

# Current Report

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STRIP CROPPING COTTON AND SORGHUM FOR BOLLWORM CONTROL Documents Collection

Biological Sciences

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Cotton entomologists at OSU have conducted research during the past few years and have determined that STRIPPING SORGHUM with COTTON can reduce or eliminate spraying for the cotton bollworm. In these tests conducted at Altus and Tipton, Oklahoma, sprays have been unnecessary for any of the stripped plots for the past four years.

Sorghum, soybeans, alfalfa, peanuts, and corn have all been tested as crops to be planted in strips in cotton. Sorghum proved to have the most effect by increasing predators which reduced bollworm populations. Sorghum also fits into farming practices better than any of the other crops, and produces more income than any of the strip crops tested.

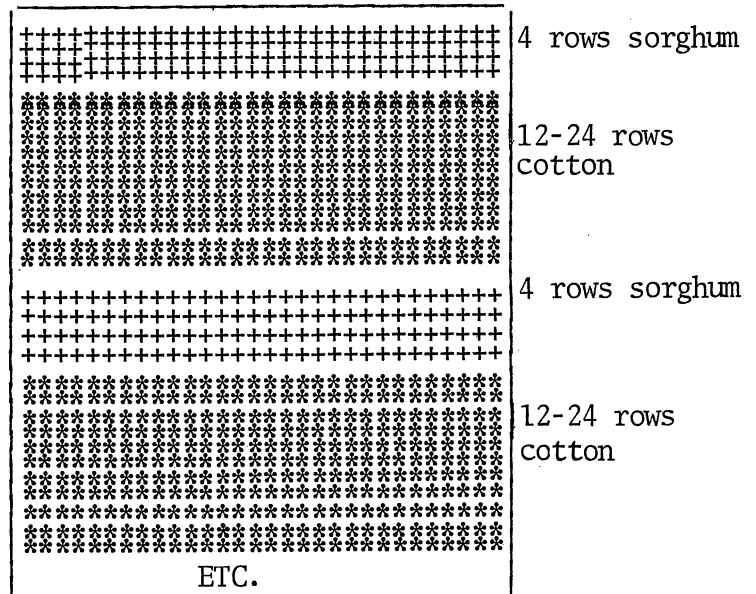
### Value of Strip Cropping

The principle value of strip cropping is its effect on predator and parasite numbers. Predator and parasite numbers increase in the sorghum and then move into cotton. Sorghum in Oklahoma generally has moderate to large numbers of corn leaf aphids in the whorls beginning when the plants are 6 inches to a foot high. Greenbugs infested all the sorghum plots for the past four years during the time sorghum was heading out. This occurred each year from the first to the middle of July; however, the sorghum was not sprayed to control greenbugs, since slight damage was observed in only one of the four years. In all years of testing, the greenbug infestations were completely eliminated

by predators and parasites. In three of the four test years the fall armyworm infested 60-100 percent of the sorghum plants in the whorl stage. All these insects contributed to large populations of predators and parasites that moved from the sorghum into the cotton. The predator populations in the cotton fields reached as high as 61,000 per acre which was slightly less than an average of 3 per plant. Some research indicates that as many as 1.6 predators per plant will prevent economic damage by bollworms.

### Planting Strips

If this cultural practice is used, it is suggested that the strips consist of 4 rows of sorghum for every 12-24 rows of cotton. Minor variations in this



plan will not affect the results. For example, widening the sorghum strips will not change the results. Plant the sorghum strips to facilitate harvesting. If you plant 4 rows of sorghum then 24 rows of cotton, then 4 rows of sorghum, etc., on the same row spacing, 15% of the field will be in sorghum.

#### Varieties

Plant any recommended variety of cotton and any medium maturing recommended variety of sorghum. (Note: Some sorghum varieties are susceptible to severe leaf

burn when methyl parathion is applied.)

#### When to Plant

The cotton and sorghum should be planted at the same time or within 14 days of each other, if possible.

#### Warning - Warning - Warning

Do not apply early season sprays of any kind unless badly needed. Tests indicate that 50% of the squares can be removed for the first 3 weeks of squaring without reducing yield.