

Topcon Crop Care

Vineyard and Orchard Spraying Control



Automatically apply inputs at a fixed rate or via on-the-go sensors measuring crop density, including auto section and variable rate control.

Learn more at topconpositioning.com



Spraying control automatically applies inputs based upon nutrient management plans to reduce operating costs, improve yield, and promote sustainability. For specialty crops, including vineyards and orchards, we offer automatic speed-based or sensor-based control designed to empower labor, maximize inputs, and optimize fertility.

Our solutions offer flexible functionality and full customization to match your machine and customer needs. The basic option delivers speed-based rate control for up to two sections. The mid-range upgrade adds sensor-based automatic section control (ASC) and leaf density mapping. The advanced solution enhances ASC with variable rate control (VRC) based on leaf density for precision application.

- » Automatic, speed- or sensor-based spraying control and data tracking
- » Proven hardware including controller, sensors, and consoles
- » Universal ISOBUS based interface (Universal display compatibility)
- » Crop sensor integration, including auto section control (ASC) and variable rate control (VRC) capability



Maximize Inputs



Optimize Fertility and Growth



Empower Labor



Reduce Drift



Comply with Regulatory Requirements



Promote Sustainability

Solution components



Controller

CM-20 V spray controller offering reliability and proven functionality.



Crop Sensors

MS-1 ultrasonic sensors measuring crop density to collect data and/or determine the appropriate application rate.



ISOBUS Software and Console

Topcon ID1 family, X family or many ISOBUS-UT consoles. Topcon offers clear displays and universal, easy-to-use ISOBUS software.

What's right for your machines and customers?



Fixed Rate

Basic solution using speed data to automatically maintain a pre-set application rate.



On-the-Go ASC and Mapping

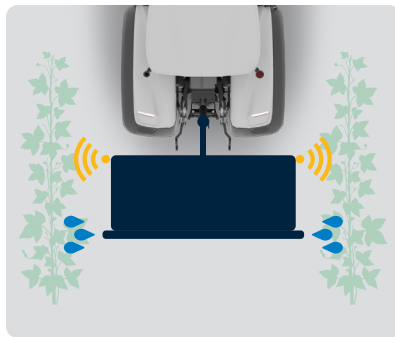
Mid-range solution using speed and sensor data measuring leaf density to maintain a pre-set application rate and eliminate unnecessary application through auto section control (ASC). Includes sensor mapping data.



On-the-Go ASC, VRC and Mapping

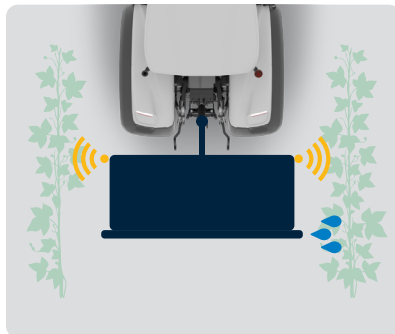
Advanced solution using speed and sensor data measuring leaf density to eliminate unnecessary application through auto section control (ASC) and optimize applications through variable rate control (VRC). Includes sensor mapping data.

Note: requires a high-speed section valve or solenoid valve.



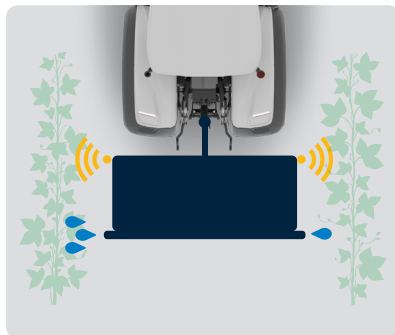
Leaf Density Sensing

We offer innovative sensing technology that measures crop density to toggle sections on/off and/or apply the appropriate rate in real-time. Coordinates with both auto section control and variable rate control functionality.



