

**TREE AND VINE NOTES****APRIL 2003****BUDGET OUTLOOK BAD**

The Governor's budget continues to call for huge cuts to agriculture within the UC budget. While UC's budget overall looks pretty good, and funding for enrollment growth is protected, agriculture did not do as well. Significant to local residents is a proposed 25% cut in Cooperative Extension. This will follow a 5% cut we received retroactively to our current operating budget which ends in July.

Cooperative Extension does not own any buildings or other major assets so almost all of our budget is people. That means a 30% cut in operating fund could possibly result in a loss of about 40% or more of our Farm Advisors if they were to reduce the workforce based on seniority. So far UC Administration has not been willing to propose an early retirement program, but even if it did it would not remove enough people to avoid lay-offs. UC Administration may choose, as an alternative to across the board lay-offs, to eliminate certain programs. I don't know what those would be but some examples of programs would be IPM, sustainable agriculture, 4-H, natural resources management, veterinary medicine extension, personnel management program, center for water resources, and pesticide information and coordination.

We are very proud of all of Cooperative Extension's accomplishments. For a sampling you can go to ucanr.org and click on "UC Delivers." As the premier technology transfer organization in the US, we have been a part of almost every major technological advancement employed by agriculture today.

For updates on Cooperative Extension's budget contact me or any Farm Advisor. We have some hand-outs available. There is additional information at the ucanr.org web site.

APRICOTS by Maxwell Norton

I have been collecting samples of fruit symptoms in apricots all over the Los Banos region. The fruit have been damaged by fog spot. One block looks like it could be a total loss. We do not know the exact cause although the fungus *alternaria* is thought to be a possible factor in the disease. Fog spot affects only the fruit compared to shot hole disease which can have symptoms on both the fruit and leaves. Fog spot appears on fruit that gets wet during cool, damp weather. It first appears as small, reddish spots on the upper surface. The spots will enlarge and darken

and may coalesce into scabby patches. The centers may turn dark brown but the margins remain reddish. Large patches can cause one side of the fruit to be flattened.

We have been frustrated at attempts to develop a reliable control program. Bill Coats and I want to do some spray trials next spring. I will need a couple sites to do this so call me if you want to volunteer.

While scouting for the above in the Los Banos area I came across a couple fruit with active powdery mildew (PM) colonies. I have been told by one PCA that they have treated for PM in one block. Watch carefully for PM in apricots and be ready to treat immediately to prevent it from getting bad. Some blocks with a history PM may need to be treated preventatively but that is the exception.

GOPHERS by Maxwell Norton

Gopher control is a year round operation since they breed and take bait year round. Dried plums can be very attractive to gophers. There are several tools available and you will probably need to use more than one to get good control. Some to consider are:

Burrow bait machines pulled behind a tractor – check to see that burrows are not collapsing in soft sandy soils. Use only baits that are formulated for machines. Go as close to the trees as possible. Match the depth of the artificial burrows to that of the gophers. In summer they burrow deeper, in winter – shallower.

Strychnine – requires a permit and has several restrictions on its use.

Zinc phosphate bait

Phostoxin gas pellets

Smoke bombs – don't work very well in agricultural settings.

Traps – work very well if you check them regularly.

Rodex canon – works on very hard soils but needs to be combined with other methods.

Hand baiting with probes can be as effective as traps but it is faster.

Owl boxes can attract natural predators into the neighborhood and are an excellent supplemental control method.

Snakes are very beneficial in agricultural settings but I don't know what you can do to encourage them. Every few years I rescue one on the road and I put it in my garden and I have never had gophers. We have some additional information about vertebrate control here at the Cooperative Extension office.

SQUIRRELS by Maxwell Norton

Squirrels can cause damage by feeding on nuts as well as damaging young trees by chewing on the trunks. They can tear off strips of bark at the ground level to a few inches above. Rabbits typically strip off bark 10-12 inches above the ground. Gophers only chew on trees just below ground level unless the trunk is completely covered with trash or weeds.

