

## **Agricultural Sprayers - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-09-01 | 100 pages | Mordor Intelligence

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### **Report description:**

Agricultural Sprayers Market Analysis

The agricultural sprayers market size is valued at USD 5.10 billion in 2025 and is projected to reach USD 7.08 billion by 2030, growing at a CAGR of 6.80%. The integration of sensors, machine-learning algorithms, and variable-rate technologies is transforming mechanical sprayers into precise, data-driven platforms that reduce chemical waste and address increasing labor costs. The Asia-Pacific region dominates the agricultural sprayers market with the highest revenue share in 2024, supported by Chinese and Indian government subsidy programs that promote smart machinery adoption. Battery-powered units show the fastest growth as farmers prioritize reduced operating costs and carbon credits. Drone and autonomous sprayers are transitioning from pilot scale to commercial applications as regulatory frameworks develop, while AI-enabled systems demonstrate significant reductions in agrochemical usage. Market competition is intensifying as global OEMs integrate vision systems and analytics with equipment, and smaller companies introduce retrofit kits to upgrade existing fleets.

Global Agricultural Sprayers Market Trends and Insights

Growth in Agrochemical Usage

Pesticide demand reached 3.70 million metric tons in 2022, up 4% year on year and nearly double 1990 levels, compelling growers to acquire equipment capable of handling larger volumes with precise application. Global agrochemical sales continue to increase, particularly in herbicides that require specialized nozzles. In China, plant-protection drone demand is projected to

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exceed 60,000 units by 2025, expanding the agricultural sprayers market as service providers increase their fleets. The transition toward biological products and precision formulations necessitates sprayers with enhanced control systems, as these products require more specific application parameters compared to conventional chemicals. Brazil's bio-input segment increased treated acreage by more than 35% in the last season, driving investment in ultra-low-volume sprayers designed for live microbe applications.

#### Technological Advancements in Nozzle, Sensor and AI-Based Control

John Deere's See and Spray system demonstrated a 77% reduction in herbicide usage during broad-acre trials while maintaining weed control effectiveness, validating the efficacy of embedded vision and deep-learning models. New Holland's IntelliSense automation system, scheduled for implementation in 2026 Guardian sprayers, demonstrated 10% nitrogen reduction at 25 mph field speeds during Kansas field trials, establishing the correlation between enhanced productivity and decreased input costs, boosting adoption across the agricultural sprayer market. Ecorobotix's camera-equipped ARA platform, which received recognition at World Ag Expo 2025, achieves centimeter-level precision, indicating the evolution of automated spray applications.

#### High Upfront Capital Expenditure and Financing Hurdles

Prices for 200-horsepower tractors have climbed 287% since 1990, far outpacing farm-gate inflation, and interest rates have soared 213% since 2017, pushing many growers toward leases that now cover 11% of deals. Net cash farm income is forecast to fall nearly 20% in 2024, shrinking liquidity for new sprayers. Used equipment lists are bloated, and auction clearance rates are rising as dealers trim inventory. Input costs for chemicals, fertilizers, and machinery have increased 37.5% since 2011, creating compound pressure on farm profitability and equipment purchasing decisions. Canadian farm equipment sales face similar challenges, with weak demand limiting 2025 sales due to falling commodity prices, high operating costs, and reduced profits, particularly affecting large equipment categories like tractors and combines.

Other drivers and restraints analyzed in the detailed report include:

Rising Labor-Cost and Acute Operator Shortages / Government Mechanization and Smart-Farming Subsidies / Limited Agronomist or Operator Skill Sets /

For complete list of drivers and restraints, kindly check the Table Of Contents.

#### Segment Analysis

Fuel-powered sprayers dominated the agricultural sprayers market with a 47.0% revenue share in 2024, supported by widespread refueling infrastructure and reliable performance in extended field operations. Battery-powered units, currently representing a smaller market segment, are projected to grow at a 17.9% CAGR through 2030, driven by reduced operational costs, carbon credit incentives, and increasing diesel prices. Research indicates that autonomous electric tractors generate 72% lower greenhouse gas emissions compared to diesel alternatives. The EU Regulation 2023/1542 implementation requires recycled content and carbon-footprint labeling for batteries, potentially increasing compliance expenses while encouraging regional battery recycling development.

