



Central Coast

Agriculture Highlights



SANTA BARBARA COUNTY

FEBRUARY 2006

Blueberry Leaf Rust

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Figure 1. Sepal infection



Figure 2. *Pucciniastrum vaccinii*

In the literature leaf rust of blueberries is reported as a disease of "minor importance" and "considered rare" in occurrence with epiphytotics "occasionally occurring in highbush blueberries." The above description of incidence needs to be considerably altered when talking about blueberries on the Central Coast.

Leaf rust caused by *Pucciniastrum vaccinii* is usually first noted as reddish-brown spots on leaves. On the lower leaf surface a yellowish-orange dust can be found associated with each reddish-brown spot. This dust is the spores of rust and is produced in the uredinium which is at the center of each spot. As the spots proliferate, leaf drop and plant defoliation may occur.

On the Central Coast, we have observed that leaf rust is very active during the fruit production period of Jan, Feb, March and April of each year. We have also noted that the young (green) fruit, especially the sepals at the bloom end of the fruit, are very susceptible to

infection by the spores of the rust fungus (see figures 1 & 2).

Due to the coincidence of fruit development and rust spore activity, leaf rust can become a serious economic disease in Central Coast blueberries because infected fruit cannot be sold. To keep leaf rust in check, a preventive control program must be instituted. A few leaf spots are not a problem, however, when fruit infection occurs, those berries are a total loss. Currently, information indicates that Bravo™, Cabrio™, Kocide™, and wettable sulfur will control rust. Spray intervals and dosage may vary with the product, so read and follow label directions. Also several of these products may leave spray residues on fruit, which could present a concern when marketing the blueberries.

Leaf rust in blueberries is - and we think will continue to be - a major concern for Central Coast blueberry growers. A preventive control program will be the best way to keep crop loss at a minimum. - If you have questions, contact us.

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Pesticide Alert!

Cabrio™ and Pristine™ Residue Tolerance Update

California Strawberry Commission

Pyraclostrobin is an active ingredient in the fungicides Cabrio™ and Pristine™. The temporary tolerance for pyraclostrobin's maximum residue level (MRL) expired on December 31, 2005, despite assurances by the US EPA and BASF that a permanent MRL of 1.5 ppm would be in effect by January 1, 2006. The current MRL for

pyraclostrobin has been reduced to 0.4 ppm. At this level, fruit treated with Cabrio™ or Pristine™ may have MRLs over the reduced tolerance limit. A permanent MRL of 1.2 ppm (lower than the requested 1.5 ppm) will be posted in the federal register on January 17, 2006 and become effective on February 20, 2006. Until then, the MRL for pyraclostrobin is 0.4 ppm. Pyraclostrobin belongs to

the strobilurin chemical class of fungicides with resistance known to occur in fungal populations. So alternate these products with those from a different chemical class. Please contact your local BASF representative or Frank Westerlund at fwesterlund@calstrawberry.org or (831) 724-1301 with any questions you have regarding this issue.

Strategies for Off-Season Blueberry Production on Coastal California Small Farms

Mark Gaskell

Research trials and grower experience over the past few seasons have demonstrated the clear potential for production of fresh blueberries during profitable off-season market windows. In a typical year, prices for fresh blueberries fall during the June to September period when blueberry production from different US and Canadian sites are at a peak. In September, some fruit is held over in controlled atmosphere storage rooms in Oregon, Washington and Canada as production shifts to Argentina. Prices rise again during the winter, as Chile, New Zealand, and other southern hemisphere production areas begin harvesting. Prices stay relatively high from late September until mid-May when substantial US domestic production begins in Florida



and growing acreage in California. Chile finishes in the southern hemisphere in mid-March, and again berries are stored in controlled atmosphere to be marketed over a 2-6 week period. As a result, blueberries reach annual peak prices in mid-April.

