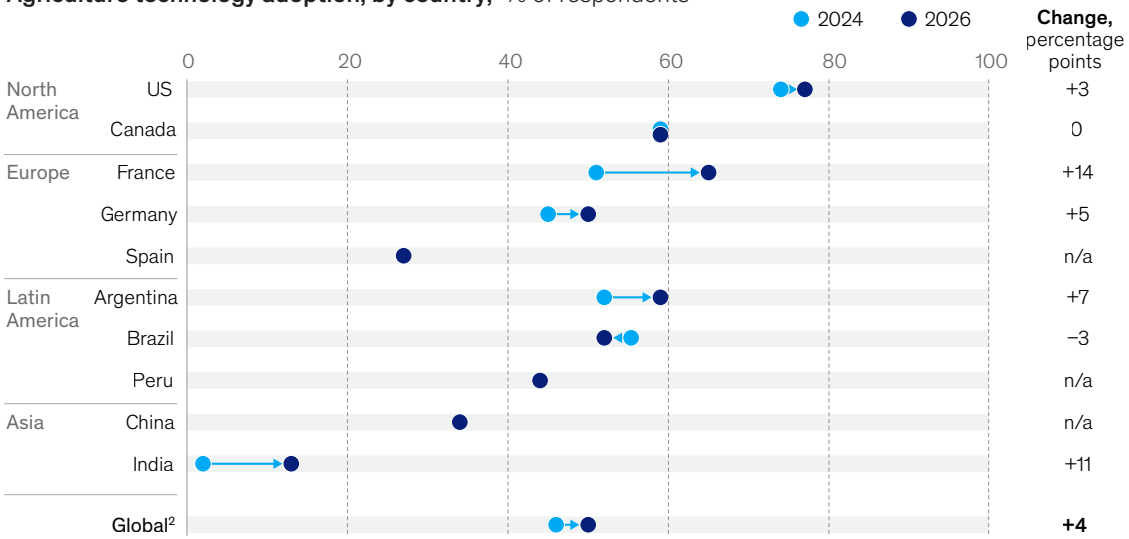
Since 2022, we have reported farmers' attitudes toward and investment in agtech solutions, from familiar precision tools, such as guidance systems, variable-rate input application, irrigation controls, and field monitoring, to newer products, including digital agronomy, remote sensing, farm management software, automation, robotics, and AI-enabled tools (excluding gen AI) such as precision spraying.

Across all categories, global adoption of agtech has increased modestly since 2024, rising four percentage points to 50 percent of farmers in this year's survey reporting they use at least one form of agtech (Exhibit 8). But use differs significantly by market. In Canada and the United States, many technologies may be approaching saturation, while other markets still offer room for growth. Adoption is rising faster in India from a lower starting point than in other regions, although the country's small and fragmented farms limit adoption of some technologies—such as sensor networks and advanced machinery—whose economics depend on scale. Argentina, France, and Germany may offer more immediate growth potential, supported by sufficient farm scale and increasing pressure from extreme weather, pests and disease, and tighter regulations governing water and input use.

Exhibit 8

Global adoption of agriculture technologies has grown modestly since 2024, with the greatest adoption in the United States and the least in India.

Agriculture technology adoption, by country,[1] % of respondents



[1]Question: What is your level of adoption of the following agriculture technology trends? Agriculture technology adoption = share of respondents currently using at least 1 form of agriculture technology.
[2]Reflects the 7 countries surveyed in both the 2024 and 2026 editions: Argentina, Brazil, Canada, France, Germany, India, and US; China, Peru, and Spain were surveyed only in 2026.
Source: McKinsey Global Farmer Insights (2024, n = 4,053; 2026, n = 5,500)

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These differences are visible not only across markets, but also across technology categories. Adoption is concentrated in tools that fit into recurring farm decisions or field execution. Digital agronomy remains the most widely used category globally, at 31 percent, followed by precision agriculture hardware and remote sensing (Exhibit 9). These categories likely have greater traction because they fit seamlessly into farmers' existing workflows, optimizing field decisions like spraying, irrigating, and equipment usage without significant up-front costs. Yet growth across these categories has been modest since 2024, suggesting that some are beginning to mature in more developed markets. More capital-intensive or specialized technologies, including robotics and sustainability software, remain less widely adopted, reflecting higher barriers to entry and a value proposition that has yet to be proven consistently at scale.

