

MiteFax: San Joaquin Valley Cotton

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Cooler temperatures have taken a load off the crop – and the people who check it. A little more irrigation has started. This includes on younger cotton in dry spots and in early fields on lighter soils.

No runaway pest problems were reported. Mite treatments are being made. Mites are present, but no hot spots were developing. Worms are light in those areas where early treatments were necessary in 2003.

Please note:

● We're attaching an early season insect advisory from Pete Goodell, Extension IPM Advisor. This includes his outlook on lygus for 2004.

● We also are including our first DD60 table for 2004. Thanks to Pete Goodell for continuing to provide this data.

The following reports were made Thursday afternoon and Friday.

CROP REPORTS

Bob Hutmacher, Extension Cotton Specialist: "Cooler temperatures have especially helped with some of this later planted cotton that was in danger of frying. With the wind and temperatures we've had and with plants further along than normal, it still looks like some people should bump up their irrigation dates a little on lighter soils. I'm not talking about dramatically early, but maybe 4 to 6 days sooner than normal.

"I haven't seen any major blowups with mites in the places I've been this week – mainly in Fresno and Kern Counties and a little in Tulare County. Mites are still present, but nothing dramatic."

Tony Touma, PCA, Bio Ag Consulting, Bakersfield: "Cotton looks good. The early fields are squaring. Mite pressure in Buttonwillow is lighter than

normal. There are enough mites that we are spraying 4 ounces of Zephyr on everything. That includes the Pima. People tend to stress it. By the time they finish irrigating, it could be the last week of June before we can come back with a miticide. So, we're treating now to protect those early squares.

"With the hot weather, it's surprising that it's been such a light mite year, so far, even in almonds. Temik is holding the thrips. But some hay is getting hammered by thrips, and they've been bad in garlic. But in almonds we're finding heavy numbers of six-spotted thrips, and they may be keeping mites down."

Jerry Anderson, PCA, Anderson Consulting, Dos Palos: "We're getting started with our miticide applications on taller cotton now and should have Zephyr on everything by the end

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of May. With the heat, we've seen them jump a little, and we've been spraying for about 3 weeks. The initial buildup was downwind from hay. We're treating now in areas where sugarbeet digging started yesterday (Thursday), and we're trying to get ahead of mites.

"We've got cotton with 2 squares now. So far, we're not finding worms. By this time last year we already were spraying. Even in the alfalfa, I'm only finding a few 1 counts."

Justin Cordoza, PCA, Agri-Tech, Merced: "Things remain pretty quiet. Cotton is growing well, and we've had some moderate temperatures. The majority of my cotton is Roundup Ready, so everybody is making applications right now. We're about 10 days away from getting water started on one ranch, but the rest are further out on irrigation.

"Mites have been quiet, even on ranches where we've historically had pressure. One ranch in the Firebaugh area had pressure early, but nothing that held back growth. Thrips helped stabilize it to an extent. On that particular ranch we'll probably treat a couple of fields before first irrigation."

Jim Hall, PCA, Hall Agromomics, Fresno: "We're off to a pretty good start. Compared to last year, we've certainly moved faster. This time last year we were still putting seed in the ground. But even compared to a normal crop, we're a little ahead. On Pima we're pushing sixth node and are into fruiting

in the earliest fields.

"We're picking up a few army-worm strikes here and there. We always get a little of that, but after the early pressure last year you can get a little spooked by it. Mite pressure really hasn't been a big factor in my area. A lot of Temik went out.

"Next week we will start irrigating in some fields where we have bottleneck situations. But the bulk of our water won't start until about June 1."

David Simoni, PCA, Western Farm Service, Hanford: "We've got a few situations where guys will put on Zephyr before first irrigation, but most treatments will be made after we finish.

"Cotton is well ahead of the game. If we can just hold onto it and keep it happy, this could be a good year. We started irrigating a few early fields last week and more will begin next week. In a few cases we've irrigated smaller plants in dry soil, but mostly we're watering our more advanced cotton in sandier soils. This is a little earlier than normal, but the cotton also is a little earlier than normal."

Steve Lenander, Technicare, Bakersfield, Calif.: "Cotton looks beautiful. When it was 95 last week I was a little concerned about some of it, but it looks a lot better with the cooldown this week. We are starting to water some lighter ground. Pressure bomb readings were climbing, and the forecast calls for higher temperatures. We'll start on more cotton next week.

"This puts us about 2 weeks

ahead. These fields are mostly from Shafter south, and we're watering both upland and Pima. I looked at some Pima today that's at tenth node and, through whatever stroke of luck, is fruiting on the fifth node. That's on a newer variety, but even the older ones are often starting 1 to 1.5 nodes earlier than usual.

"In some cotton south of Bakersfield we're watching lygus closely. There were spots with 4 and 5 counts where they're cutting hay today. We'll recheck and see whether we'll have to do something before irrigation starts."

DD60 TABLE

Accumulations from March 15 and April 1 planting dates.