Field trials and growing production acreage at mild coastal production sites is now showing that blueberries can be harvested over much of the off-season period. And depending on the specific market window goal, growers can target production for more profitable periods. Some of the key elements that are

essential to success with off-season production include among others:

- Location/Site
- Blueberry Variety
- Cultural Practices
- Frost Protection

Location

The mild temperature associated with the ocean influence in coastal growing areas is one of the most critical factors for off-season harvest. The specific position on the landscape and orientation toward the sun can have important benefits as well. Fields with southern exposure warm earlier in the day, warm earlier in the year, and speed early heat unit accumulation that is important to fruit ripening. Fields on the sides of hills also enable cold air to drain away, which further aids heat unit



accumulation and reduces the threat of frosts.

Some growers are also using high plastic tunnels to create a protected environment to speed ripening and to protect from frost, birds, and wind. These tunnels dramatically increase costs, but many growers feel the earlier harvest and more profitable market window justifies the additional costs. In addition to the increased costs, high tunnels are affected by windy conditions, and some precautions will need to be taken to avoid wind damage.

Blueberry Varieties

Early ripening, low-chill southern highbush (SHB)-type blueberries are the best suited to off-season production. There are now a number of varieties available that combine low chill requirement, high yield, and excellent horticultural characteristics. A number of these varieties have performed well in comparison trials at multiple coastal sites over the past several seasons. The varieties that have emerged as best suited to off-season production include the following:

- Jewel
- Emerald
- Sharpblue
- Misty
- Sapphire
- Star

Several additional varieties are still in evaluation trials and may have a role in off-season blueberry production programs, but the group identified here has proven to be the earliest and most consistently productive of the low-chill SHB blueberry group. New varieties are being released constantly from breeding programs such as the one at

the University of Florida where many of these varieties originated. As new varieties are released, they are included in trials for evaluation, and growers also conduct on-farm testing. Thus, a continual process permits constant evaluation and renewal featuring the most productive, best adapted varieties.

All of these varieties - except for Sharpblue and Misty - are patented, and their propagation and distribution are restricted according to patent agreements. These restrictions limit plant availability of the patented varieties. For more information on availability of the patented varieties in California, contact Fall Creek Nursery in Lowell, Oregon, at (541) 937-2973 or www.fallcreeknursery.com

Most of these low-chill SHB varieties are rated to have chill requirements in the 100-200 hour range, but some of them also produce in the fall season. This fall production occurs in the absence of traditional chilling conditions. It appears that the spring production may not be as high on varieties that have produced over the fall and winter and continue to produce in the spring, but trials have been in too short of a time period to draw clear conclusions.

The low-chill varieties mentioned above do not all produce with equal intensity during the fall and winter period. Jewel for example is one of the outstanding producers during the spring but produces very little during the fall and winter. Emerald, Sharpblue, Star, Misty, and Sapphire all produce during the fall and winter period, and production from these varieties continues into May.

Cultural Practices

Common blueberry cultural practices affect off-season production management. Pruning and fertility management affect yield and harvest timing. Following harvest in the spring, plants should be pruned back

to large diameter wood to reshape and open the plant, and the oldest main cane should be eliminated at this time. Regrowth follows over the summer months, producing new fruit canes for the next harvest.

The time of the pruning likely affects the time of initiation and perhaps also the yield of the following fall and winter. Since both the spring and fall market windows traditionally have good prices, growers are reluctant to prune plants in the spring until production is tapering off, and prices are falling in early June. Earlier pruning could improve fall yields, but trials have not been conducted to date to bear this out. And it is hard to prune producing plants in a good market window for uncertain production later in the year.

Fertilization is also more complicated with production over such long periods. Overall plant nutrition is important to keep plants healthy and productive. Florida trials have shown that these varieties respond to increasing nitrogen (N) application rates - up to 84 grams per plant or approximately 325 lb N per acre. The N is important to produce sufficient new vegetative canes and bearing area for high yields. Still, these trials were conducted in Florida where these varieties produce over a more concentrated, once per year harvest. It is unclear at this point if high N during the flowering and fruiting season will stimulate new vegetative growth at the expense of flowers and fruit. For seasonal production over a long period it is probably best to apply modest amounts of N - perhaps 5 lb N per acre per month - during the fruiting season. Then N rates should increase to 20-25 lb N per month during the period following harvest when the plants are growing vegetatively.