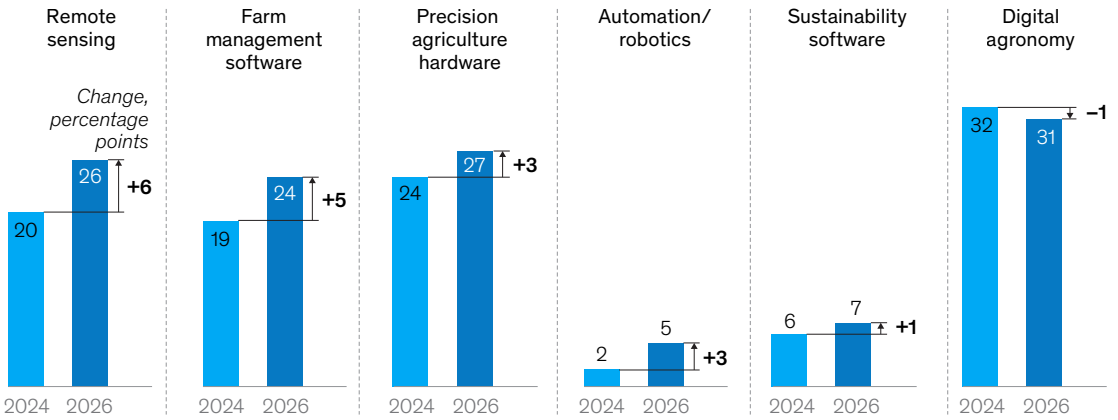
"Nitrogen is expensive and I don't want to use more than I have to. I'm looking for ways to be more efficient, whether using satellite-sensing technology to tell me when to apply more, or applying it later in the season—hopefully to put less total pounds out there." – Corn and soybean farmer, United States

Exhibit 9

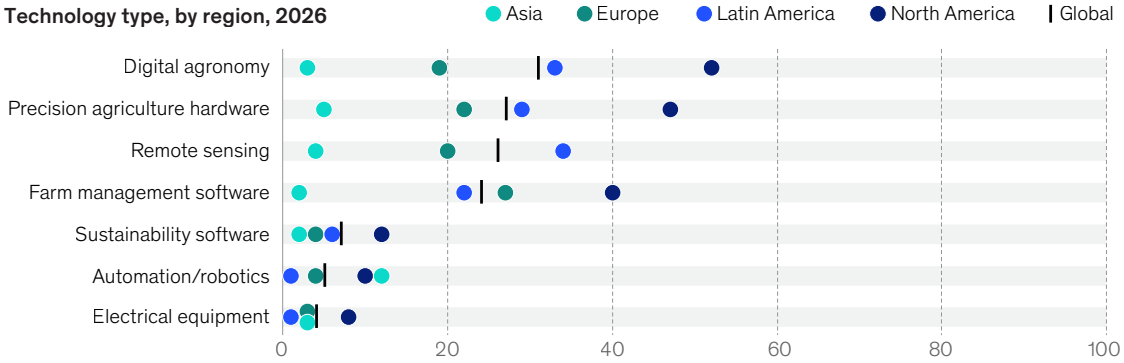
The largest growth in agriculture technology adoption since 2024 has been in remote sensing and farm management software.

Agriculture technology adoption,[1] % currently using

Technology type, global, 2024–26



Technology type, by region, 2026



Note: Reflects the 7 countries surveyed in both the 2024 and 2026 editions: Argentina, Brazil, Canada, France, Germany, India, and US; region-specific cuts also include data from China, Peru, and Spain. Use of electrical equipment was not comparably surveyed in 2024 and is not shown in the top chart; in 2026, the overall adoption rate was 4%.
[1]Question: What is your level of adoption of the following trends?
Source: McKinsey Global Farmer Insights (global adoption: 2024, n = 4,053; 2026, n = 4,092; regional adoption, n = 5,500)

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TAKEAWAYS

Agtech adoption is local

Agtech growth will require different approaches by market and technology types. In mature markets, widely adopted categories such as digital agronomy and precision hardware will rely on share capture, requiring providers to compete through lower cost, stronger integration, value-added services, or materially differentiated use cases. Robotics, automation, and electrification may continue to face adoption challenges, requiring further advances in product innovation as well as new commercial models. In less penetrated markets, success may depend on adapting to local contexts and economics, including extra onboarding support and flexible financial offers. Everywhere, sustained adoption will depend on demonstrating measurable ROI and lowering the cost and complexity of entry.

