

Precision Farming Market Is Expected To Grow At A CAGR Of 13% By 2032

The increasing demand for climate information services is a key trend in the precision farming market.

ROCKVILLE, MD, UNITED STATES, October 17, 2023 /EINPresswire.com/ -- The North American precision farming market commands a significant share, comprising over 42% of the total market value. The strong demand for precision farming technology, which boosts crop productivity on smaller land areas, is primarily being propelled by highly industrialized row crop farms in affluent countries like the United States.

The [precision farming market size](#) is projected to reach a value of \$6 billion in 2022 and is forecasted to grow at a compound annual growth rate (CAGR) of 13% from 2022 to 2032. By the year 2032, the global precision farming market is anticipated to be valued at \$20.36 billion.



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Precision Farming Demand Surges with 12% CAGR from 2017-2021, Projected to Triple by 2032

According to Fact.MR, a prominent market research and competitive intelligence provider, the demand for precision farming solutions experienced a notable uptick, growing at a Compound Annual Growth Rate (CAGR) of approximately 12% from 2017 to 2021. This surge in demand can be attributed to various factors, including rising labor costs, a scarcity of skilled agricultural personnel, and the increased need for agricultural products in recent years.

Traditional farming practices, marked by decades of chemical-intensive agriculture, deforestation, and the looming threat of global warming, have spurred a shift towards embracing new technologies in the agricultural sector. Consumer trends, particularly the surge in plant-based and vegan diets, have created a substantial demand for increased agricultural production. With nitrogen-intensive fertilizers being commonplace and arable land becoming scarcer, key stakeholders in the agricultural value chain are redirecting their focus towards precision farming. This approach empowers farmers to exercise greater control over their farming conditions by ensuring a seamless flow of critical information.

As a result of these compelling reasons, the global precision farming industry is anticipated to witness an impressive threefold growth between 2022 and 2032. Key drivers of this growth will include advanced practices such as yield monitoring, field mapping, crop scouting, weather tracking and forecasting, irrigation management, inventory control, and farm labor management. Fact.MR's projections suggest that the market is set to expand at a robust 13% CAGR, paving the way for a more sustainable and efficient future in agriculture.

Key Companies Profiled

- John Deere & Company
- Trimble
- AGCO
- Agjunction
- Raven Industries
- AG Leader Technology
- SST Development Group
- Teejet Technologies
- Topcon Positioning Systems
- Dickey-John Corporation
- Cropmetrics

Revolutionizing Agriculture: The Impact of Advanced Technologies on Precision Farming

The swift integration of Variable Rate Technology (VRT), remote sensing, GPS, GIS, and guidance systems in precision agriculture has led to heightened productivity and reduced labor expenses. Additionally, the adoption of cutting-edge technology-driven agricultural machinery has enabled the optimal utilization of resources. Innovative technology-based precision farming equipment not only contributes to cost savings by reducing labor outlays but also significantly enhances agricultural operations.

Critical pre-harvest tasks like weeding, fertilizer application, and site inspections constitute approximately 50–70% of total farm operating expenditures. In precision agriculture, agricultural drones equipped with cameras are employed for activities such as spraying, weeding, trimming,

and harvesting. These drones capture hyperspectral images, allowing farmers to remotely monitor farm operations. It is expected that precision farming technology will continue to gain momentum over the coming decade, eventually reducing the necessity for human labor in the fields and resulting in substantial labor cost reductions.

Bridging the Knowledge Gap in Precision Farming for Global Agriculture

Precision farming, an advanced agricultural practice, hinges on technological expertise. However, a substantial gap between comprehension and implementation of precision farming principles exists due to the scarcity of knowledge about cutting-edge technologies and their applications.

Despite concerted efforts by governments and industry stakeholders worldwide to initiate projects aimed at offering farmers training and consultancy services on precision farming techniques, a significant number of farmers remain untouched by these initiatives.

This knowledge disparity is especially pronounced in emerging nations like China, India, and Brazil, where farmers lack the requisite technical know-how, thus hindering the growth of the precision farming sector.

Integration of Smartphones with Physical Devices and Software Applications

The smartphone stands as one of the most pivotal technological advancements in human history. In tandem with a diverse array of user-friendly agricultural applications, cell phones are transforming into powerful and portable tools for farmers.

The majority of these smartphone applications are cost-effective and provide invaluable agricultural information, including weather updates and climatic data. These apps play a pivotal role in aiding farmers in making informed decisions.

Smartphones can be seamlessly integrated with a wide range of hardware devices, including sensors, high-resolution cameras, and GPS receivers. This integration enables farmers to perform various tasks such as sample collection, aerial photography, and record-keeping, which is highly recommended by experts. Moreover, some agricultural applications allow for the input of field data, subsequently organizing it acre by acre through software tools.

Empowering Agriculture with Precision Climate Services and Irrigation Management

The rapid growth of the weather tracking and forecasting market during the forecast period can be attributed primarily to the rising demand for climate information services. These services offer valuable benefits to farmers, enabling them to address the challenges posed by climate change and unpredictability, ultimately leading to more informed agricultural decision-making.

Moreover, the precision farming market for this application is being driven significantly by the

increasing need for cloud platforms in climate services. Various technologies play a pivotal role in irrigation management, including weather-based controllers, rain sensors, temperature sensors, network components, water meters, and sensor-based controllers.

The increased adoption of precision instruments for irrigation management applications is primarily motivated by the growing imperative of conserving water resources, enhancing food production, and minimizing resource wastage.

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Competitive Landscape

Prominent industry leaders are actively engaged in awareness campaigns addressing the critical issue of soil degradation while also providing education to farmers about the advantages of precision farming. Large-scale industrial farms are utilizing automated machinery to ensure a consistent level of output yield. Furthermore, farmers are increasingly investing in the digitization of their farms to enhance security.

- In January 2022, John Deere & Co. unveiled its range of autonomous tractors at the Consumer Electronics Show held in the first week of the month, as part of its ongoing efforts to expand its presence in the precision agriculture sector.

- In April 2021, Trimble Inc. entered into a collaborative partnership with HORSCH, one of the leading global manufacturers of agricultural technology, to pave the way for autonomous machinery and workflows in the agricultural industry. Currently, these companies are implementing advanced automation and driver support systems, including steering systems that enable drivers to perform additional in-cab tasks during active fieldwork.

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Automated Weather Observing System (AWOS) Market: The global automated weather observing system (AWOS) market has reached a valuation of US\$ 420 million in 2023 and is expected to climb to a size of US\$ 700 million by 2033, expanding at a CAGR of 5.2% from 2023 to 2033.

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