Frost Protection

Flowering and fruiting over the winter and spring mean that off-season blueberries are exposed to more threat of frost. There is a range of conditions in mild areas along the coast from truly frost-free to some areas where the potential exists for a few radiative frosts in a typical year. These frosts often occur in late January or February, and if temperature falls into the mid-20s for a long enough period, flowers and fruit will abort from the plant. Plants are not affected by these frosts, but any production will be lost for nearly 3 months. Flowering will commence again following the frost damage, but approximately 70-75 days are required from flowering to harvest of ripe fruit. As a result, much of the



more profitable market window period will be lost.

Sprinkler irrigation and wind machines are the most common forms of frost protection used for blueberries. High tunnel systems also provide for frost protection and aid heating, heat unit accumulation, and speed fruit ripening. The sprinkler and wind machine systems will be specifically designed for each site situation based on topographic con-

siderations and irrigation water availability. Sprinklers use the heat released as water freezes to warm the surrounding air and plant tissue. Wind machines mix warmer air above the crop canopy surface with cooler air below to raise temperatures around the plants. Both sprinklers and wind machine frost protection begins as temperatures drop below freezing and are continued until temperatures again rise above freezing in the morning. Overhead sprinkler systems are effective in reducing spring frost injury if enough water is available. Applying about 0.10 to 0.15 inches of water per hour can protect open blossoms down to a temperature of 25° F. Water must be applied continuously until the air temperature warms above 32° F (wait for ice to melt), or frost injury may occur.

Antibiotic Choices for Beef Cattle

Dr. John Maas/Wayne Jensen

As in previous newsletters, here is an article that should be of interest to you, written by Dr. John Maas, Extension Veterinarian at UC Davis. This article provides you with a wealth of information regarding the appropriate use of antibiotics.

During the last 30+ years of practicing veterinary medicine, I cannot remember a time when the beef cattle industry had as many antibiotics available for use in our cattle. Additionally, several of these drugs are both unique and powerful in their mode of action. The downside to this situation is the number of choices we have to make. This

month I have put together a brief table of information on many of the newer antibiotics and some of the older ones for sake of comparison.

This is not meant to be an exhaustive list of all available antibiotics. However, I hope it will be instructive.

The brand name, generic drug name and the company that markets the drug is listed in the first column. The second column notes the general class of antibiotic. This is important information for producers and veterinarians when selecting a product to use in sick animals that are not responding to initial therapy. If



an animal (or group) is not responding, it is prudent to select the second drug from a different class. For example, if a group of calves with pneumonia is not responding to a tetracycline, it would be advisable to use a cephalosporin or fluoroquinolone instead of another tetracycline. The third column lists the diseases, pathogens (bacteria names), and/or



conditions that the drug is licensed for use as a therapeutic agent. In other words, the company has submitted data to the FDA that proves this drug is effective in the therapy of the disease, pathogen(s), or conditions listed. These are the diseases for which this drug can legally be used to treat without a veterinarian's prescription. Most antibiotics are licensed for use in the treatment of Bovine Respiratory Disease (BRD) complex. The common bacterial agents responsible for BRD are *Mannheimia hemolytica* (formerly called *Pasteurella hemolytica*), *Pasteurella multocida*, and *Histophilus somnus* (formerly called *Hemophilus somnus*). Microbiologists commonly re-name organisms during "slow times" - the bugs are the same, just the names have changed. I have abbreviated some of these terms in the chart for brevity - *M. hemolytica*, *P. multocida*, and *H. somnus*, for example. Some antibiotics are labeled for treatment of other diseases - anaplasmosis, footrot, woody tongue, and pinkeye are

examples. If the condition you are treating is not on the label, you are using the drug in an extra label manner and must have a veterinarian's prescription for this use.

The fourth column is the approved route of administration for the drugs. Again, if you use another route of administration, this constitutes extra label use of the antibiotic. The fifth column is the duration of therapy or the time the drug is actively fighting the infection. The numbers in this column are on the label, or I extrapolated them from data on the label and/or in the literature. These are my estimates based on my understanding of the data if a length of therapy is not listed on the label.