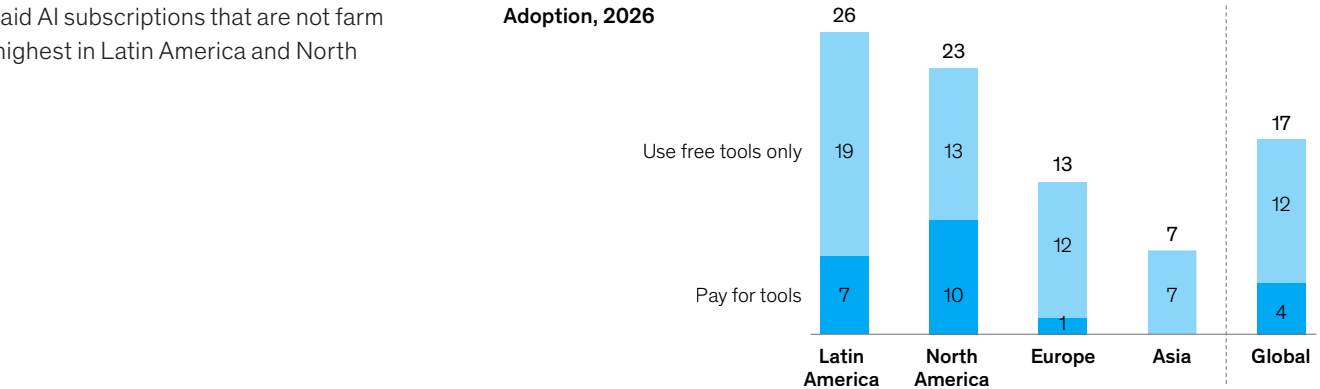
Gen AI is moving quickly to support day-to-day decisions

Generative AI, although new to the farm technology landscape since the last edition of the survey, has quickly gained traction among farmers. Already, 17 percent use gen AI for farm-related tasks, although only 4 percent are paying for solutions (which may include general paid AI subscriptions that are not farm specific). Adoption is highest in Latin America and North America (Exhibit 10).

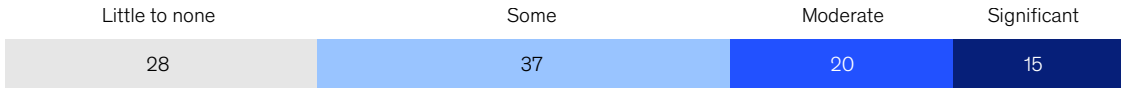
Exhibit 10

Gen AI use among farmers is rising, with nearly 75 percent expecting at least some impact; willingness to pay is highest in Latin America and North America.

Gen AI adoption and expected impact on farm operations,[1] % of respondents



Anticipated impact of gen AI on operations in the next 3–5 years[2]



Note: Figures may not sum, because of rounding.
[1]Question: When you use gen AI chat tools for farm-related decisions or tasks, to what degree do you use free vs paid versions? Asked only of respondents who said they had ever used gen AI chat tools for farm-related decisions.
[2]Question: To what extent do you predict that gen AI will affect your operations in the next 3–5 years?
Source: McKinsey Global Farmer Insights 2026 (n = 5,500 overall; question 1, n = 917; question 2, n = 4,296)

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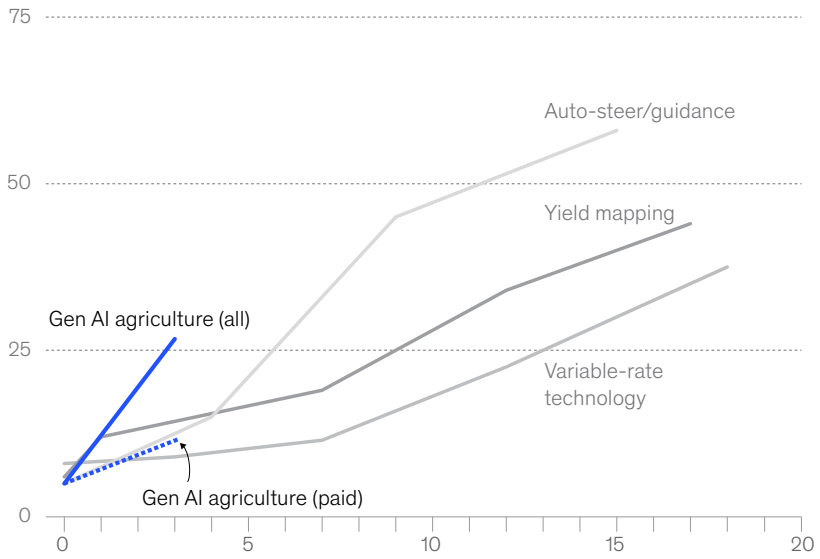
Farmers are demonstrating notable openness to gen AI. Both overall and paid use have increased in the United States, at a pace on par with the fastest adopted technologies for agriculture. Of course, gen AI is easier to adopt than equipment- or hardware-dependent technologies and has broader applications. Even so, farmers' willingness to pay suggests that they find gen AI useful and expect it to have at least some impact on farm operations (Exhibit 11).[9]

Exhibit 11

Gen AI adoption in the United States is tracking the early paths of established farm technologies, including auto-steer.

