



Field Crop Notes



Volume I, Issue 4

July 04

ANNUAL DRY BEAN FIELD DAY

July 29, 2004, Thursday

9:00 a.m. through Lunch

Shafter Field Station

17053 Shafter Ave, Shafter

(See map on next page)

8:45 a.m. Sign In

9:00-10:00 Station Field Tour

- Low-head, minimum cost drip tape conversion for row crops
- Blackeye varietal plots: large-seeded, dry green/browns, "fresh" blackeyes, CB27 replacement

10:00-10:20 BREAK

10:20-11:00 Cultural -- Weed Management/Fertility

- 2003 trials for morning glory and nutgrass in blackeyes
- 2003-2004 Herbicide phytotoxicity, plant growth and fertilizers in garbanzos

11:00-11:30 Insects

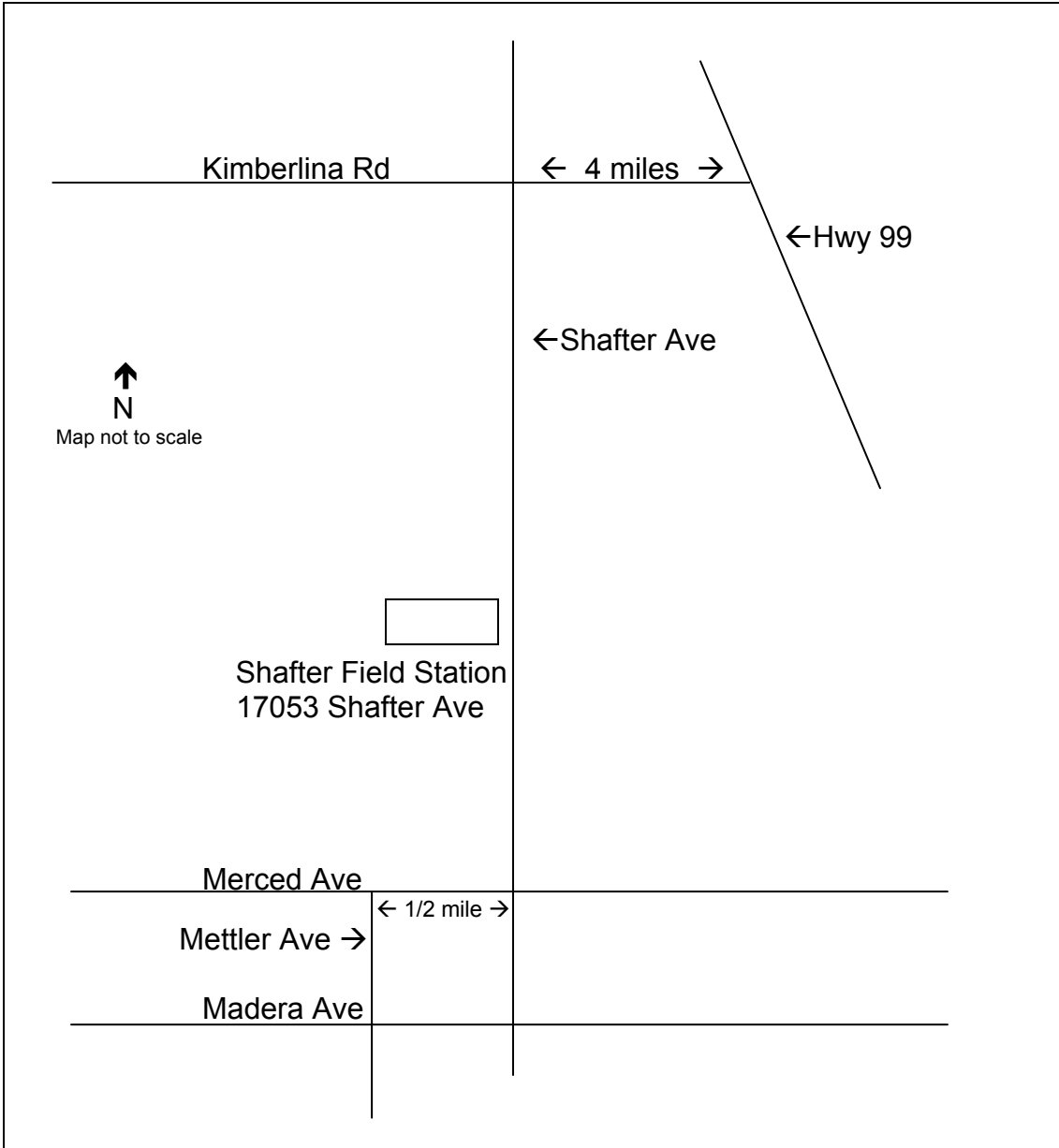
- Cowpea aphid update -- current incidence, is genetic resistance really possible?
- Lygus -- where did they go in 2004? Will future, long-term drought decrease the problem?

