

## Agras Spraying of Cotton Defoliant

Autumn is the best season to spray cotton defoliant. The cotton in Xinjiang this year grows very well and some even get flattened, which makes it difficult for spraying defoliant with traditional tractors in the cotton fields. Therefore, the cotton growers turn to UAV spraying.



A group of 26 pilots from Haisen UAV Plant Protection Team took 15 DJI MG-1S drones and went to the cotton fields in Changji, Shihezi and Hami of Xinjiang to spray cotton defoliant, which have greatly broadened many local people's horizon.



“UAV spraying features even spray, less waste, high efficiency and low cost. In large areas of concentrated cotton fields, each drone can cover about 82-acre land every day. In scattered cotton fields, each drone can cover at least 65-acre land with over 300-meter spraying range”, said Shan Tao, Operator of Haisen UAV Plant Protection Team.

#### **Operation Purpose**

Spray cotton defoliant with MG-1S to ensure the cotton defoliate in time, making it easier for mechanical plucking and increasing growers’ income.

#### **Operational Environment**

Flat terrain, suitable for large-scale spraying of cotton defoliant.

Operation Date: September 15<sup>th</sup>

Operation Location: Changji

Operation Terrain: Flat

Weather Condition: Sunny

## **Dosage**

According to the crop conditions, we planned two spraying operations. Below is the dosage information for the second operation.

### Pesticide Name

Thidiazuron-diuron  
Ethephon

### Pesticide Type

Thidiazuron-diuron: suspending agent  
Ethephon: water agent

### Active Ingredients and Content

Thidiazuron-diuron: Thidiazuron 360g/L, diuron 180g/L  
Ethephon: ethephon 40%

### Dosage per acre

Thidiazuron-diuron: 180g  
Ethephon: 480 ml

## **Operation Parameters**

The spraying of cotton defoliant requires for even agentia attachment. Considering some irregular fields, the operation adopted Smart Operation Mode.

Operation Mode: Intelligent Operation Mode

Flying Speed: 5m/s

Flight Altitude: 2m/s

Operation Width: 4m

Dosage/acre: 6L/acre

Nozzle Type: fan-typed nozzle XR11001

## **Operation Effects and Conclusions**

Haisen UAV Plant Protection Team finished UAV spraying on about 9884-acre field. This time their spraying covered about 4942-acre field with significant effects.



Comparison between sprayed area (right) and unsprayed area (left)

The cotton grower Yin Bin said, "In the past, it took three of us about a couple of days to finish the spraying on about 98-acre field with tractors. Besides, the tractors would lay over plants and cause about 20% of production reduction"



Production reduction caused by tractor

“Now with DJI MG-1S, we can finish the spraying in about one day without damaging the crops. It has saved time and cost for us. Most of us are willing to adopt UAV spraying now.”



Operator of Haisen UAV Plant Protection Team and cotton grower

Before adopting UAV spraying, cotton growers mainly done the spraying manually or through tractors, which proved to have many disadvantages. Now with DJI MG-1S, they have achieved much more effective results. Yin Bin felt very satisfied.