Auto Section Control (ASC)

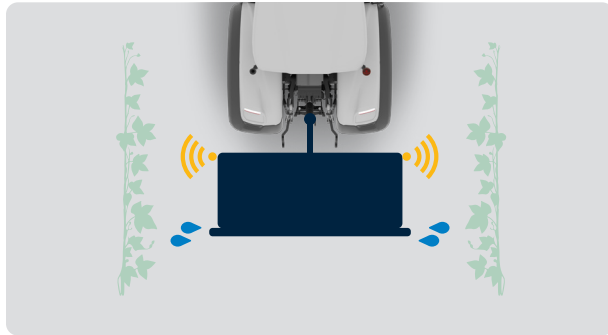
Auto section control (ASC) is an application control feature that automatically switches sections of an implement. It's designed to maximize inputs by preventing over-application.



Variable Rate Control (VRC)

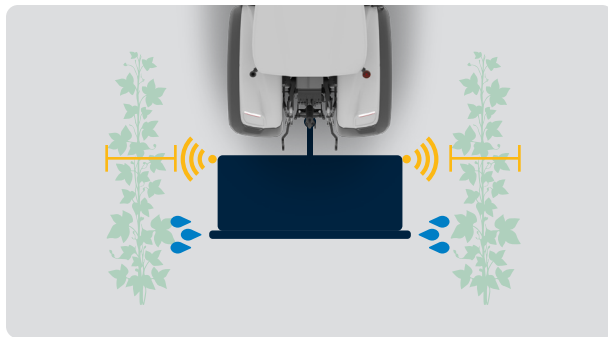
Variable rate control (VRC) is an application control feature that varies the output rate of an implement. It's designed to optimize inputs and boost production by applying the best rate for crop development based upon real-time sensor data.

We offer a range of functionality to support different machines and practices.



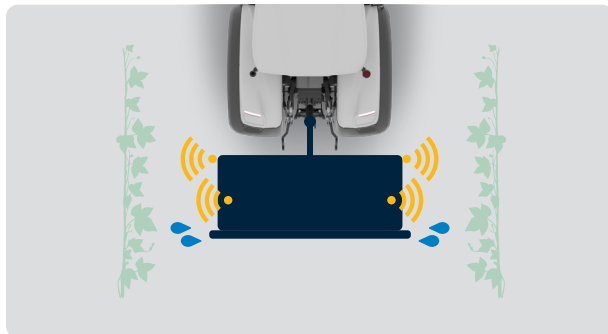
Two Leaf Walls with Two Sensors

Ideal for standard vineyards and orchards seeking precision and efficiency without added complexity.



Four Leaf Walls with Two Sensors

Optimizes spray volume across both sides of a double-row setup, reducing waste while maintaining treatment effectiveness.



Two Leaf Walls with Four Sensors*

Delivers enhanced vertical resolution, ideal for high-density crops, ensuring precise spray distribution from top to bottom even in vigorous canopies.



Six Leaf Walls with Four Sensors*

Enables precise, independent spray control across multi-row canopies, maximizing input efficiency and uniform coverage in high-throughput operations.

*Solution in development.

Our high-quality components and universal software enable powerful precision and reliability while reducing system costs.



Advanced Ultrasonic Sensors

Proven through a range of applications including boom height control and depth control, our advanced ultrasonic sensors provide dependable data even in the harshest agricultural conditions. For spraying control, the sensors measure crop density to determine the appropriate application rate referencing a preset range. Manufactured with corrosion resistant GF nylon housing, a protective transducer screen and multi-axis vents, they require low maintenance and offer a long life-span.

Robust ECU

The CM-20 controller manages all standard electrical functions of modern sprayers. It connects to the ISOBUS system, controlling predefined solution volumes based on ultrasonic sensor measurements.



ISOBUS Software

Our ISOBUS software, operated through any AEF-certified UT monitor, allows up to 10 different water volumes to adapt to any field vegetative conditions, adjusting proportionally to travel speed and nozzle selection in pressure sprayers. It allows monitoring and recording of working conditions and generates a report of the treatment performed.

Explore our complementary solutions that make field activities even more efficient and productive.

