

## INTEGRATED PRUNE FARMING PRACTICES (I.P.F.P.) - 2005

Bill Olson, Rick Buchner Bill Krueger, Franz Niederholzer, Gary Obenauf, Carolyn Pickel, Jed Walton, Tom Dowd

### OBJECTIVES:

Since the end of the Integrated Prune Farming Practices (IPFP) grants in 2004, work has continued to extend the information developed and validated in previous six years with funding from CDPB and state and federal agencies. In 2005, efforts focused on two objectives. Potential barriers to IPFP adoption(s) were identified through work with two commercial PCAs, who used several of the monitoring protocols on 300+ acres in the Feather River region of Butte and north Sutter Counties.. Three demonstration blocks using the 5-minute search protocol for spider mites were established in the same region. Results from these demonstrations were used in two presentations to PCAs, and in planning for future demonstration/extension meetings to further extend and support implementation of this practice. General IPFP outreach efforts in the region included grower meetings (field and classroom) and newsletters.

### PROCEDURE

#### Objections to IPFP protocol(s):

Two experienced commercial PCAs followed IPFP monitoring protocols in commercial orchards in 300+ acres of commercial orchards in the Gridley/Live Oak area. They then delivered the monitoring results to growers. At the end of the season, they reported both their own impressions of the protocols as well as those of the growers to UC.

#### Spider-mite demonstration blocks:

Three orchards (two in Sutter County and one in southern Butte County) with a history of severe spider mite infestations (annual defoliation) were monitored using the 5-minute search protocol beginning in June, 2005. Growers were informed when IPFP Guidelines suggested spray treatment. One block was sprayed with two different miticides (supplied by manufacturers and applied by UC) when IPFP Guidelines suggested treatment.

#### Education/Outreach:

Two winter growers meetings (Red Bluff and Yuba City) as well as two field meetings included IPFP topics. Posters (laminated, 3' x 4') showing IPFP monitoring protocols for spider mites, dormant spurs, and rust as well as leaf sampling for leaf analysis and fall aphid sprays were printed and posted at both winter meetings. Two field meetings held in the Sacramento Valley included topics on prune pest management. An article on fall aphid sprays was published in October, 2005 in

the UC regional prune newsletter, and the same article was printed in the CDPB newsletter later in the fall.

## RESULTS

PCA evaluation of protocols:

Report from one of the two PCA's has been received. Acceptance/objections to the protocols appear in Table 1. The second PCA's report has been delayed by paper work complications on the UC side, but will be done by the end of the year.

**Table 1. PCA#1/ and growers impressions of a range of IPFP protocols.**

<b>Protocol</b>	<b>Used?</b>	<b>PCA's Objection?</b>	<b>Did the grower agree with the results of this protocol?</b>
Dormant spur sampling	Yes	None	Yes
Dormant spray treatment guide	Yes	None	Yes
In-season aphid monitoring	Yes	None	Yes
In-season PTB/OBLR scouting	NO	PTB is not a problem except for fresh market	Yes
Prune rust monitoring	Yes	None	Yes
5-minute Mite scouting	Yes	None	Wasn't sure.
Leaf sampling	Yes	None	Yes, but only wanted to test leaves every-other year.
Well water test for nitrate	No	Not convinced well-nitrate levels available for tree use	--
Pressure bomb irrigation scheduling	No	Takes too much time.	--

Spider mite monitoring:

Three orchards were monitored for spider mites as demonstration plots. Two were monitored by PCA's, and one by the UCCE. Some parts of all blocks were sprayed based on mite monitoring. Unsprayed portions of blocks defoliated. Irrigation scheduling interfered with best timing of miticide spray based on UC guidelines in two of the three blocks. Information on spider mite management from all three of these demonstration sites was used in educational presentations to 75 PCAs at two separate meetings in fall, 2005.

## CONCLUSION:

### PCA evaluation of protocols:

Based on the comments by the first of two PCAs in this year's program, several UC IPFP protocols face objections from PCA's, growers, or both that limit the adoption of these procedures. PCA's are often the gatekeepers of information regarding pest and/or nutrition management. Growers often follow their advice. Protocols that faced objection or skepticism from PCA and/or growers include:

- In-season mite sampling
- Every-year leaf analysis
- Well water test for nitrate
- Pressure bomb irrigation scheduling
- In-season PTB/OBLR scouting

Efforts to overcome these objections can be separated into three separate groups for future consideration:

#### 1. Objection: Practices that are easy to do if someone has time

Response: More education/training/demonstrations with wider participation:

- In-season mite monitoring
- In-season PTB and OBLR monitoring

#### 2. Objection: Practices that take additional time **and** money

Response: Some growers will do it, others will not

- Pressure bomb irrigation scheduling (requires equipment)
- Every year leaf analysis

#### 3. Objection: Uncertain validity

Response: More research to clarify situation

- Well water test for nitrate.

### Spider mite monitoring:

The in-season spider mite monitoring program works, but requires weekly field checking, especially during hot weather. Growers are uncertain as to the value of this information, and would prefer to wait to see if spider mite control is needed. Often, it is too late to avoid defoliation when miticides are finally sprayed. Further work on this topic could include field mites scouting meetings, research to test impact of defoliation on fruit growth the following year, and a regional demonstration program focused on spider mite management.