

Reducing the Stickiness of Cotton

THE CIRCOT APPROACH

What is Stickiness ?

Cotton plants are prone to attack by aphids and white flies. The affected plant parts secrete sap. The insects suck the sap and form metabolic by-products and deposit them on plant parts as glistening droplets commonly called *Honeydew*. These are sugary in nature and characteristically sticky.



Honeydew Affected Cotton

Chemical Composition of Honeydew

Honeydew contains sugars like glucose, fructose, xylose, etc. apart from organic compounds like glycerol, mannitol, fumaric acid, malic acid, etc.



Aphids and White Fly on Cotton Leaf

What Problems Stickiness Create ?

- * Honeydew gains entry into the seed cotton during picking. The random deposits on the seed cotton makes fibres sticky. Processing problems due to stickiness are encountered in ginning and in later processing steps upto spinning.
- * Under high humidity, saprophytic micro-organisms grow on lint and lower the quality by discolouration. The strength may also get affected.

What are the Remedial Measures ?

A General Approach

- * Blending with good quality cotton – *This only tends to dilute the problem; but does not eliminate it.*
- * Washing – *but it is not practicable.*
- * Application of hydrocarbons and surfactants – *This helps in spinning; but does not eliminate the sticky substance.*
- * Spraying of yeast – *This is a better method, but does not consume all the sugars.*



White Fly on Cotton Leaf (Magnified)



Aphids on Cotton Plant

The CIRCOT Approach

Spraying of a composite microbial culture recovered from the lint.

- * Most of the sugars consumed in just 48 h.
- * No adverse effect on fibre strength.
- * Ease in the application.
- * Suitable even for seed cotton preparatory to ginning.
- * 100 % guarantee for effectiveness.
- * Highly economical.