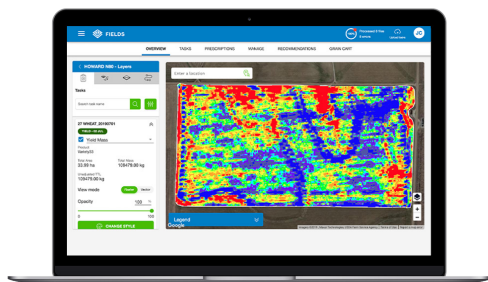


Guidance and Steering

Topcon offers flexibility. Whether it's manual- or automatic guidance, we have a solution for your needs. Our manual guidance solutions offers an easy-to-follow on-screen lightbar, while our automatic steering solutions enable operators to go hands-free for many applications. Simultaneously empower operators, improve accuracy and boost efficiency.

Data Transfer Devices

Whether you're using a Topcon console or third-party display, our cellular devices help automatically manage your crop production data, seamlessly transferring activities to the Topcon Agriculture Platform (TAP). Our technology is designed to be universal, working with many file formats and providers. Topcon Cloudlynk devices offer automatic data exchange, fleet management, and NTRIP for correction services.



Data Management Platform

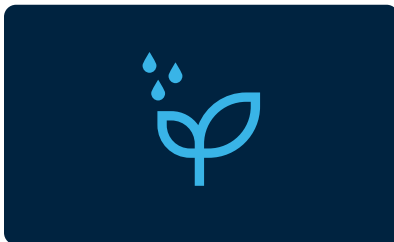
TAP is a simple tool to organize, visualize, and automate information, helping farmers make better decisions. For our specialty spraying solution, it allows famers, agronomists and other stakeholders to analyze data, create prescription maps, and generate reports.

Tested extensively in-field.



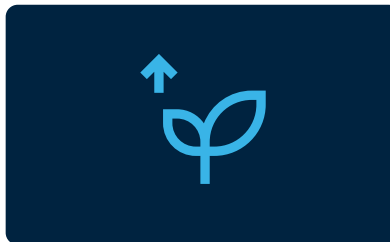
Our specialty spraying control solution has been field-tested across a wide range of vineyards and high-value crop operations, from hillside terrains to high-density plantings. Over three years of collaborative trials with growers, agronomists, and research institutions have validated its performance under real-world conditions.

The result is a proven system that not only adapts to diverse canopy structures but consistently delivers measurable impact, reducing application inputs by an average of 30%, empowering labor with automation, supporting regulatory compliance, and advancing on-farm sustainability.



Maximizes Inputs

Use cases show an average 30% reduction in pesticide, herbicide and fertilizer, as well as water savings from lower spray volumes and fuel savings due to fewer refill trips.



Optimizes Fertility and Growth

The solution delivers precise inputs tailored to crop needs, promoting optimal growth. Site-specific management reduces machine passes, helping preserve soil structure and enhance long-term fertility.



Promotes Sustainability

Lower chemical inputs reduce pesticide runoff, while fewer machine passes minimize soil compaction, fuel use, and greenhouse gas emissions. Water savings support resource conservation, vital in drought-prone areas.

Real-Time Support Functionality

Our solution provides remote support capability when using a Topcon display and Horizon software,




allowing real-time connection between support professionals and users.



Remote Support



CM-20 V Spray Controller Solution Feature Comparison

	 Basic	 Mid Range	 Advanced*
Control Type			
Fixed Rate (Speed Based)	✓	✓	✓
Fixed Rate with ASC (Speed and Sensor)	-	✓	✓
Variable Rate with ASC (Speed and Sensor)	-	-	✓
Console/Software			
Console Option(s)	Topcon ID1 Family, X Family or ISO-UT Compatible	Topcon ID1 Family, X Family or ISO-UT Compatible	Topcon ID1 Family, X Family or ISO-UT Compatible
ISOBUS-UT (Software)	✓	✓	✓
Capability			
Auto Section Control (ASC)	-	✓	✓
Variable Rate Control (VRC)	-	-	✓
Sections / Leaf Walls	2-4	2-6	2-6
Products	1	1	1
Farm Management Software Compatible	✓	✓	✓

* Requires a high-speed section valve or solenoid valve.

Specifications subject to change without notice.

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