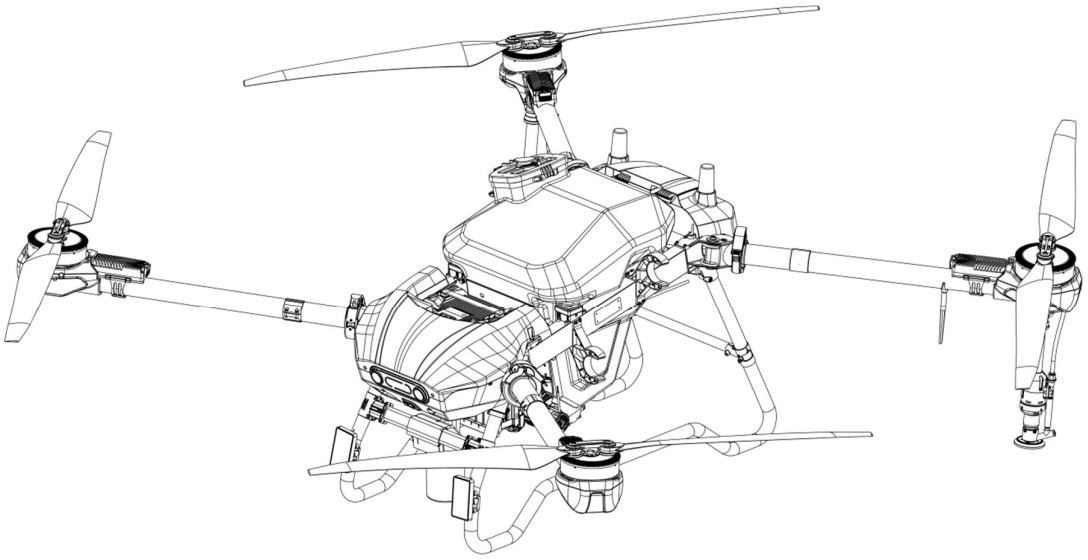
Agricultural Drone Instruction Manual

Common Parameter Reference Table

Version 1.0



VECTOR AGR

Recommended Operating Parameters

1. Spraying Operations

(1) Rice Paddy Scenario

Parameter	Southern Rice Pest Control	Cold-region Rice Pest Control	Dry Field (No Water)	Flooded Field	Broadleaf Weed Control	Grass Weed Control
Spray Volume (L)	2-3	2.5-3	2-3.5	1.5-3	2-3.5	3-4
Flight Speed (m/s)	5-6	5.5-6	5-6	6-7	6.5-7.5	5-5.5
Operating Spacing (m)	7-8.5	7-8.5	8	8-10	7.5-8.5	7-8
Relative Crop Height (m)	2.5-3	2.5-3	3-4	3-4	2.2-2.5	2.2-2.5
Chemical Usage Notes	Beware of excessive Triadimefon and heat damage			Beware of drift damage; avoid using lethal herbicides near licorice		
General Notes	Use safe chemicals for fish and shrimp fields; increase flight height in early rice to avoid lodging					

(2) Wheat Scenario

Parameter	Wheat Insect Control	Wheat Disease Control	Pre-emergent Herbicide	Broadleaf Weed Control	Grass Weed Control
Spray Volume (L)	2-3	2-3	3-3.8	2.5-3.5	2-3.5
Flight Speed (m/s)	5.5-7	5-6	5.5-6	5.5-6	5-5.5

Operating Spacing (m)	7-8	7-8	7-8	7-8	7-7.5
Relative Crop Height (m)	2.5-3	2.5-3	2.2-2.5	2.3-2.5	2.5-3
Chemical Usage Notes	Prochloraz may harm melons and grapes; high-chlorine agents are harmful to bees and fish			Be cautious of drift-related crop injury	
General Notes	Avoid using 2,4-D, mesosulfuron-methyl, or MCPA-isooctyl ester				

(3) General Notes

Parameter	Pest and Disease Control	Resistant Aphids	Growth Inhibitor (Mepiquat Chloride)	First Defoliant Application	Second Defoliant Application
Spray Volume (L)	1.5-2.5	2.2-2.5	2-2.5	1.5-2	2-2.3
Flight Speed (m/s)	5-6	5-5.5	5-6	5-5.5	5-6
Operating Spacing (m)	7-7.5	7-7.5	7-7.5	7-7.5	7-8
Relative Crop Height (m)	2.5-3	2.2-2.5	2.8-3	2.2-2.5	2.2-2.7
Chemical Usage Notes	Avoid using highly toxic pesticides such as endosulfan and methidathion			Defoliants are acidic-alkaline mixtures; follow the two-step dilution method strictly	
General Notes	In early-season cotton operations in Xinjiang, maintain flight altitude near the upper limit due to ground dust; account for the negative effects of extremely low humidity				

(4) Corn Scenario

Parameter	Pest Resistant Aphids	Aphids Growth Inhibitor (Mepiquat Chloride)
Spray Volume (L)	1.5-3	1.5-2.5
Flight Speed (m/s)	5-5.5	5-6
Operating Spacing (m)	6-6.5	5.5-6
Relative Crop Height (m)	2.2-2.5	2.8-3
Chemical Usage Notes	Control armyworms and fall armyworms before the 3rd instar.	
General Notes	If fumigant insecticides are applied in the mid-to-late stages of corn growth, do not enter the field after spraying to avoid pesticide poisoning.	

(5) Orchard Scenario

Parameter	Mode of 2 Centrifugal Nozzles	Mode of 4 Centrifugal Nozzles
Spray Volume (L)	5-7	6-8
Flight Speed (m/s)	3-5	4-6
Operating Spacing (m)	5-6	5-6
Relative Crop Height (m)	Adjust the flight height according to the height of the trees, generally flying about 4 meters above the tree tops. For example, citrus and apple trees usually grow to about 3–5 meters tall, with operations typically conducted at heights of 8–10 meters.	
Chemical Usage Notes	Orchard spraying primarily uses large-volume applications. Attention should be paid to selecting medium or fine atomization particle sizes	

	while reducing flight speed accordingly.
General Notes	Operators must wear appropriate protective equipment during orchard operations.

2. Spreading Operation

(1) General Scenario

Material Type	Particle Size Range	Application Rate (kg/hactare)	Flight Speed (m/s)	Flight Height (m)	Spreading Width (m)	Equipment Configuration
Compound Fertilizer (Farmland)	4-10mm	225 – 450	4-6	5-8	7-9	Medium-sized auger, spinner speed 800–900 rpm
Rice Seeds	2-3mm	30 – 60 (reduce for pre-germinated seeds)	3-5	3-5	6-8	Rice auger, spinner speed 900–1000 rpm
Organic Fertilizer (Orchard)	5-15mm	750 – 1500	3-4	6-10	6-8	Large auger, spinner speed 800–900 rpm
Grass Seeds (Grassland)	1-3mm	7.5 – 30	5-7	8-12	10	Small auger, spinner speed 700–900 rpm
Quicklime (Powder)	Powder	300 – 750 (pH adjustment)	2-3	3-5	4-6	Large auger, spinner speed 1000 rpm
Granular Insecticide	0.5-4mm	7.5 – 30	3-5	5-8	8-9	Small auger, spinner speed 800–900 rpm