Control efforts really need to begin in January/February when they become active. Bait is highly effective if used properly. There is only a two week period when bait is highly attractive and you have to determine that by setting out little piles periodically to see if it is being collected. If it is not – do not waste money by spreading it anyway. If they are taking the bait, broadcasting actually works better than bait stations. Broadcast the bait three times about 4 days apart. Use

the .05% bait for stations and the .01% bait for broadcasting. Stop applying as soon as the squirrels stop collecting. Squirrels will not take stale or moldy bait. If the squirrels are not visiting the bait stations put them away so they don't become damaged or attractive to non-target animals. Do not leave bait stations out all year round. Other methods involve introducing a gas into the burrow system. Phostoxin, Humatoxin and Acrolein are very effective. All require a permit to use. Gas cartridges are moderately effective. In every case the openings must be sealed to prevent the gas or smoke from escaping into the air. These tools can be used year round as long as you see activity. If a burrow has leaves or spider webs in it – it is probably not active. Shovel it closed and move on to an active burrow.

If you can find a way to encourage hawks, they can provide supplemental squirrel control.

GRAPES by Maxwell Norton

All this intermittent rain has me expecting to find phomopsis cane and leaf spot infections but I have seen none yet. I presume this is due to rapid drying conditions and cold temperatures but that is conjecture. Phomopsis can be prevented with fungicide applications only if they are applied prior to a rain event. Check our pest management guidelines for grapes for a list of fungicides and recommended rates.

The powdery mildew index has been low the last few days so sulfur intervals have been lengthened. With increased concern on the part of wineries about sulfur residues, many growers have adopted a strategy of applying wettable sulfur or sulfur dust early in the season and then switching to a synthetic fungicide at or soon after bloom. By using Cooperative Extension's powdery mildew model you can reduce the total number of sulfur or synthetic fungicide applications while preserving efficacy. This model is described at our IPM web site:

www.ipm.ucdavis.edu/DISEASE/DATABASE/grapepowderymildew and at:

www.apsnet.org/online/feature/pmildew/top You can find some examples of how this model is put to use in other parts of the SJV at: www.rubigan.com/products/Rubigan click on Powdery Mildew Maps.

HAIL DAMAGE by Maxwell Norton

On Monday 21 April at about supper time we had a big hail storm. The streets of Atwater looked as if a snow storm occurred with hail a few inches deep. My wife pulled up with a pile of hail on the hood that covered the lower 10% of the windshield. The model for global warming says that the winters will get a little warmer and weather fluctuations will be more extreme – makes you wonder.

It is presumed that any smooth skinned fruit would be injured by hail. The next morning I looked at some pluots and nectarines and the sides of the fruit that faced the sky had tiny little "pin-holes" and sometimes tiny scratches or tears. The nectarines had lots of thrips damage which makes segregating out the types of damage difficult. The thrips damage will look much older and scabbier (is that a word?) and it will often go half way around or all the way around. Thrips damage will often be more common near the stem-end. The part of the fruit that was originally under the calyx ("jacket") is the part most likely to have thrips damage.

The sooner after the hail event you record the damage the better. The newer digital cameras have a close-up feature that will allow you to record tiny features. You will need lots of light and the ability to hold the camera motionless. Many things can cause cracks and scabs. A month or two later it may be difficult to tell what damaged a fruit. As the fruit enlarges, the scratches and pin-holes will get larger as well, as did the thrips damage. The fruit will have scars that will scab up inside.

I looked at some peaches adjacent to the nectarines and they did not appear to be harmed. The fuzz affords much protection to the fruit's skin. I will check again weekly to see if unseen damage appears.

The sad story is the strawberry growers that were hit hard and sustained almost a total loss. The leaves were stripped off and the fruit was badly bruised. The hail was a few inches thick and it probably froze the surface of much of the fruit. The next morning the fruit was already starting to get mushy on the surface. At 10:00 there were still persistent "snow drifts" in the bar ditch next to the road.

