With a dedicated smartphone App, the portable Droplet Analyzer can take pictures of droplets on water-sensitive test paper, giving the operator feedback on ongoing operations.

The high-precision RTK System provides centimeter-level accuracy, making it ideal for precise, targeted spraying. It also supports precision field mapping and enhanced flight reliability. When flown single pilot, waypoint information can be uploaded to the MG Intelligent Operation Planning System, so it is very easy to use.

A specially designed Charging Hub connects up to 6 batteries, and each intelligent balancing charger can connect 2 charging hubs. In total 12 batteries can be connected and charged in sequence, saving you the trouble of replacing batteries for charging. It can balance the voltages of each battery when charging, allowing longer battery life.

The MG-1S controller includes a bright 5.5 inch/1080p display that is visible even under strong sunlight. With a built-in operation planning system, users can use the controller to set liquid amount for per area, the aircraft will calculate the remaining parameters for you, enhancing convenience. You can also assign fields to each operator and check deployed fields. By sharing intelligent planning with operators, management for spraying operations is more efficient and effective.

Three high-precision, millimeter wave radars are placed on the front slope, rear slope and the bottom of the spray tank. Radars on front and rear slopes detect the terrain, allowing the aircraft to adjust its height approximately. The downward radar then provides high-precision height. As the radars scan, the MG-1S is able to perceive the change of terrain, adjust its altitude and maintain its altitude above the crops.

A new spraying system enables more accurate spraying. With two pumps controlling the front pair and rear pair of nozzles separately, and there are now three spraying modes available: forward spraying, backward spraying and full spraying. A new pressure sensor and flow sensor monitors the spraying rate in real-time, realizing dynamic control over spray speed and amount during operation. Nozzles with extended spray booms have been used to make better use of downward airflow. This spraying system now responds more accurately to commands, adding accuracy and effectiveness to spraying operations.

The frame arm of the MG-1S is detachable, and the landing gear is optimized, lowering potential maintenance costs. A water-resistant film has been added to protect the ESCs. The liquid valve has been placed on the side of delivery pump, and the delivery pump is located above the spray tank, making liquid injection, demounting and cleaning more convenient.

DJI Agriculture Management Platform

DJI provides a comprehensive spraying management platform along with the MG-1S. Use the platform to supervise the flight status of every aircraft, master spraying status and manage your spraying team to improve working efficiency. You can also assign fields to each operator and check deployed fields. By sharing intelligent planning with operators, management for spraying operations is more efficient and effective.

Equipped with DJI’s advanced A3 Flight Controller, the MG-1S is capable of high levels of reliability. Its algorithm has been optimized for agricultural spraying, ensuring stable flight even with sloshing liquids. In addition, the redundant design of the A3 includes dual barometers and dual compasses. If an error occurs in one sensor, the system will automatically switch to the other sensor to continue safe, reliable flight.

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A note on UK legislation

As it stands now in 2017, using drone based spraying systems on a commercial basis is not legal in the UK. As dealers for the Agras, both Drone AG and Crop Angel are currently conducting trials with the goal of commercial operations being allowed in 2018.

Courses designed to get you up-to-date and ready for the coming spraying revolution will be available soon. Course fees will then be discounted from the cost of a full system purchase. All systems will be sold with full training and certification courses included.

AGRAS MG-1S

The Agras MG-1S integrates a number of cutting-edge DJI technologies, including the new A3 Flight Controller, and a Radar Sensing System that provides additional reliability during flight. The spraying system and flow sensor ensure accurate operations. When used with both the MG Intelligent Operation Planning System and the DJI Agriculture Management Platform, a user can plan operations, manage flights in real-time, and closely monitor aircraft operating status. The MG-1S is a high performance aircraft capable of offering comprehensive solutions for agricultural care.