

MiteFax: San Joaquin Valley Cotton

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Here is this week's *MiteFax*, sponsored by the California Cotton Team of Syngenta Crop Protection, maker of Caparol herbicide and Zephyr® miticide/insecticide.

Attached this week is a technical paper prepared by Syngenta's technical staff on the ability of spider mites to rapidly multiply in hot weather.

We should have our first DD60 table in next week's issue.

Owen Taylor, Editor

OVERVIEW

Intense heat over the last week has sapped the life out of some of the later planted cotton. A couple of our contacts this week noted that sprinklers were still being set up in dry spots to keep young plants from dying.

Bob Hutmacher (see comments below) said Friday that irrigation could be necessary where early root systems

haven't found moisture.

Cooler temperatures seem to be edging into the valley, and that may help. But the heat has pushed the crop to the point that irrigation could begin a little ahead of normal in some fields.

Mites are being treated on a somewhat wider basis. Thrips also are building where other crops dry down.

Multiple pinhead squares are present on early plants in the southern valley.

The following reports were made Thursday afternoon and Friday morning.

CROP REPORTS

Nick Groenenberg, *Indep. PCA, Hanford*: "Our older cotton is up to the sixth leaf now. We had some thrips, but they seem to have lightened up. Beet armyworms were around, but they kind of went away without doing much. Some growers have started miticide applications. We're not seeing heavy pres-

sure. We're just starting our regular program.

"Irrigation should start on a pretty big scale in 2-3 weeks. Cotton is generally about 3 weeks ahead of schedule. Most of the Staple has gone out."

Mark W.F. Carter, *PCA, Agri-Consultants, Los Banos*: "Cotton looks exceptionally good. All these heat units are really helping. We've had good emergence weather. Pretty much all my cotton in Los Banos is 100% emerged, and we've got 99% of everything to a stand.

"By late next week I think we'll start water on our earliest cotton. The second or third week of May is about our usual starting point. Thrips are light."

Kevin Lehar, *Crops Manager, Woolf Enterprises, Huron*: "Cotton is really looking really good. We're finding the first pinhead squares this week. Our

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earliest Pima plantings are at the sixth to seventh nodes. Thrips are bad. Wheat and garlic are drying down. With the heat we've had, they're as thick as I've ever seen them. But with Thimet or Temik under everything, they seem to be in check.

"This heat is making me a little nervous about some of this cotton. We had four straight days with temperatures 10-15 degrees above average. We may start irrigating a week earlier than usual, although if we get much of a cool-down this weekend, we might change our minds."

Rudy Perez, PCA, Western Farm Service, Firebaugh: "Cotton looks very good. We've got a little bit of activity from thrips that may require some action. Mites are starting to build. We're hoping that they'll stay down enough that we won't have to treat until we lay by with water. But we're a month away from that, so we may have to go with a touch of Zephyr before then."

"We don't have any irrigation starting except for a few dry spots where we're running sprinklers. At this point most of the cotton in the area probably won't be irrigated before June."

Dale Deshane, PCA, Supervised Control, Bakersfield: "Someone pointed out that this time last year only 60% of the cotton had been planted and half of that looked sick and dying. This is certainly a different year. Our earliest cotton is now up to the seventh and eighth

leaf, with 3-4 squares per plant.

"We started sweeping our early fields this week. Lygus counts are mainly running zero to one, with isolated 2-3 counts. Chinch bugs are coming out of open ground. We had to treat quite a bit on edges."

"Mike Molatore (PCA, Western Farm Service, Mettler) reported last week that several of us were dealing with a mystery beetle. It's been identified since then as a pale-striped flea beetle, which causes some trouble in the Imperial Valley. It feeds on cotyledons. But, we're told, if you leave it alone the plants grow out of it. We have several fields south of Bakersfield that look pretty ragged, but we've decided not to treat."

"A lot of our cotton south of Bakersfield has been sprayed for mites. We made our first applications 2 weeks ago today. Some of our fields in Buttonwillow received their first applications today. Mites are really starting to cut loose. We've got Temik that's 5 weeks old, and with this heat we're now finding whole plants with mites. There seems to be more mites in our early Pima than we're accustomed to seeing. I'm beginning to think that some of the newer Pima varieties may be more susceptible."

"A few loopers are showing up here and there. There are scattered armyworm hits, but nothing that's a concern."

Bob Hutmacher, Extension Cotton Specialist: "The heat is taking a toll on a lot of later planted cotton. These little coty-

ledons are a half-inch off the ground, and the soil temperature is extremely hot. It's difficult for plants to deal with that if they don't have a sufficient root system tapping into moisture."

"I've seen a number of locations this week with fairly significant stand loss. One field Thursday had a 25% reduction in plants. What I'm finding seems mainly related to heat, not to seedling disease."

"Growers are asking if they should irrigate. But in some fields the plants already are lost, and irrigation won't bring them back. The ones that are left probably will make it if they haven't died by now, but you still need to check closely."

"Whether to irrigate is a field-by-field decision. If the plant has lateral roots forming and is into moisture, you probably don't need to irrigate yet. Many fields probably can be described like that."

"But if those roots aren't forming and the plants aren't in the moisture zone, then you need to start the water. We're supposed to be going into a cooler period, and that could help in some cases."

"I'm still seeing mites. They were pretty apparent in Kern County on Monday and Tuesday. It would be advisable to be on the lookout. The ones I saw were in the Highway 58 area between Bakersfield and Buttonwillow and close to Mettler."

Hot Weather And Mite Management

Prepared by the California technical staff of Syngenta Crop Protection.

Studies conducted with the SJV spider mite complex (twospotted, strawberry, and Pacific mite) strongly support the need to control spider mite infestations early in the production season to maximize lint yields.

These studies show that early season infestations, even at very low population levels, affect plant productivity resulting in smaller bolls and ultimately reduced yields.

Supporting studies show that temperature is a key factor in determining population expansion in the field. **As shown in the table (below), the number of days required to go from egg to adult is shortened as temperatures increase.**

As temperatures approach

80° F, the life cycle can be reduced down to only five days.

USDA results show that a single female can give rise in her 30-day life span through successive generations to an enormous progeny. **As the triangle shows, this represents a 1,000-fold in-**

crease with each 10° F increase in temperature.

This prolific fecundity of the spider mite complex or its ability to reproduce itself at tremendous rates as temperatures increase, are the key factors associated with spider mite blowouts throughout the SJV.