Early-adoption curve of select technologies, US, % of acres adopting after reaching ~5% initial adoption



Note: Curves are indexed to the number of years after each technology reached roughly 5% adoption to compare early-adoption trajectories. Gen AI adoption figures are weighted by respondent self-reported farm size and assume ~5% adoption in 2023, giving 3 years of data. Adoption of established farm technologies reflects share of US corn acreage per US Department of Agriculture.
Source: Jonathan McFadden et al., *Precision agriculture in the digital era: Recent adoption on U.S. farms*, US Department of Agriculture, February 2023; McKinsey Global Farmer Insights, 2026 (n = 1,008)

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[9] Based on 2026 Global Farmer Insights survey results, 72 percent of farmers globally anticipate that gen AI will have some (37 percent), moderate (20 percent), or significant (15 percent) impact on farm operations.

Farmers are interested in gen AI, but for many, they still have questions about how to capture its full potential value. In interviews, farmers expressed skepticism at gen AI's ability to provide informed agronomic recommendations specific to their local growing conditions, yet they acknowledged its usefulness for information gathering, comparing products, day-to-day troubleshooting, and refining questions for expert agronomists. Among current users, the top use case is planning, cited by 43 percent, followed by crop management at 33 percent (Exhibit 12).

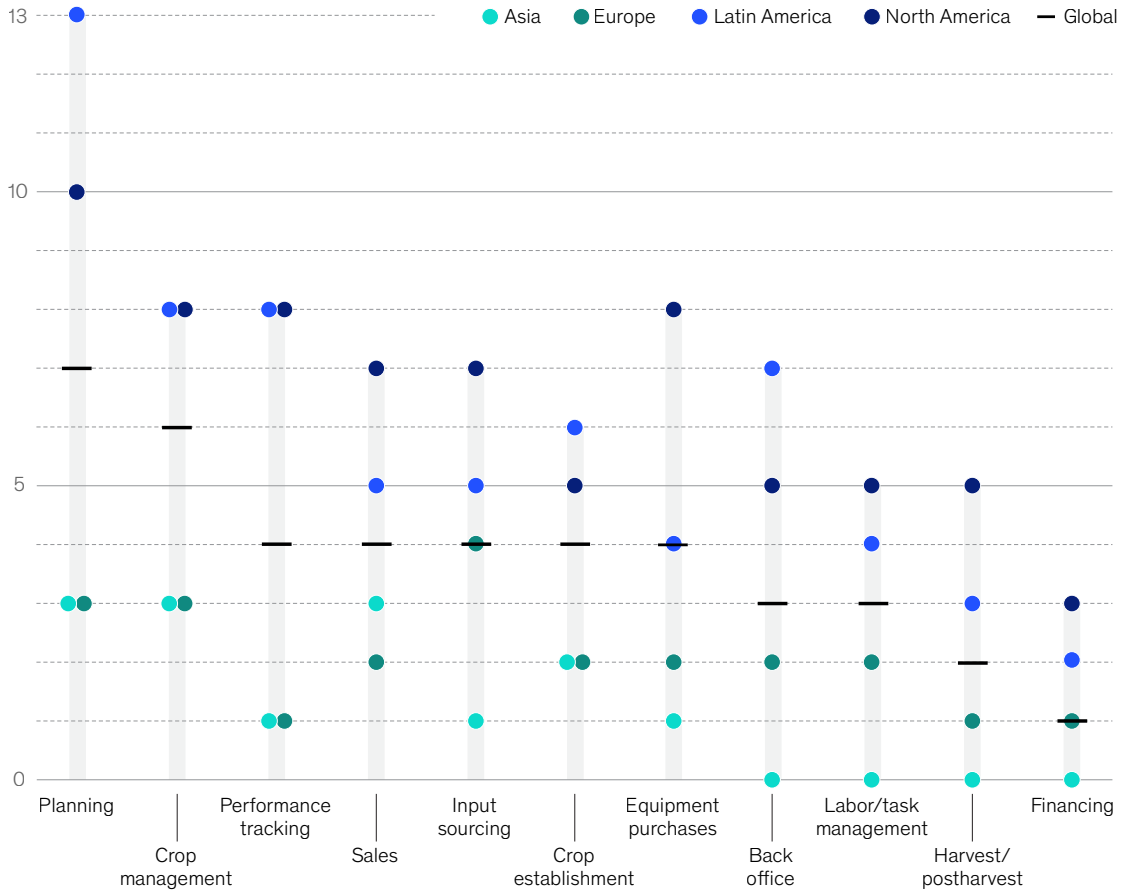
"AI can't understand our questions and problems. I prefer to consult my brother, who is an agronomist engineer, and my colleagues all over France; they have the best experience. With the current drought, I've received some advice [from AI] on maintaining grass cover that completely missed the mark." – Grape farmer, France

