



# BEST MANAGEMENT PRACTICES FOR BOLLWORM IN U.S. COTTON

**Follow these recommended practices for the best results in managing bollworm in cotton.**

## Planting and Variety Selection

### Planting date:

Avoid planting cotton later than the recommended planting window in your area. In general, later planted cotton experiences much heavier pressure from larvae that may have already been selected for resistance to Bt proteins on other crops or earlier planted cotton.

### Use of an early maturing cotton variety can reduce bollworm populations:

An early maturing variety spends less time in the flowering stage than a later maturing variety and may experience less bollworm pressure.

### Variety selection based on leaf hairiness:

Bollworm moths prefer to oviposit on hairy hosts so a smooth leaf variety may reduce some selection pressure: balance hairy vs. smooth leaf variety selection with consideration of other pests and agronomic characteristics.

### Trait selection:

In areas where dual gene varieties frequently experience unacceptable bollworm injury, consider planting 3-gene varieties containing the Vip trait.

## Manage the Cotton Crop

### Use optimum fertilizer rates:

Excessive nitrogen creates a more attractive crop for females to lay eggs, can result in large, bushy plants that make insecticide penetration into the canopy difficult, and can delay crop maturity resulting in extended exposure to later bollworm flights and the need for additional insecticide applications.

### Properly manage early season insects:

Insects such as thrips, tarnished plant bug, and cotton fleahopper can delay cotton maturity resulting in greater exposure of the crop to bollworm flights. Follow university Extension Service recommendations for treatments. Spraying for early season insects, while important, can cause disruption to the system by eliminating beneficial insects that might otherwise control bollworm. Therefore, only spray when thresholds are met, and select insecticides that minimize impacts to beneficial insects. Manage the crop canopy height with plant growth regulators to optimize coverage and canopy penetration with foliar insecticides.



## Manage with Foliar Insecticides

### Scout fields:

Scout at a minimum of every 5 days for eggs, plant injury, and surviving larvae, and shorten this interval during times of high bollworm pressure.

### Manage:

Control populations with appropriate foliar insecticides when action thresholds are reached.

### Seek advice:

Follow university Extension Service recommendations to ensure selection of insecticides, rates, and timings to maximize control with foliar insecticides.

### Follow best spraying practices:

Optimize good spray coverage by utilizing proper nozzle selection, and application volume and pressure.

### Choose insecticides wisely:

When possible, use insecticides less harmful to insect natural enemies.



## Manage Corn

### Avoid planting late corn:

Exposes corn to higher populations that increases population densities before they migrate into cotton.

### Follow IRM guidelines with respect to refuges; do not spray for corn earworm (bollworm):

Adds additional selection pressure for insecticide resistance with no economic benefit.

### Manage the Vip trait in corn locally:

Specific recommendations about the utilization of Vip in corn will vary depending on levels of resistance to the other Bt Cry proteins in the region. Contact local university extension personnel for specific recommendations.



The National Cotton States Arthropod Pest Management Working Group is a collaboration of entomologists from land-grant universities specializing in management of arthropod pests of cotton, soybean, corn, grain sorghum, and wheat in all cotton producing states from California to Virginia. For more information on managing bollworm in cotton, contact your state Extension specialist. For additional information on projects supported by Cotton Incorporated, visit [www.cottoninc.com](http://www.cottoninc.com).