As of: 5/13

2004 accumulation to date

	3/15	4/1
Shafter	2446	2375
Kettleman	2325	2277
Five Points	2907	2830
Los Banos	2271	2215

Long term (LT) average

	3/15	4/1
Shafter	2294	2228
Kettleman	2214	2093
Five Points	2488	2425
Los Banos	2136	2079

Difference* 2004 vs. LT

	3/15	4/1
Shafter	152	147
Kettleman	111	183
Five Points	419	405
Los Banos	135	135

*Positive Value indicates greater DD in 2004 than long term.

Cotton Insect Pests in 2004
P.B. Goodell, IPM Advisor
UC Cooperative Extension, Statewide IPM Program

Cotton insects are influenced by rainfall and temperature. Rainfall and its pattern of distribution across the San Joaquin Valley as well as timing of occurrence determine plant composition and duration of availability. Temperature regulates the rate at which insects develop and reproduce, as well as the duration of the plant hosts. The more heat, the faster the generations turn over, but also the faster host plants utilize available moisture. Insect population densities that threaten cotton depend on the optimal balance between these two factors. Enough rainfall must fall to allow good development and distribution of weedy hosts and enough heat must be available to allow insects to turnover generations in the shortest possible time.

Since the San Joaquin Valley is located in a Mediterranean climate, the probability of rainfall is almost non-existent after May. Thus, any insects found on weed hosts outside cultivated areas will be required to move into crops or face starvation. This movement is determined by the factors mentioned before, rainfall and temperature. In years when host are available and temperatures are adequate, multiple generations can develop and higher densities of pests can move into cultivated areas later in the season. In years when rainfall is limiting, plant hosts may dry up and force movement within the first generation and before cotton is susceptible to damage.

Predicting pest pressure caused by a complex of insect pests is a fool's errand. However, experienced gained over several decades and collaborated with many seasoned PCAs and cotton growers, allow us to interpret and extrapolate a rationale estimate of insect pressure.

General conditions:

Planting and emergence conditions have been excellent for cotton in 2004. Certainly the crop has an early advantage in the following the ways:

- ⊘ Vigorous growth, healthy stands and early development (according to the calendar) increase the plant's ability to withstand pest pressure
- ⊘ Grower confidence is improved as fewer problems are encountered
- ⊘ Such "strong growing seasons" place the focus on production management rather than pest management including irrigation, nutrition and cutout.
- ⊘ Much of the cotton was planted in a shorter time frame creating the opportunity for more common regional management and preventing the situation in which great differences in cotton development are found in fields scattered across the landscape.

Lygus:

Lygus is not expected to be a widespread problem in 2004. The lack of rainfall after March and the higher than normal temperatures have removed plant hosts from the Valley and its associated foothills. Any non-irrigated area has been completely dry for over four weeks. The exception is the presence of small-pod mustard (*Hirshfeldia incana*) which is found along many Valley roadsides. This yellow mustard is an excellent host for *Lygus* but fortunately is abundant only where rainfall accumulated along roadsides. Its limited distribution will not make it a major source of *Lygus*, but could be a local source in some fields. As of the week of May 3, both adults and nymphs were present. The nymphal population probably being the second generation and varied between second to fourth instars. Several uncultivated fields were noted in which London

rocket and other *Lygus* hosts were allowed to build through the winter and still support *Lygus* populations. Because the cotton development is advance for this time of year, the plant will have time to compensate for losses that might occur early in the season. Early season fruit loss has been demonstrated to enhance yield potential in years of heavy, early boll set by allow the plant to grow more vegetative and take advantage of the full season.

Lygus pressure in cotton will be expected to develop later in the season in localized situations as the population move from neighboring crops being readied for harvest. This movement will be more concentrated to cotton in areas with little or no alfalfa to attract the migrating *Lygus*.

Beet Armyworm

The relationship between weed hosts and Beet armyworm (BAW) is not well understood. In years with higher rainfall and more weeds in May and June, multiple flights seem to affect cotton, even later in the season. With the general lack of any weeds (except in irrigated fields), we might presume that BAW pressure might be lower this year than last.

Aphids

Predicting aphid population pressure in cotton is truly a fool's errand. As yet we do not understand (or even know) if winter weather patterns have nay influence on the development and distribution of cotton aphids.

Silverleaf Whitefly:

Temperature is the key driving force for developing whitefly problems. The hotter it is, the shorter the population turnover. Using January 1 as a starting point, 2004 is currently (5/10/04) 12 days ahead of the long term temperature average at Shafter for developing whitefly generations. This is based on accumulated degrees using a 50° F base, 90° F upper developmental threshold and 582 dd per generation. If temperatures continue to stay above normal, whitefly could be expected to occur earlier than last year and widely distributed, especially late season.

General considerations:

Monitor the crop and pest situation closely. Early season problems could be easier to manage with *Lygus* and beet armyworm less of a problem. Aphid is an unknown player at this point but care should be taken to treat mid-season only when the population exceeds the threshold. Whitefly should be watched closely and IGRs the first line of defense in mid-season.

Manage the use of insecticides carefully to avoid unnecessary pressure on a single mode of action such as pyrethroids or neonicotinoids. Plan your strategy in advance and rotate between different modes of action.

Follow the development of the crop closely and terminate when the plant is ready not according to the calendar.