Combustion engines remain prevalent in agricultural sprayers, particularly in remote farming areas with limited electric charging infrastructure. Manufacturers are adapting to market changes by introducing hybrid systems and battery conversion kits. John Deere and GUSS Automation introduced an electric sprayer variant in late 2024, while Kubota partnered with Agtonomy to develop electric tractors for specialty crop applications. In the Asia-Pacific region, government initiatives supporting solar-powered charging facilities indicate a gradual market transition toward electric sprayer technologies.

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Tractor-mounted sprayers constituted 36.5% of 2024 sales due to their attachment compatibility and cost advantages compared to self-propelled units. Agricultural drones demonstrate a 20.2% CAGR, attributed to streamlined licensing requirements and their capability to operate in steep or waterlogged terrain. Missouri research indicates that drone ownership becomes economically viable when annual treated areas exceed 980 acres, with operational costs of USD 12.27 per acre for owners compared to USD 7.39 for custom hiring services.

Self-propelled machines remain essential for large-scale North American agricultural operations. The John Deere 500R, released in June 2025, incorporates enhanced operator visibility and PowrSpray plumbing technology, delivering 98% application precision. In small-scale farming operations, knapsack units maintain their relevance for specialized crop applications due to reduced capital requirements and superior drift management. This market segmentation in agricultural sprayer technology persists while autonomous systems continue to transform traditional equipment categories.

The Agricultural Sprayers Market Report is Segmented by Source of Power (Manual, and More), by Product Type (Handheld/Knapsack, Tractor-Mounted, and More), by Application/Usage (Field Crops, and More), by Spray Volume Capacity (Ultra-Low Volume, and More), Technology Level (Conventional, and More), and by Geography (North America, Europe, and More). The Market Forecasts are Provided in Terms of Value (USD) and Volume (Units).

### Geography Analysis

Asia-Pacific dominates the agricultural sprayers market with a 35.7% share in 2024 and projects an 8.0% annual growth rate. China has modified its subsidy structure to prioritize crawler tractors and smart implements, while India's Sub-Mission on Agricultural Mechanization (SMAM) provides up to 80% cost coverage for smallholder sprayer purchases. The mechanization trend aligns with environmental objectives, as research indicates a U-shaped emissions pattern where initial tractor adoption increased emissions, but subsequent precision system implementation reduced environmental impact.

North America maintains a technologically advanced market position. In 2024, See and Spray technology covered more than 1 million acres, reducing herbicide usage by 8 million gallons. However, the market faces challenges from a projected 20% decrease in 2024 cash farm income and increased interest rates, extending equipment investment recovery periods. The USDA's USD 3 billion allocation for climate-smart pilot programs, which includes precision agriculture equipment reimbursement, helps mitigate market slowdown impacts.

Europe's agricultural sprayers market growth stems from regulatory initiatives. The EU Battery Regulation implements recycled-content requirements that will influence electric sprayer specifications post-2028. EXEL Industries, the region's primary spray equipment manufacturer, reported agriculture revenue of USD 578.1 million (Euro 503 million) in fiscal 2023-2024, comprising 46% of total revenue, despite noting reduced orders due to farmers postponing equipment updates. Environmental regulations and green-deal requirements continue to drive precision equipment adoption, supporting market stability despite challenging economic conditions.

### List of Companies Covered in this Report:

Deere & Company / AGCO Corporation / CNH Industrial N.V. / Mahindra & Mahindra Ltd. / Kubota Corporation / DJI / Exel Industries / KUHN SAS / ASPEE Agro Equipment Pvt. Ltd. / Hockley International Ltd / Jacto S.A. / GUSS Automation LLC / Yamaha Motor Co., Ltd. / Hyllo, Inc. / Goldacres Pty Ltd / Chafer Machinery Ltd. /

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3 months of analyst support / </ul>

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