MG Spreading System Use Case: Optimizing Rapeseed Distribution

South China is home to a large area of rapeseed fields. Unfortunately, these fields are typically bound to terrain where ground-based spreading machines cannot be used. Workers must instead rely on two methods of manual spreading: manpower-heavy transplantation and uneven direct sowing.

At the end of October 2018, Li Linhao and his team from Xining Ruiyunjing Technology Ltd performed a drone-based rapeseed spreading test was carried out in Mingshi Village, Guangxi Province. The team mounted the MG Spreading System to the DJI MG-1P drone and tested out how flight altitude and speed, spinner disk rotating speed, and hopper outlet size affected seeding rates.

Because rapeseeds have a smaller particle diameter of 1-2 mm, the drone’s flight altitude was limited. To spread evenly, Li has conducted a series of tests to determine the best operating parameters to ensure a seeding rate of 2.5-3.1 kg/acre.

To reassure local users, Li and his team conducted a field test with these parameters on a 1.6-acre plot of farmland.

After four days of operation, seeding rate by the MG spreading system satisfied the local agriculture department, who then authorized the team to perform 823 more acres of spreading.

“For now, we have two spreading systems that cover 49 acres every day, and can be more efficient on larger fields,” said Li.

The MG Spreading System supports the spreading of solid-particle materials with a spreading tank volume of 13 L and compatibility with materials between 0.5 and 5 mm in diameter. Li and his team are very confident about the future of the MG Spreading System and will continue to test and optimize it for spreading other crop seeds.