Central Valley Fiber, Forage and Nut Digest

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San Joaquin Sustainable Farming Project Update: Growers learning and implementing Best Management Practices

Farm advisors like to joke about repeating their message time after time. "Know what you are treating through careful monitoring" "Don't over treat." "Rotate your sprays." Over the past 18 months, some of the state's leading experts in almonds, cotton and alfalfa haven't tired of spreading their advice and insights to dozens of growers and pest control advisors attending field days sponsored by the San Joaquin Sustainable Farming Project. In its second year, SJSFP is working with a group of farmers in Merced, Madera and Fresno counties to utilize an Integrated Pest Management (IPM) program incorporating Best Management Practices promoted by the University of California and the use less toxic pesticides in their operations.

Growers have attended nine informative field days throughout the Valley, from cotton fields in Mendota to almond orchards in Firebaugh. They learned about tree pruning, cotton plant mapping, alfalfa strips, softer fungicides and pesticides from farm advisors from the University of California Statewide IPM Program and UC Cooperative Extension in Merced and Fresno counties. Growers heard about water quality issues from the Westside San Joaquin River Watershed Coalition and new regulations from county agriculture commissioners.

By becoming better environmental stewards, growers will reduce agricultural run off of chlorpyrifos and diazinon to the Lower San Joaquin River Watershed – two chemicals targeted for reduction by the state.

SJSFP is a state and federally funded program under the direction of the Sustainable Cotton Project, a nonprofit which has worked with San Joaquin Valley growers for more than a decade to bring eco-friendly Cleaner Cotton™ to the consumer market. If you are a grower interested in participating or for more information, contact SCP Director, Marcia Gibbs, at (530) 370-5325 or Marcia@sustainablecotton.org

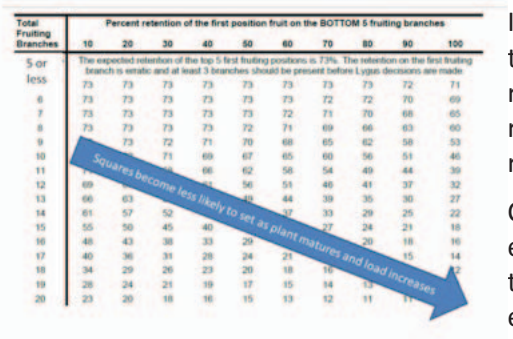
The Great Integrator – Why the Cotton Plant is a Good Indicator for Lygus Management

By Dr. Peter B. Goodell – IPM Advisor, UC Statewide Program

For over 20 years, UC has recommended plant based measurements as a basis for production decisions. These decisions include timing for Lygus treatments, using plant growth regulators, determining crop cutout and planning for defoliation. Details are available from the *Cotton Production Manual,* UC ANR Publication 3352.

Why use plant based measures? Think of the plant like a patient in the physician's office. Often questions that the doctor asks helps guide us toward a treatment. Likewise the cotton can tell a story, if you know how to read it. For Lygus management decisions, there are three key features; the age of the plant (number of fruiting branches), the early fruit (retention of fruit on the bottom five fruiting branches) and the current fruit load (retention of fruit on the top five fruiting branches). *Continued on next page*

The cotton plant cannot lie about previous stress it has suffered, including cool weather, early insect damage, poor irrigation timing or heat. Competition within the cotton plant for resources is one stress we often ignore. Cotton produces more fruit than it can mature because it produces fruit as insurance for its species survival. Thus, as the season progresses, fruit is less likely to be retained under normal yield loads. We know this because we measured it and can provide predictive guidance about the probability of any fruit being maintained to harvest.



If you know the age of the plant, the current fruit load on the bottom and the current fruit load in top, you can determine whether your current retention is greater than expected (see table). If fruit was lost early, regardless of the cause, the current top fruit is more valuable and should be retained.