"I'm in the very early stages of it, but I use it quite regularly. I'll ask if it's a good day to spray my soybeans based on the forecast and the products I'm using or how to fix a piece of equipment. . . . That kind of day-to-day troubleshooting." – Corn and soybean farmer, United States

Exhibit 12

Gen AI use concentrates in planning and crop management, then fades across later crop cycle stages.

Adoption of gen AI tools, by crop cycle task, 2026,[1] % of respondents



[1]Question: Which farm-related tasks or processes do you currently use gen AI tools for? Asked only of current gen AI users (n = 937); shown here as a share of all respondents (n = 5,500), with nonusers coded as "no" for every task.
Source: McKinsey Global Farmer Insights 2026 (n = 937)

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TAKEAWAYS

Gen AI is moving quickly to support day-to-day decisions

At their best, AI tools can sift through complexity, test alternatives, and help farmers make decisions with greater speed and confidence. But successful solutions are those that bridge the final mile of local conditions, accumulated experience, and judgment earned over seasons. For agriculture companies, and even for technology companies new to the sector, scaling up adoption will depend on developing farm-specific use cases that incorporate local context, growing conditions, and farmers' objectives into their recommendations.

The purchasing journey

As the range of agricultural products and technologies continues to expand, the purchasing journey is becoming more complex. Farmers need ways to research options, compare value, validate performance, and build confidence before committing scarce capital. Digital channels are playing a larger role in that process, especially in the early stages of research and evaluation, but trusted advisers remain central to turning interest into action.

How do farmers seek the information they need in making their purchasing decisions, and how do they balance digital and human expertise?

‘With digital tools, there’s more information out there, so I can ask better questions, but I still need the green light from my agronomist retailer who knows my soil type and my management techniques.’

– Corn and soybean farmer, United States

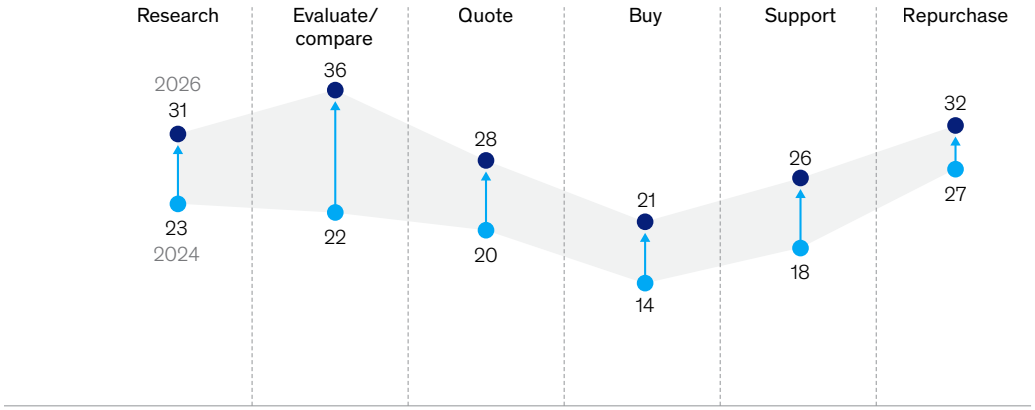
The purchasing journey is increasingly digital

Preference for digital channels increased across every stage of the purchasing journey between 2024 and 2026, with the largest gains in the initial stages, when farmers research new products, evaluate alternatives, and compare purchase options across suppliers. Thirty-one percent of farmers report using digital channels to research products, and even more—36 percent—report using them to evaluate and compare products, up 14 percentage points from 2024 (Exhibit 13). For these top-of-the-funnel moments, digital and gen AI tools offer convenient access to information, quick insights, transparent price comparisons, and third-party validation. Digital adoption has also increased for repurchasing, likely because established products and supplier relationships make repeat transactions easier to complete online.

