ULV sprayer through drones

To overcome the limitation of importing equipment, Department of Agriculture, Cooperation & Farmers’ Welfare (DAC&FW), under Make in India initiative, has taken up the challenge to indigenously develop a vehicle mounted ULV sprayer for locust control.

What is ULV(Ultra-Low volume) sprayer?

Ultra-low volume application of pesticides has been defined as spraying at a Volume Application Rate (VAR) of less than 5 L/ha for field crops or less than 50 L/ha for tree/bush crops. VARs of 0.25 – 2 l/ha are typical for aerial ULV application to forest or migratory pests.

ULV spraying is a well-established spraying technique and remains the standard method of locust control with pesticides and is also widely used by cotton farmers in central-southern and western Africa. It has also been used in massive aerial spraying campaigns against disease vectors such as the tse-tse fly.

A major benefit of ULV application is high work rate (i.e. many hectares can be treated in one day). It is a good option if all (or some) of these conditions apply:

- large area of land to treat
- rapid response required
- little or no water for making pesticide tank mixtures
- logistical problems for supplies
- difficult terrain: poor access to target site

Importance of drones to control locusts

- At present, the sole supplier of vehicle mounted sprayers is M/s Micron Sprayers, UK. Supply order for 60 nos. of sprayers was placed on the firm in February 2020.
- However, the ground control vehicles with sprayers used for locust control can spray up to a height of 25-30 ft only.
- The tractor mounted sprayers also has a limitation in reaching inaccessible areas and tall trees.
- Therefore, the necessity of exploring aerial spray option was explored.
- During a review, Union Minister of Agriculture and Farmers’ Welfare Shri Narendra Singh Tomar directed that deployment of Drones should be explored for Locust control.
- As the existing policy guidelines issued by Ministry of Civil Aviation (MoCA) did not permit use of drones with payload of pesticides, so DAC&FW requested MoCA for permitting the same and Ministry of Civil Aviation approved conditional exemption to
Government entity i.e. Directorate of Plant Protection, Quarantine & Storage, Faridabad (DPPQ&S) for Drone operations for locust control on 21.05.2020.

- Subsequent to the conditional exemption given by MoCA, two firms were empanelled for providing services of drones for spray of pesticides for Locust control.
- Food and Agriculture Organization (FAO) of the United Nations has appreciated that India is the first country in the world which is controlling Desert Locust through Drones.