The sixth column contains some of the listed warnings or adverse effects. This information should always be noted before administering any drug to cattle.

The seventh column contains the label withdrawal time for the product when used in the manner outlined on the label. If the product is used in any extra label man-

ner, the withdrawal time will be determined by the veterinarian writing the prescription for its extra label use. Remember, the withdrawal time is the minimum time from the last treatment until the animal can go to slaughter.

The final column notes whether this drug can be used in an extra label manner at any time. Some of the drugs, like the fluoroquinolones, cannot be used in an extra label manner, period! Others like Excede® probably should not be used except as labeled.

It is important to consult with your veterinarian on the best and safest uses of antibiotics for your operation. We currently have a large number of very good antibiotics available to treat our cattle. However, if we misuse these products, they may be pulled from the market. We must be responsible and accountable for the way we use these drugs in food-producing animals.

Trade Name (generic name) Company	Drug Class	Label Indications: Diseases or Problems	Route of Administration	Duration of Therapy	Warnings & Adverse Effects	Withdrawal Time	Extra Label Use
A 180® (danafloxacin) Pfizer	Floroquinolone	BRD, <i>M. hemolytica</i> & <i>P. multocida</i>	SubQ	48 hours	Not for use in dairy cattle	4 days	No
Adspec® (spectinomycin) Pfizer	Aminoglycoside	BRD, <i>M. hemolytica</i> , <i>P. multocida</i> , <i>H. somnus</i>	SubQ	24 hours		11 days	Yes
Baytril® 100 (enrofloxacin) Bayer	Floroquinolone	BRD, <i>M. hemolytica</i> , <i>P. multocida</i> , <i>H. somnus</i>	SubQ 2 dose rates	3-5 days	Not for use in dairy cattle	28 days	No
Biomycin® 200 (oxytetracycline) Boehringer-Ingelheim	Tetracycline	BRD, <i>M. hemolytica</i> , <i>P. multocida</i>	SubQ or IM	72 hours		28 days	Yes
Draxxin® (tulathromycin) Pfizer	Macrolide	BRD, <i>M. hemolytica</i> , <i>P. multocida</i> , <i>H. somnus</i>	SubQ	7 days	Not for use in lactating dairy cows	18 days	Yes
Excede® (ceftiofur) Pfizer	Cephalosporin	BRD, <i>M. hemolytica</i> , <i>P. multocida</i> , <i>H. somnus</i>	SubQ Ear	6-7 days	Injection in the artery in the ear can kill cattle. Not for use in dairy cows.	Zero withdrawal time	Not advised

Trade Name (generic name) Company	Drug Class	Label Indications: Diseases or Problems	Route of Administration	Duration of Therapy	Warnings & Adverse Effects	Withdrawal Time	Extra Label Use
Excenel® RTU (ceftiofur) Pfizer	Cephalosporin	BRD, <i>M. hemolytica</i> <i>P. multocida</i> <i>H. somnus</i> Footrot Metritis	IM or SubQ	3-5 days or 48 hours based on dosage and route of administration used		48 hours	Yes
Liquimycin® LA200 (oxytetracycline) Pfizer	Tetracycline	BRD, <i>M. hemolytica</i> <i>P. multocida</i> , <i>H. somnus</i> , Pinkeye, Footrot, <i>E. coli</i> scours, Woody tongue Lepto Pomona, Metritis	IM or SubQ	24-48 hours based on dosage and route of administration		28 days	Yes
Micotil® 300 (tilmicosin) Elanco	Macrolide	BRD <i>M. hemolytica</i>	SubQ	2 days	Accidental injections in humans can be fatal	28 days	Not advised
Naxcel® (ceftiofur) Phizer	Cephalosporin	BRD, <i>M. hemolytica</i> <i>P. multocida</i> <i>H. somnus</i>	IM or SubQ	24 hours		Zero withdrawal time	Yes
Nufloor® (florfenicol) Schering-Plough	Phenicol	BRD, <i>M. hemolytica</i> <i>P. multocida</i> <i>H. somnus</i> Footrot	IM or SubQ	24-48 hours depending on route of administration IM or SubQ		IM 28 days SubQ 38 days	Yes
Tetradure® 300 (oxytetracycline) Merial	Tetracycline	BRD, <i>M. hemolytica</i> , <i>P. multocida</i> , <i>H. somnus</i> , Pinkeye, Footrot, <i>E. coli</i> scours, Woody tongue, Lepto pomona, Metritis	IM or SubQ	7 days		28 days	Yes