Exhibit 13

Digital preference rose at every buying stage between 2024 and 2026, with the largest increases in stages where farmers evaluate and compare products.

Share of farmers who prefer a digital channel, by journey stage,[1] % of respondents



Note: Reflects the 7 countries surveyed in both the 2024 and 2026 editions: Argentina, Brazil, Canada, France, Germany, India, and US.
[1]Question: In an ideal world, how would you interact with companies for each type of activity? Digital-channel options = any self-service, AI chatbot, or instant messaging channel. AI chatbots were introduced as an option in the 2026 survey and account for 3–7 percentage points of digital preference at each stage.
Source: McKinsey Global Farmer Insights (2024, n = 4,053; 2026, n = 4,094)

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Trusted advisers are central to purchasing decisions

With the rise of AI, there is more competition for farmers' mindshare, and for the first time in our survey, we saw a significant decline in the influence of sales reps. At the same time, in-person technical experts still play an important role in conversion, trust building, and validating insights. Agronomists remain a top influence for 56 percent of farmers and are especially important to younger farmers, a trend that persists across regions (Exhibit 14).[10] While digital channels are growing, only 6 percent of farmers cite gen AI tools or AI search as a trusted source for decision-making.

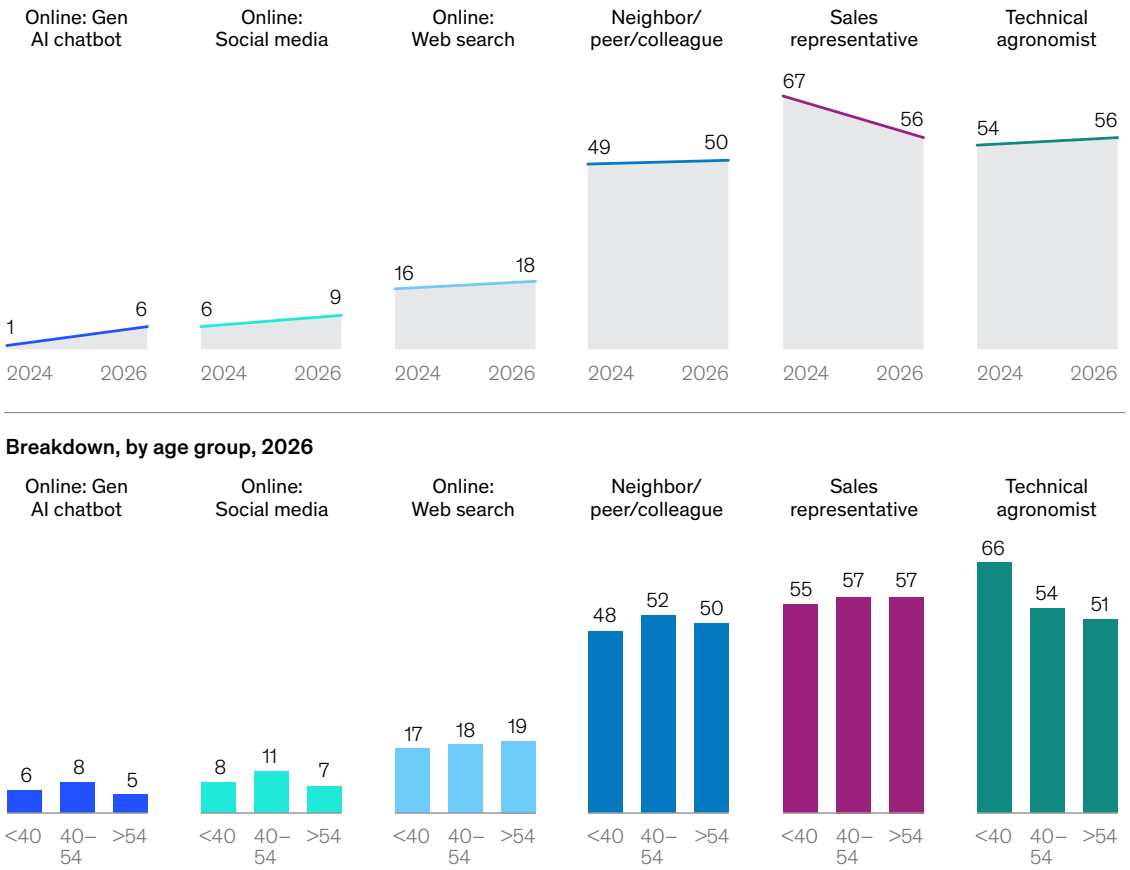
"What builds trust is when the adviser or supplier adapts to the client in front of them. Depending on the risk and the economic context, you have to put the human relationship back into it." – Grape farmer, France