11:30-12:15 Foundation Seed, Warehouse and Market Concerns

- Recent price and operations changes at UC Foundation Seed -- Do you get what you pay for?
- Methyl bromide, future of warehouse structure/costs
- Market potential for alternative bean types, ethnic markets, etc and market update

12:15 BBQ LUNCH!!! Sponsored by Cal Bean Coop, Pixley and KBC, Wasco

No reservation required



Tillers in Corn

A few calls have come into the office regarding the impact of tillers in corn. Here is information based on reports from Ohio State University, Purdue University and the University of Illinois at Urbana-Champaign.

First of all, tillers are laterals that grow from the underground nodes of corn plants. Years ago some people called them “suckers” but that gives the impression that they were bad for the plant and data from studies indicate that tillers are not detrimental - at least for grain corn. I did not find information relative to silage corn but I think if the grain is not negatively impacted then the silage yield will not be either.

Some tiller facts:

Tillers are a normal part of corn physiology. Tillers will form more often when growing conditions (temperature, moisture and nutrition) are good early in the season. Tillers will form more often when plant populations are low. Tillers usually form by the 6th leaf stage of development. Tillers will grow if the main stem is damaged by cultivation, hail, etc. Some varieties are more prone to tillering than others

Most tillers get shaded out and never amount to much. Studies have shown that there is little movement of plant sugars between the main plant and tillers before tassels form. After silking and as the ear develops, substantial amounts of plant sugars may move from earless tillers to ears on the main plant. If there are ears on the tiller (not too frequent), sugars don't move from the tiller to the main plant but the tillers don't take sugars from the main stem either.

So, if there is a lot of tillering in your field, examine the plant population and growing conditions. It may indicate a low plant population which next year can be improved. It may indicate great growing conditions – good news. It may be a mark of the variety – neither good or bad news as studies indicate tillers don't affect yields.

The only time that tillers are really bad news is when they indicate the presence of a disease. Corn stunt is one such disease that will cause

excessive tillering when plants are infected early in their development. Time will tell if a field with a lot of tillers is infected but you will probably get some good clues. To see a lot of plants with lots of tillers due to corn stunt, many plants would have to be infected very young. For that to happen, a fairly large corn leafhopper infestation would be required. You should be able to see them flying about when you walk into a field or to see both adults and wingless nymphs in the whorls of young plants.

In summary, don't worry about seeing tillers in your corn field unless you know there were corn leafhoppers there too.

CROP PEST UPDATES – as of the first week of July

Alfalfa

Cowpea aphids, which are the only black aphids you should expect to see in alfalfa, have been observed colonizing visible areas in some fields. Feeding by this aphid can cause visible stunting of plants. If stunting is severe, plants will not recover until the next cutting. Check to see if beneficial insects are having an impact on the aphids. Use the same thresholds for treatment as for the blue alfalfa aphid.

There have been a few reports of worms already. July and August are usually peak times for caterpillar problems in alfalfa. If infestations are late in the cutting cycle, harvest may solve the problem but keep watch to see that regrowth is not affected and/or that worms don't migrate out of the alfalfa field to adjacent crops. Worm populations are determined by sweeping with a standard insect sweep net. One “sweep” consists of an 180° sweep through the top 6 inches of canopy. Take five sweeps in at least 4 locations within a field. Thresholds are:

Beet armyworm: 15 nonparasitized caterpillars, 0.5 inches or larger, per sweep

Western yellowstriped armyworm: 15 nonparasitized caterpillars, 0.5 inches or larger, per sweep

(Bt's work better on smaller armyworms than on larger ones so if a Bt formulation is going to be used, treat sooner than the 0.5 inch size).

Alfalfa caterpillar: expect this worm to be a problem when yellow or white butterflies are plentiful while the alfalfa is just regrowing. Parasitism often runs very high in this insect so only treat if there are 10 healthy caterpillars per sweep.