Cattle Identification & the National Animal Identification System

Wayne Jensen

In prior newsletters I have included articles describing why you should be informed of these voluntary animal identification programs. The University of California Cooperative Extension has been asked by the California Department of Food and Agriculture to help producers learn more about the use of electronic tools to identify their animals. My purpose is to alert you that these tools are not just in the planning process but in use now. I hope to be holding several meetings in the near future so you can see for yourself what is

involved in this “new” method of identification and how it can be used to your benefit.

California has a long history of cattle identification programs, beginning with the establishment of the missions and Spanish land grants. Each mission and land grant was assigned unique brands that could be used on the cattle under their ownership. These brands were tied to the specific mission or land grant owner. The brands established ownership of the cattle and con-



nected the ownership to specific premises (mission or land grant property). Other means of identification, such as ear notching, have been used along with hot iron brands for over 200 years in California. Brands were originally used to designate ownership and to prevent cattle theft. However, when disease problems occurred,

the brands have been widely used to help control or eradicate disease.

In the 20th century, various disease control and disease eradication programs were initiated. These programs required individual identification of cattle as well as premises identification. The individual animals were tested for diseases, such as tuberculosis, so test results could be linked to a specific animal. Additionally, when heifers were vaccinated for brucellosis, a unique ear tag was applied to identify that animal, and this was also linked to ownership at the time of vaccination. Some of these tags fell out, however, so this system has never been perfect.

Seed stock producers and cow/calf producers use individual animal identification to enhance decisions with regard to animal performance and genetic selection. A whole industry has grown up with regard to individual cattle identification. This type of identification facilitates better recordkeeping, thus enabling more informed management decisions. More recently it has become apparent that there is a need for a standardized identification system for all U.S. cattle. New requirements include source verification, age verification, and cattle tracking to help control diseases. Also, the use of ear tags for brucellosis vaccination - which is the identification system we have come to rely on - is being eliminated in many states. California law still requires brucellosis vaccination of breeding heifers. However, only about 40% of beef heifers are vaccinated while almost 100% of dairy heifers are still vaccinated and ear tagged.


The National Animal Identification System (NAIS) has evolved since 2002 when industry leaders developed the United States Animal Identification Plan. The NAIS is the cooperative State-Federal-Industry program administered by USDA's Animal and Plant Health

Inspection Service (APHIS) for the purpose of tracking all animal movements from birth to slaughter as part of the USDA's National Health Monitoring and Surveillance Program. The long-term goal of the NAIS is to trace back to all of the locations (premises) where a suspect animal has been during its life within 48 hours, and to provide information on all of the other animals that came in contact with the suspect animal at each premises.

Success of the NAIS will be dependent upon the development of a system infrastructure capable of collecting and recording the movement of animals. Another major objective of the NAIS is to enable State and Federal animal health officials to promptly ascertain animal health status for the purpose of issuing both intrastate and interstate animal health movement certificates.

The NAIS is now voluntary, so producers and other stakeholders can participate in design, development, and testing of the system to ensure that practical solutions are developed. However, to achieve the goal of 48-hour trace backs, all producers and affected industry segments will eventually have to participate. In the fall of 2007, USDA plans to establish mandatory animal identification and premises registration requirements. In January 2008, the final rules requiring premises registration and animal identification as defined under the NAIS program standards are scheduled to become effective. By January 2009, USDA anticipates that the animal tracking component of the NAIS will become mandatory. USDA will continue to support field trials and implementation of successful data collection systems to collect animal movement records.