[10] In all regions, young farmers (aged 40 and younger) represent the greatest share of respondents citing retail agronomists as a trusted source for decision-making. North America, 70 percent (seven percentage points above region average); Latin America, 89 percent (one percentage point above compared with average); Europe, 42 percent (four percentage points above region average); Asia, 19 percent (three percentage points above region average).

Exhibit 14

Sales reps and agronomists remain the top purchase influencers for farmers, though sales reps' influence has fallen significantly since 2024.

Advisers and sales channels that growers look to for advice,[1] % of respondents



Note: Reflects the 7 countries surveyed in both the 2024 and 2026 editions: Argentina, Brazil, Canada, France, Germany, India, and US. Visual is not exhaustive.
[1]Question: Which people or sources shape your decision-making when purchasing agricultural products (from researching and evaluating suppliers to negotiating, buying, and reordering)? Select the top 3. Question remains consistent between the 2024 and 2026 editions; however, responses have been pooled to ensure comparability (eg, subtype of agronomists are pooled, including staff, supplier, and independent).
Source: McKinsey Global Farmer Insights (2024, n = 4,053; 2026, n = 4,094; aged <40, n = 1,214; aged 40–54, n = 1,477; aged >54, 1,403)

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Nontechnical sales representatives remain a top source of purchasing guidance, although all regions saw a decline in their influence relative to 2024. This decrease is most pronounced in North America (–17 percentage points) and Europe (–24 percentage points). In interviews, farmers said that because product information is now widely available online, they are less inclined to rely on potentially biased sales representatives in making their final purchase decisions. Instead, they look to agronomic experts with contextual knowledge to validate and advise on their choices (Exhibit 15).

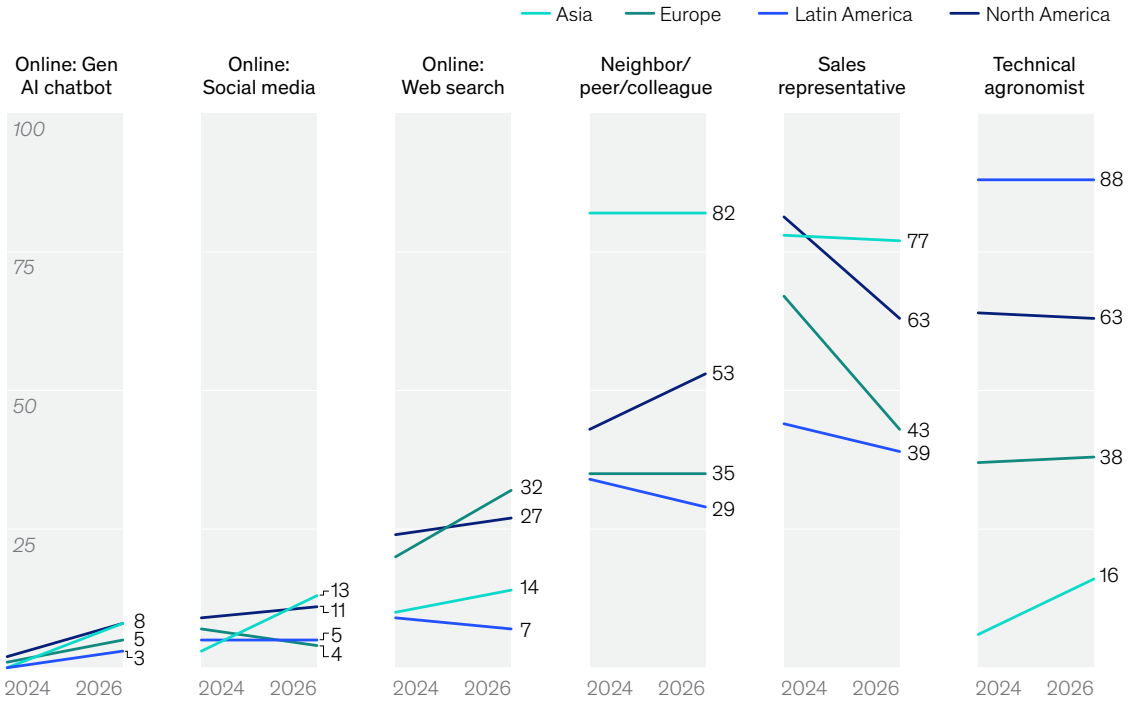
"We rely on the crop advisers from fertilizer companies because they are a valuable source of information. They are another tool for us. We need good relationships with both our independent agronomist and the fertilizer companies." – Potato and wheat farmer, United States