Coupling the expected fruit retention with Lygus population density estimates from sweep counts, a good interpretation can be made regarding the threat of that population. If fruit is predicted to drop anyway because of existing fruit load, more Lygus can be tolerated. See complete instructions and calculator at:

http://www.ipm.ucdavis.edu/PMG/C114/m114mklygusdecisn.html.

Letting the cotton plant tell its story is essential for setting treatment thresholds for Lygus. The threshold is dynamic depending on crop condition, age of the plant, time of year and surrounding sources for pests. Please go to http://cottoninfo.ucdavis.edu/cotton.htm and download, *Using Plant Based Measurements to Support Lygus Management Decisions.*

Using alfalfa to manage pests in cotton

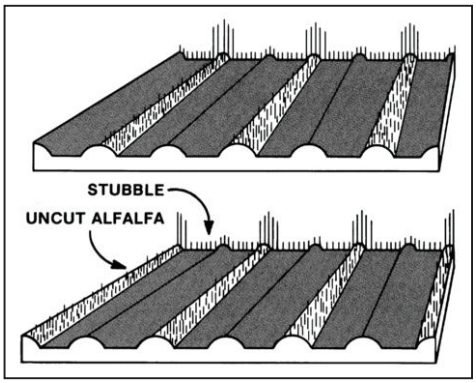
By Dr. Peter B. Goodell – IPM Advisor, UC Statewide Program

Alfalfa interplanted in cotton.

Preventing lygus bugs from coming into a cotton field is the next best thing to not having the pest at all.

Since cotton is embedded in a complex cropping mosaic, bugs building in neighboring fields can move to cotton. While cotton is not a preferred crop for this insect to set up a household, it will settle in if nothing else is available.

On the other hand, lygus prefers to stay in alfalfa hay and the crop can serve as an important ally in managing the pest in cotton. The vigorous growing plant with its attractive vegetative growing tips is ideal for lygus development, but does not suffer yield loss by this pest's feeding. Thus, alfalfa hay can act as a sponge, soaking up lygus from the surrounding area. Finally, alfalfa is one of the few crops produced for its vegetative structure rather than its fruit, seed or tuber. Therefore, lygus feeding and development is not affected by any plant stress, such as change in physiological condition during reproduction phase.



Since there is no indication from the plant that harvest is imminent, there is no urge to leave the alfalfa field. Our studies have shown lygus will remain in a harvested alfalfa field for up to 24 hours before leaving.

However, if given a choice, such as an uncut strip of alfalfa, lygus will stay longer in the alfalfa field and may not leave at all. Additional trials at Kearney Ag Center demonstrated that the population density within a strip can triple compared to density prior to harvest. In other words, they will stay on their familiar host as long it is available.

In the next few weeks, it is critical to leave uncut strips of alfalfa near cotton to minimize lygus movement. Mass movement into neighboring cotton fields can be prevented by leaving as little as 2.5 percent of the field left uncut. Providing a little bit of habitat will provide increased diversity during the critical period of early fruit set. Leaving habitat in the alfalfa field for only two cutting cycles in June and July can provide great return to the cotton grower in lygus treatment savings, protection of beneficial insects and reduced risk to secondary pest outbreaks.

Throughout the San Joaquin Valley, alfalfa strips have become common and according to farmer testimonials, resulted in substantial savings in cotton treatment costs. These green islands provide a refuge for a reluctant pests and have been incorporated into the cotton IPM programs of thoughtful and progressive farmers.

Almond Pest Management Field Day in a Nutshell

By Gilbert Mohtes-Chan, Sustainable Cotton Project

When his pest control advisor recommends applying a broad spectrum spray for his orchards, one San Joaquin Sustainable Farming Project almond grower makes it clear where he stands.

"We sit down. I want to have a good reason why. That's our philosophy – right along the lines of the (SJSF) program," he told his colleagues attending a late May almond field day.

That brought a smile to Walt Bentley, a leading entomologist with the University of California Statewide Integrated Pest Management Program. For years, the long-time almond specialist has urged growers to take a proactive approach in monitoring their orchards, learning about pest threats and damage and asking questions of their PCAs.