The relationship between the NAIS and the 2002 Farm Bill's Country-of-Origin Labeling (COOL) provision is often misun-



derstood. As outlined above, the NAIS is a live animal traceability program with the objective of improving surveillance and traceback of animal disease and health issues, whereas COOL is a food-labeling program providing consumers with information on the country-of-origin of certain food products at the retail level. While the goals of these two programs are different, the NAIS will likely be complementary to the COOL program. However, the NAIS will increase the U.S. government's ability to respond to animal health and disease outbreaks, and this will ultimately contribute towards the safety of animals and meat products that enter into the food supply chain. For more information on this topic see the Western Extension Marketing Committee's fact sheet "The National Animal Identification System and Country-of-Origin Labeling: How are they Related?" at <http://imic.info/memberspublic/animalID/fs04.pdf>

As we go forward with individual animal identification, premises identification, and cattle tracking systems, it is important to remember that we have a long history of using animal identification tools to provide benefits to owners and to control and eradicate cattle diseases. It is also important for producers to demand that new identification systems optimize their management options and provide them with potential economic benefits above and beyond disease control.

Information Resources

California Department of Food and Agriculture
<http://www.cdfa.ca.gov/pais>

USDA/APHIS National Animal ID
<http://animalid.aphis.usda.gov/nais/index.shtml>

Beef Stocker USA
<http://www.beefstockerusa.org/>

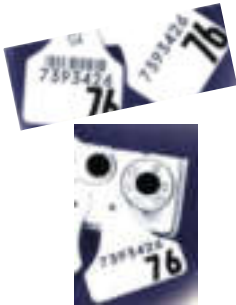
Livestock Marketing Information Center
<http://lmic.info/memberspublic/animalID/AnimalID.htm>

International Livestock Congress
<http://www.livestockcongress.com/>

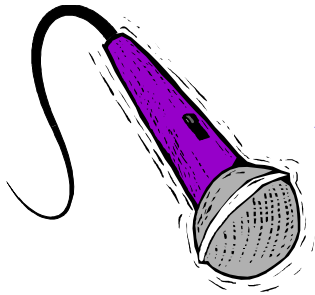
BEEF Magazine
<http://www.beef-mag.com/>

National Institute for Animal Agriculture
<http://animalagriculture.org/>

NCBA Animal ID
<http://www.beefusa.org/AnimalID.aspx>



Announcements



38th California Nematology Workshop, Tuesday, March 28, 2006, 8 a.m. - 4:30 p.m., at the University of California Extension Center, 1200 University Avenue, Riverside, CA 92507-4596.

This annual workshop offers pest management professionals and growers the latest information on problems caused by plant-parasitic nematodes and on their potential solutions. Target audience for this program includes pest control advisors and operators, growers, pesticide and biocontrol industry representatives, landscapers, municipal and state employees, parks and recreation personnel, educators and consultants. A superb lineup of speakers and workshop presenters will share their expertise concerning

nematode-related issues. Posters will inform about the latest nematology research activities at the University of California, CDFA, USDA, and industry. Breakout sessions will give the audience an opportunity to sharpen their skill in nematode identification, disease diagnostics, and sampling procedures. For information and registration: www.nematology.ucr.edu or contact antoon.ploeg@ucr.edu, (951) 827-3192.

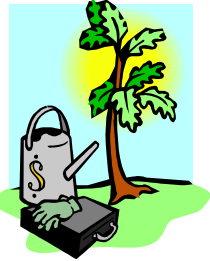
Oak Tree Information Needed

Lottie Martin has been hired as the Oak Tree Specialist for Santa Barbara County. She will work under the direction of the Agricultural Commissioner. As part

of the Board of Supervisors' review of the Oak Tree Ordinance, Lottie has been asked to track the number and type of oak trees planted and protected throughout the county. We know many of you have planted or protected oak seedlings on your property within the last year. We ask that you contact Lottie at (805) 934-6200 so that we have accurate data that will demonstrate the commitment of the agriculture community to protect and enhance oaks.

Lottie is also willing to work with land owners who wish to plant or conserve oaks on their properties.