Blackeyes

Lygus bugs are the most important pest as they can do damage to both bean yield and quality. The threshold for treatment is 0.5 lygus per sweep (or 5 lygus per 10 sweeps). Take 5 to 10 sweeps in at least 4 areas of the field. In beans, "one sweep" is defined as a single pass over 2 rows of beans (which is different than the definition for a sweep in cotton). Flower, flower buds, and small pods are at risk to abort if lygus feed on them. If lygus feed on developing seeds in the pod as the pod is growing, blemishes on the seed will result, leading to lower grades. Be especially cautious in blackeye fields near alfalfa when the alfalfa is cut as lygus bugs will leave the alfalfa and move to other fields. Blackeyes are one of the favorite hosts of lygus bugs. They will reproduce very readily in this crop.

Cowpea aphids, which are black, have been a problem in some fields. They can build up high numbers on plants, severely stunting and eventually killing them – even large ones! No research has been conducted to indicate what to use as a threshold for treatment. My suggestion is to look at the infested area, mark its limits and then return in a day or two to see if it is spreading, holding its own, or decreasing in size and severity. Parasitic wasps and predator insects can make a difference at times but other times they can't keep up. If the spots are significant in size and/or number and are increasing, then treatment may be

necessary. Dimethoate by itself has to date been dynamite on this particular aphid. No tank mixing is necessary.

Sugarbeets

Cercospora leafspots have been observed in one field. High temperatures (70 and above) at night and dew formation promote this disease. Dew will most likely form in fields with dense canopies and moist furrows. Headline® is a new fungicide just registered last year. It appears to be quite effective if applied early in disease development. However, repeated applications of Headline® alone are not recommended as it could lead to development of resistant strains of the fungus (which is why Topsin M® used by itself is not very effective any more).

Corn

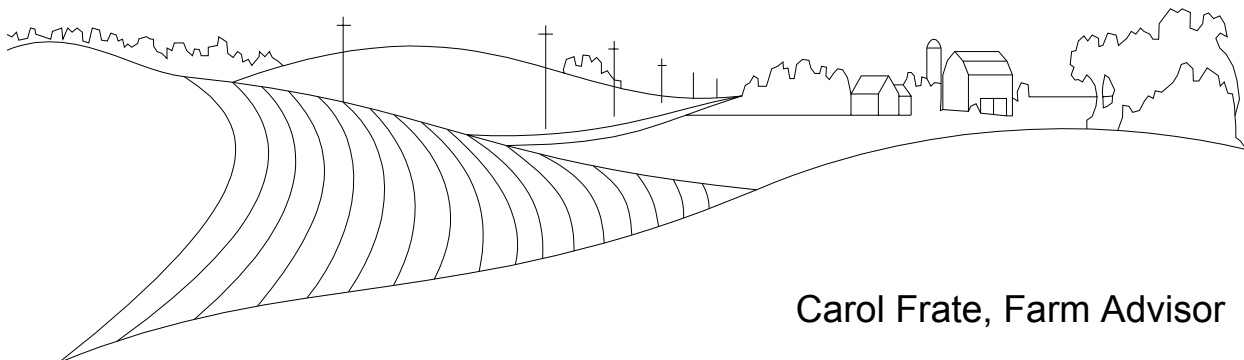
As early planted corn begins to tassel, the reddish upper leaves indicating corn stunt can be observed in some fields. Corn leafhoppers, vectors of the spiroplasma pathogen that causes corn stunt, are being picked up on sticky cards placed around fields planted in mid-June, indicating that leafhoppers are out and about. At least some, if not most, are carrying the pathogen. Trials continue to determine if using seed treatments containing systemic insecticides or if foliar spaying is cost beneficial. Results from last year's foliar spray trials, in which leafhopper populations were already very high at the time of treatment, showed that a tank mix of Capture®/dimethoate was more effective in controlling leafhoppers than Furadan® or MSR®. However, while the insect counts dropped dramatically after treatments, the number of plants with symptoms did not drop much and yields were only slightly increased at best. For a more thorough description of these trials and the results, go to the Cooperative Extension website at <http://cetulare.ucdavis.edu/pub/fclst.htm> and click on the March 2004 issue of Field Crop Notes.

University of California
Cooperative Extension
Tulare County
4437B S Laspina St
Tulare, CA 93274

Nonprofit Organization
US Postage Paid
Visalia, CA 93277
Permit No. 240

Field Crop Notes

July 04



Carol Frate, Farm Advisor

The University of California prohibits discrimination or harassment of any person on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (including childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (covered veterans are special disabled veterans, recently separated veterans, Vietnam era veterans, or any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized) in any of its programs or activities. University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 300 Lakeside Drive, 6th Floor, Oakland, CA 94612-3550, (510) 987-0096.