"Ask, ask, ask – don't be afraid," Bentley told growers at the SJSFP field day at Del Bosque Farms west of Firebaugh. "These (PCAs) are like plant doctors. Pretend you're the patient."

Bentley and David Doll, a farm advisor with UC Cooperative Extension in Merced County, discussed almond management practices for the late spring and summer. Bentley offered tips about monitoring for pests, including navel orangeworm, peach twig borer, leaffooted and stink bugs and mites. Doll discussed strategies for tackling plant diseases such as rust and scab.

During the spring, Bentley found no significant problems with mites, although they are likely to flare up as the summer temperatures heat up.

Indeed, Bentley last week reiterated his message. "We still are not finding mites in any of the orchards, but the development of hot weather will probably change that. It is critical to make the decision to apply a miticide by early July. Most will apply a hull split and will probably include a miticide. However, and this is important, the hardshell varieties such as Butte and Padre shouldn't need a spray unless no sanitation was done last winter."

Bentley pointed out that growers in May needed to look at the history of pest problems in their orchard blocks in determining treatment decisions during the spring. "I'm seeing some horrendous recommendations with spraying completely made out of timing. You can't run scared. Don't be afraid to question the advisor who says we need to spray now."

His point: Unnecessary treatment costs extra money and could even trigger other problems such as mites in the future. Make decisions based on monitoring the orchard, he said. "If you're going to use products, use them when they are effective."

Going into the summer, Bentley also said growers need to monitor the orchard floor for ant colonies. In addition, the tree limbs – often weighed down by the maturing nuts – should not be touching the ground, which provides a path for ants to invade the trees and get into the nuts when they split. Somehow, ants don't climb up the tree trunks.

Doll said rust, scab and alternaria diseases will affect the trees the following year and cause defoliation. Scab, he said, can be treated with a dormant copper-oil treatment. When treating for any plant diseases, Doll reminded growers to avoid back-to-back applications of the same fungicide to avoid disease resistance to the product.

Recently, growers have been grappling with hull rot, which produces a toxin that eventually can kill an entire tree branch. Over feeding with nitrogen and water leads to this condition. He recommended making the last nitrogen application by the end of May and then cutting off water a week before and a week after hull split. "The idea is to dry that hull down, making it a less friendly place for the fungus to come."

The Sustainable Cotton Project goes VIRAL!

Over the past six months SCP/SJSFP has greatly extended its presence online in an effort to better communicate with current friends and colleagues and also increase awareness of the SCP and what we do. Please check out our Blog, Facebook page, Twitter page, Donation page, our SCP YouTube video, and of course our website, www.sustainablecotton.org.

BLOG:
"Fresh Views From the Field" is a weekly blog where Luis Gallegos, a long-time field scout for the SCP/SJSFP, provides an on-the-ground view about what's happening in the fields across the San Joaquin Valley. Luis will describe pest pressures and how well the crops are developing. He also will discuss best management practices, tapping into the expertise of UC IPM advisors. Luis welcomes comments and encourages readers to join the discussion. Check out the Sustainable Ag blog at: http://centralvalleyfarmscout.blogspot.com/

FACEBOOK & TWITTER:
We will keep these pages updated with happenings and upcoming events to promote our San Joaquin Sustainable Farming Project and Cleaner Cotton campaign.
http://www.facebook.com/home.php#!/pages/Sustainable-Cotton-Project/176432482385516
http://twitter.com/#!/SustainCotton

DONATION:
We appreciate your interest and support of the Sustainable Cotton Project's mission. A donation page also has been set up for those who would like to contribute to SCP's success. This page can be accessed through the Facebook page, through our website or you can visit www.networkforgood.org, click the "Donate Now" button, and search for "Sustainable Cotton Project".

SCP VIDEO:
Check out a 6 minute video about SCP on YouTube, www.youtube.com, and search for "Sustainable Cotton Project".

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