Next to Atwater I stopped by an almond orchard which had leaves and small nuts all over the ground. While alarming to look at, I don't think it had significant damage because almost all the nuts on the ground were only 1/3 size of the nuts still on the tree which leads me to believe that they were in the process of the normal spring drop and were helped along by the stormy weather. I don't think enough leaves were removed to debilitate the trees.

In early April, while looking at apricots near Los Banos I observed tiny slits in the leaves – as if someone took a razor and carefully made short incisions. PCA's reported they had freezing rain soon after the leaves emerged and that sounds consistent with the injury. I did not see damage to the fruit – I can't explain that.

REPORT ALL CROP DAMAGE IMMEDIATELY

Any time you have significant crop damage from any source, you should report it immediately to the Ag Commissioner's office. This enables them to keep an accurate record of crop losses. It can be very useful in getting your county qualified for USDA disaster assistance if such assistance becomes available. For federal assistance to be available, the local USDA FSA office must be able to show that a significant number of growers were hurt. Even if they were wiped out – if only a few growers were affected, they may be out of luck as far as federal programs go.

GRAPE CRUSH REPORT AVAILABLE

The latest grape crush report showing prices received by growers is available online at www.nass.usda.gov/ca

The most important parts are sections 5, 6, 8 and 10*. We are in district 12. *Tables 5 & 10 are most applicable to growers because they exclude sales from vineyards that are owned by wineries.

STONE FRUIT VARIETY DISPLAY AND RESEARCH UPDATE SEMINARS

Sponsored by UC Cooperative Extension

Kearney Agricultural Center

9240 S. Riverbend Avenue, Parlier

Friday, May 23; Friday June 30; Friday July 25; Friday September 12, 2003

8:00 – 9:00 a.m. Variety display by stone fruit nurseries, breeders and USDA.

9:00 – 10:00 a.m. Research Update Topics:

Nutrient deficiencies

Dwarfing & semi-dwarfing rootstocks

Keeping trees short

IPM updates

Irrigation management and water stress

No Charge – Handicapped Accessible

For more information call: Scott Johnson (559) 646-6547, Kevin Day (559) 685-3309, Ext. 211, Harry Andris (559) 456-7557, Brent Holtz (559) 657-7879, Ext. 209, or Bob Beede (559) 582-3211, Ext. 2737

VINE MEALYBUG IN STANISLAUS COUNTY by Roger Duncan

A serious new pest, the vine mealy bug, was verified in one Stanislaus County vineyard last fall. This insect is an economic pest in many areas of the world, including the Mediterranean regions of Europe, Africa, the Middle East, Argentina and the South Eastern U.S. It was first discovered in California's Coachella Valley in the late 1990's. In the last 2-3 years it has been found in many of our state's grape growing counties.

The vine mealybug is a different and more serious pest than the grape mealybug we are used to. The grape mealybug is only an occasional pest and rarely reaches economically damaging levels in Stanislaus County winegrapes. In contrast, the vine mealybug (VMB) appears in much larger numbers, causes significantly more problems and is more difficult to control. VMB produces more eggs, has a greater number of generations per year and can smother clusters, producing copious amounts of a sticky substance called honeydew.

Mealybugs are phloem feeders that can feed on all portions of the vine. VMB feeding can reduce vine vigor and lead to the collapse of clusters or whole spurs. Mealybug feeding and excretion of honeydew can lead to sooty mold and bunch rot. VMB has the potential of spreading some viruses from vine to vine.

What to look for. Just like other mealybugs, look for white, cotton-like insect bodies and egg sacks under the bark or in grape clusters, only in larger numbers than grape mealybug. Look for ants active on the vines as they move mealybugs around and protect them from predators. VMB produce copious amounts of honeydew. Badly infested clusters can look like they are covered with melted sugar or candle wax. If mealybugs are found, look at them with a lens. VMB do not have "tails" like grape, obscure and long-tailed mealybugs. VMB is found on all portions of the vine and is present year-round. During the winter, eggs, crawlers, nymphs and adults are found under the bark, within developing buds, and on roots. However, most VMB are found on the lower trunk near the soil line and on roots. As temperatures warm in spring, VMB increase in

numbers and become more visible. By late summer, VMB can be found on all portions of the plant, including canes, leaves and clusters.

