

## XAG P150 Max Spraying Operation Recommendations

## Disclaimer

All data in these operation recommendations are collected from experienced agricultural UAV pilots nationwide. They are provided for reference only for users operating XAG P150 Max agricultural UAVs for spraying operations in relevant regions.

Due to the influence of various factors such as crop growth conditions, weather conditions, and pesticide varieties, the data herein cannot fully adapt to all operational scenarios. Users should make appropriate adjustments based on actual conditions. XAG assumes no legal responsibility for this.

Agricultural UAV Spraying Operation Knowledge						Notes		
Temperature	!! Avoid operating in high-temperature enviroment, as it can easily reduce pesticide efficacy due to evaporation, and increase the risk of heatstroke or poisoning for the pilot. It is recommended that the temperature should be 15-25°C during spraying. And the temperature should not below 10°C or above 30°C during operations, as it affects pesticide efficacy.					1. When operating over crops with low plant height, the flight speed should be increased and the flight altitude raised to prevent the downdraft from causing crop lodging or physical damage. 2. When working with dense crops or those with tall plant height, the application rate per acre should be increased and the flight speed reduced to enhance spray penetration.		
Air Humidity	The lower the humidity, the easier evaporation of pesticide occurs. Relative humidity ranging from 40% to 90% is suitable for operation.							
Wind Speed	Operations should be carried out only when the wind speed is below Level 2, as stronger winds may cause drift. Herbicide application must be conducted with caution to avoid spray drift that could lead to phytotoxicity.							
Height and Spray Width Parameter Recommendations (Tested with water volume 1.2 L/mu, droplet size 110-130µm)						Characteristics		
Height	Below 3m	3m	4m	5m	6m	When the operation height of the UAV is set below 3 meters, overlap between spray nozzles may be insufficient, resulting in missed areas. As the flight height increases, the spray width becomes wider, the downdraft weaker, and the spray penetration less effective. 1. For the P150 max, an operating height of 5-7 meters is recommended, with a droplet size of 110-130 µm.		
P150 Max	Not recommended to operate	5	6	7	7			
droplet size						Characteristics		
Droplet Size (Microns)	60-100		60-150		150-500	As droplet size increases, the spray coverage area decreases, while drift resistance and evaporation resistance increase.		
	Leaf-feeding insects		Disease/Fungicide		Weed Control			
P150 Max Recommended Operation Parameters								
Scenario	Control Type		Application Rate (L/mu)	Flight Speed (m/s)	Height Relative to Crop (m)	Spray Width (m)	Droplet Size (µm)	Notes
Fruit Trees	Insect Control		8-25	1.5 - 3	4-5	5-6	60-100	1.Avoid herbicide applications when wind is present to prevent spray drift. 2.For pest and disease control, pay attention to the optimal treatment timing and, where possible, use tank mixtures to reduce the risk of resistance development.
	Disease / Fungicide		6-15	2 - 3.5	4-5	5-6	100-200	
	Foliar Fertilizer / Nutrient Solution		6-15	2.5 - 3.5	4-5	5-6	100-200	
	Flower & Fruit Retention (Citrus)		10-16	3-4	4-4.5	4	80-100	
Sugarcane	Insect Control (Borers, Aphids, etc.)		2-3	4	5	6	90-120	3.For P150 max, the flight height should not be lower than 3 meters. Excessive wind may cause fruit damage. When operating over dense or tall crops, increase the application rate per acre and reduce flight speed to enhance spray penetration
	Pre-emergence Herbicide		1.5-2.5	4	4	5	150-300	
Rice	Water-seeded Field Pre-emergence Herbicide		1-1.2	10-13.8	4	9-10	Turn Off Atomization	4.For fruit trees with large canopy diameters and dense foliage, increase the spray flow rate appropriately and maintain a relatively low flight speed.
	Weed Control		1.2-2.5	5-8	4-6	5-6	150-300	
	Nutrient Solution		1.2-2	6-8	3-5	5-7	150-300	
	Disease / Fungicide		1.2-2	6-8	4-6	5-7	80-150	
Cotton	Early Stage Insect Control		1.2-1.5	6-8	4	6-7	80-100	5.When spray drift occurs, an anti-drift adjuvant may be added to the tank mixture to achieve better spraying performance.
	Mid-Stage Insect Control		1.2-1.5	6-8	3.5	6	80-100	
	Apical Dominance Inhibitor (Topping)		1.2-1.5	6-8	3.5	6	110-130	
Corn	Defoliant		1.2-1.5	6-8	3.5	6	110-130	
	Dryland Pre-emergence Herbicide		2-5	8-13.8	4	6-7	400-1500	
	Weed Control		1.5-2	4.5-7	3-3.5	5-7	150-300	
	Insect Control		1.2-2	5-10	3-3.5	5-7	110-130	
Sunflower	Foliar Fertilizer		1-2.5	8-10	3-3.5	7	100-130	
	Rust Control + Foliar Fertilizer		2-4	6-8	3-3.5	6	100-130	
	Insect Control		1.2-2	8-10	3-3.5	7	100-130	
Chili Pepper	Insect Control		1.2-1.5	5-10	3-3.5	5-7	110-130	
	Wheat Herbicide		1.5-2.5	6-8	3.5	4-6	150-300	
Wheat	Multi-purpose Spray for Wheat (Controls diseases, pests, and promotes growth)		1.5-2	8	3.5	6	100-130	
	Insect Control		1.5-3	4-8	3-5	5-6	80-130	
	Nutrient Solution		1.5-3	4-8	3-5	5-6	110-230	
	Weed Control		1.5-3	4-8	3-5	5-6	110-230	
Notes								
1.Ensure that the flight altitude is properly set to avoid collisions and potential accidents. When operating in orchards, pay attention to the use of both 2D and 3D operation modes. For 2D operations, the terrain-following mode should be enabled and configured accordingly. 2.Since UAV-applied pesticide solutions are usually of high concentration, the two-step dilution method should be followed when preparing the mixture. Foliar fertilizers such as potassium dihydrogen phosphate are recommended to be prepared separately to prevent chemical reactions that may occur in the tank mix.								