"The supply cooperatives offer advice, but it can be biased. We rely instead on independent advice from the technicians at the Chamber of Agriculture." – Grape farmer, France

Exhibit 15

Sales reps, though still critical to decision-making, are declining in relative influence across all regions.

Advisers and sales channels that growers look to for advice,[1] % of respondents



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Source: McKinsey Global Farmer Insights (2024, n = 4,053; 2026, n = 4,092)

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TAKEAWAYS

Trusted advisers are central to purchasing decisions

For companies selling to farmers, effective strategies combine strong digital visibility with technically credible, locally grounded representatives. The survey results suggest that spending should reflect the changing role of each channel. Digital spending should focus first on research and comparison, where farmer preference has increased most, rather than on trying to move the entire transaction online. At the same time, the continued influence of agronomists—coupled with the declining influence of sales representatives—suggests that companies should shift field investment toward greater technical depth and local knowledge. Manufacturers can support these priorities by providing clearer product evidence and better tools for channel partners, while retailers and distributors can focus on connecting digital product discovery with credible technical guidance and fulfillment.

Looking ahead

This agricultural cycle raises a central question: Are today's pressures creating a new normal for agriculture—one characterized not only by pressured commodity prices, elevated input costs, and geopolitical volatility, but also by a lasting change in how farmers make decisions? Farmers will adjust to the conditions they face, but many in the industry wonder whether the downturn has reset farmers' behavior. As profitability improves, will spending quickly recover, and which categories will benefit first?

Our survey reveals a consistent pattern. Faced with volatility, farmers are becoming more disciplined, deferring spend in the near term while planning to reinvest as profitability improves. They remain open to innovation but demand demonstrable returns. And although they are relying less than they used to on nontechnical advisers, they continue to seek expert guidance even as the volume of information available online grows.

For agriculture players, the implication is that the recovery is likely to be uneven. The companies best positioned to support farmers will be those that help them identify where value exists—with the necessary granularity across crops, geographies, farm types, product categories, and seasons. The survey results point to three priorities:

Help farmers find the right mix. Agriculture players need to help growers make better whole-farm decisions. This includes helping them understand which products to prioritize, where generics may be sufficient, and where premium innovation still adds meaningful value. Financing options, flexible purchasing models, and lower total cost of ownership can support those decisions, but only when tied to a targeted and clear value proposition for the grower.

Allocate resources to differentiated sources of value. As agtech matures in select geographies and farmers trade down or defer input purchases, agriculture players have to be selective about where innovation can command a premium and where products are becoming commoditized. This means aligning their portfolios, R&D processes, and go-to-market models around their distinct sources of value. Differentiated products must demonstrate ROI, while more mature categories might require simpler and more affordable offerings. Across both, field demonstrations, local trials, and agronomic education remain critical to building scale. In parallel, AI and digital tools may create opportunities for players to improve internal productivity and focus scarce commercial resources where they matter most.

Meet farmers where decisions are actually made. As growers engage with more digital tools, AI-enabled information, and new sources of advice, agriculture players will need to focus less on adding channels and more on delivering the right information at the right time and in the right place. Agronomists, distributors, digital tools, and peer networks each play different roles across the decision journey. The imperative for agriculture players is to strike the right balance between human expertise and digital enablement, especially in the earlier stages of research, planning, and evaluation, where farmers are increasingly exposed to competing sources of information.

Together, these imperatives point back to the farmer. The agriculture industry's success will depend on helping farmers make better decisions—about where to invest, where to innovate, and where value truly exists. Feeding the world ultimately depends on millions of local decisions made on individual farms, acre by acre and season by season.

Get in touch

This report represents our view on the most important themes shaping farmer decision-making today. It is not intended to cover the full scope of our survey findings. To learn more about this research, including the other topics explored, or discuss its implications for your organization, please contact us at Global_Farmer_Insights_2026@mckinsey.com.

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