Management: The best management tool is prevention. VMB cannot fly. Although ants can move mealybugs short distances and infested leaves can be blown into adjacent vineyards, long distance movement requires the activities of man. Due to the vast amount of honeydew produced, infested plant parts are very sticky. VMB hitches a ride on vineyard equipment, mechanical harvesters, people, clothing, picking buckets, - just about anything that comes into contact with infested plant parts. VMB can also be brought in on infested nursery stock or cuttings.

Closely inspect any equipment coming from other vineyards, especially if they have been used in the southern San Joaquin Valley. Clean your own equipment before transporting it to other locations. If you suspect you have VMB in your vineyard, bring a sample by our office, the Ag Commissioner's office or send it to a CDFA lab. If VMB is verified, come after it with heavy guns and try to eradicate it before it becomes established. Although control strategies are still being refined, some treatments look promising. Imidacloprid (Admire) injected through the drip system in late May can be effective. Another strategy is to apply dimethoate or Applaud in mid summer and/or Lorsban from the late dormant period through budbreak. Timing is very important for good control.

We have a limited supply of laminated color posters with excellent photographs and descriptions in English and Spanish are available for free at the Merced and Stanislaus offices. Contact Maxwell Norton or Roger Duncan if you can use one. A new publication entitled *Mealybugs in California Vineyards* (UC Pub. #21612) is also available at your local Cooperative Extension office for \$7.00.

PESTICIDE DISPOSAL DAY? By Maxwell Norton

The Ag Commissioner is trying to decide if there is enough interest in a pesticide disposal day. The disposal contractors require a minimum number of pounds of material to make it worth the cost of setting up in the County. If you have out-of-date pesticides that you need to dispose of let the Ag Commissioner, Cooperative Extension or Farm Bureau know. Give us an estimate of how many pounds or gallons of material would be involved. We don't need to know what the material is.

It is legal for you to give unused material to a friend or neighbor just as long as they have the necessary permits to use it on their crop and they use it according to the label. The safest way to dispose of chemicals is to use them up in the manner they were intended. I have an idea for a web page where growers can list materials they are willing to give away to other growers. If you think that is worth doing let me or Farm Bureau know.

CROP DISASTER SIGN-UPS AT USDA-FSA

If you had a weather-related crop loss in 2001 or 2002 (not 2003), contact the USDA-FSA office to find out if you are eligible for financial assistance. Don't rely on rumors and third-hand information. Contact FSA directly and get the facts. Merced office phone: 722-4119 x2 FSA is located in the east wing of the Agriculture Center next to Ag Commissioner.

SPRING 2003 ALMOND FIELD DAY

Sponsored by

**The University of California Cooperative Extension
& The Almond Pest Management Alliance**

May 15, 2003

**Darpinian & Sons Orchard
21131 S. Sexton Road
Escalon, CA**

**1.5 hours of Pest Control Continuing Education Credits Offered
1 hour of CCA credits offered**

8:00 A.M.

Registration, coffee, etc.

8:30 – 11:00 A.M.

Program

Is Skipping Dormant Sprays a Sustainable Practice for the Long Run?

Roger Duncan, UCCE, Stanislaus County

Tree Nutrition and Tissue Sampling

Paul Verdegaal, UCCE, San Joaquin County

Total Irrigation Management for Efficient Almond Production

Bill Power, East & West Stanislaus Resource Conservation Districts

Hull Rot Management Through Controlled Deficit Irrigation

Ken Shackel, Dept. of Pomology, UC Davis

Overview of Almond Rootstock Trial.

Paul Verdegaal & Roger Duncan

What We Know (and Don't Know) About Bacterial Canker

Dr. Bruce Kirkpatrick, Dept. of Plant Pathology, UC Davis

Crown Gall

Lynn Epstein, Dept. of Plant Pathology, UC Davis

There is no fee or pre-registration required for this meeting.

