PEST MANAGEMENT:
A SOUTHWESTERN GROWER'S PERSPECTIVE

Van M. Gaskins
Knott, TX

Abstract

My name is Van Gaskins and my brother and I produce cotton on 5000 acres of dry land in west Texas. The new millennium will bring challenges to west Texas dry land cotton producers that we have never faced. Currently, we are looking at the driest time since the 1950s, coupled with low prices and the first year of in-season spraying of our boll weevil eradication program, making each decision extremely important from a financial standpoint. We are looking at minimizing losses instead of maximizing profits for the third year in a row. We have learned how to cut corners and continue to maximize yields; however, I feel that reducing variable expenses further will start affecting yields. Stretching our dollars for insect control begins with determining thresholds, hiring a consultant or bug scout, spraying in a band as long as possible and spraying flea hoppers at first pinhead square.

I set our economic thresholds based on yield potential and price. I feel that every dollar spent on insect control must return at least two dollars. Price is easy to determine compared to assessing yield potential on each field. Moisture is our most limited resource, and predicting rain is not an exact science. I take the most conservative approach possible by assessing the moisture we have in our soil profile, and through experience, attempt to estimate yield as if we do not receive any additional rain. This is not an exact science either, but this educated guess is evaluated each year by hindsight and accuracy is improving. Economic thresholds are re-assessed on a weekly basis for each field.

I feel that insects have to be sprayed on a timely basis so that lower rates of chemicals can be used to achieve the percentage control to meet our two dollar return for each dollar spent. In order to catch these flare-ups, dry land cotton must be scouted on a weekly basis with hot spots checked twice a week. We hire either a consultant or a bug scout to do our scouting and this is the best money we spend in our operation besides herbicide. The few rescue sprays we have had to perform have been extremely costly in out-of-pocket expenses and yield reductions.

We also reduce chemical costs by spraying in a band as long as possible. When spraying with tillage equipment, the band is calculated by adding six inches to the width of foliage. The bandwidth of 6" foliage equals a 12" band. When using a spray rig that takes two patterns, we add 12" to the foliage measurement for our bandwidth. We use tips that run five gallons of water on a 40" band and cut the chemical rate by the ratio of our bandwidth divided by 40. For example, a 12" band equals 12 divided by 40, resulting in 30% of chemical recommended. In the past, we saved 70% on over-wintered weevil and flea hopper sprays (Vydate @ medium rate), 50-60% on our first worm spray (Tracer @ low rate), and sometimes 30% on second worm spray (Tracer or Karate @ low rates).

I began the over-wintered weevil and flea hopper sprays in 1994 and have never had a flare-up of aphids or worms as long as spraying was completed by July 4th. This spray cost less that $1/acre and has ensured that we set our bottom fruit, increasing our yield and shortening the maturity of the crop. I feel that the shorter maturity of the crop, the cheaper the crop, but this must be weighed against yield reduction. Spraying for flea hoppers at pinhead square decreases maturity and increases yield for us.

We use an integrated pest management system and try to conserve our beneficial insects for as long as possible. At the same time, we reduce the amount of chemicals used through a good scouting program and spraying on a band. The first year of in-season spraying for the Boll Weevil Eradication Program (BWEP) hurt our IPM program because of the elimination of beneficials at pinhead square. I feel the BWEP greatly increases the chances of having secondary pests that could begin in mid to late June. Developing thresholds at this time will be very difficult because our first worm spraying is normally between July 18th and July 25th. We have no experience in predicting yields that early. Combine this with the fact that there is no moisture in our soil profile at this time, and it is nearly impossible to plan or budget for inset control in 2000.

Reprinted from the *Proceedings of the Beltwide Cotton Conference*
Volume 1:27-27 (2000)
National Cotton Council, Memphis TN