The Agricultural Commissioner's office can provide technical assistance, help obtaining project funding and supply property owners with



information about oaks when requested. The level of participation by the Ag Commissioner's office will be based on the individual project and the wishes of the land owner. For information or assistance regarding oak trees, please contact **Lottie Martin**, Santa Barbara Agricultural Commissioner's Office, (805) 934-6200.

Three New Classes on **California and Federal Labor and Employment Laws for Farm Labor Contractors** will be offered by the Grower-Shipper Vegetable Association in March, June and November.

March 8, 2006

Culinary Arts Academy
1900 Golden Hill road
Paso Robles, CA 93444
7:45 a.m.—5:00 p.m.
Breakfast & Lunch included

June 28, 2006

Radisson Hotel
3455 Skyway Drive
Santa Maria, CA 93455
7:45 a.m.—5:00 p.m.
Breakfast & Lunch included

November 1, 2006

Far Western Tavern
899 Guadalupe Street
Guadalupe, CA 93434
7:45 a.m.—noon

Topics include: Wage and hour, child labor, payment of wages, state & federal FLC licensing laws, sexual harassment training, Cal-OSHA Safety Standards, field sanitation and heat stress, insurance requirements, housing & transportation, and the agricultural labor relations act.



The fee for non-members is \$200 plus \$100 for each subsequent person from the same company; association members pay \$100 plus \$50 for each subsequent person from the same company.

The workshop has been approved by the Labor Commissioner for the 8-hour continuing education requirement. For questions and registration call the Grower-Shipper Vegetable Association at (805) 343-2215.

Sensory Evaluation of Olive Oil - March 10 & 11, 2006 - University Club, Old Davis, Road, UC Davis. Learn how to evaluate olive oils by tasting the new releases from California and Europe. This two-day course is a blend of tasting and lecture to teach theory and provide applied experience in evaluating oils.

Lecture topics include the mechanics of how to formally taste olive oil; the role of variety and fruit maturity in oil flavor and style; sensory evaluation as a science; an overview of processing alternatives and their effects on oil style, using olive oil in food, and the health benefits of olive oil.

Activities include blind tastings of commercial oils from California and many other parts of the world, along with guided tastings that illustrate defects, varieties and fruit maturity.

One tasting focuses on the flavors of regionality and typicity and how these interact with price and consumer perceptions of olive oil quality. Another will provide details of how olive oil is made

and the effects of different processing methods on olive oil flavor.

Lunch the second day will feature food and olive oil pairings with a well known chef. The last tasting is a test of the student's abilities to distinguish and differentiate oil flavor intensities.

The course is led by Farm Advisor Paul Vossen who directs the University of California Master Olive Oil Taster Panel. The course draws on Darrell Corti of Corti Brothers; Alexandra Kicenik-Devarenne, UC researcher and taste panel member; Fran Gage, author, check and taste panel member; and selected faculty members of the University of California.

Course participants must not wear any strongly scented perfumes, deodorants or hand creams, and should refrain from smoking during the testing process.

The enrollment fee of \$565 includes two lunches and all tastings. You can enroll on line at www.extension.ucdavis.edu Go to Program Areas, click on Food Science, select course title "Sensory Evaluation of Olive Oil, 053FST300," click on Enroll Now, or call toll free (800) 752-0881 to register.

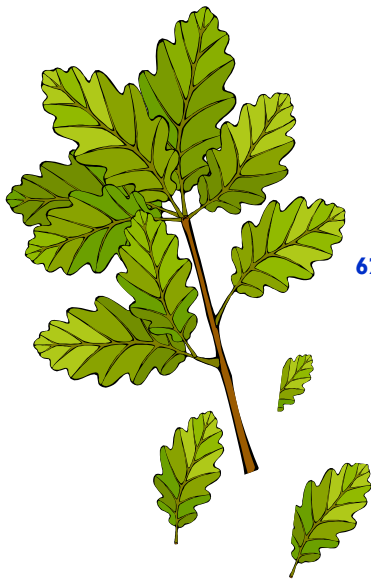


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CENTRAL COAST AGRICULTURE HIGHLIGHTS

February 2006



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