



Central Coast Agriculture Highlights

SANTA BARBARA COUNTY

APRIL 2005

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Pin Rot in Broccoli

Franklin Laemmlen



Pin rot in broccoli, also called bead rot or black bead, is caused by *Alternaria brassicae* and *A. brassicola*. Examination with a hand lens reveals a fuzzy, black growth of *Alternaria* covering the floret. Subsequently, the infection may spread to surrounding florets, causing much of the head to turn black with underlying and surrounding floral tissues turning yellow. The severity of the infection is of minor importance, since one black floret on a head renders the head unmarketable. These fungi also cause circular lesions, which produce a target pattern on the leaves of broccoli and other *Brassica* spp. Some researchers have indicated there are also several bacteria associated with pin rot. However, research now indicates that these latter organisms are probably secondary opportunists.

On the Central Coast pin rot can cause serious crop losses in broccoli during the fall and winter months. Temperature and moisture conditions usually become favorable in late September/early October, and pin rot can continue to be a problem through January in some years. Disease incidence may be from a few heads with a few beads affected to 100% loss of the broccoli crop with every head showing few to many infected florets.

Research to find a commercially feasible control for pin rot has been going

on for about 10 years. Major interest was sparked a few years ago when a single, replicated fungicide trial, using Quadris™ among other materials, was shown to provide effective control of pin rot. Unfortunately, a second successful demonstration of the effectiveness of azoxystrobin eluded researchers until this winter (2004).

A field trial under the direction of Jake Zaccaria* was set up at C and V Farms in the Santa Maria Valley. The trial consisted of an untreated control and two fungicides at two rates each. Amistar™ (azoxystrobin) was applied at the rate of 2 and 5 ounces per acre, and Switch™ (cyprodinil + fludioxonil) was applied at 11 and 14 ounces per acre. All treatments were applied in 65 gallons of water per acre equivalent with a CO₂-powered sprayer at 55 psi. Sprays were applied over the plant rows with the spray nozzles directed down onto the developing broccoli heads. The first spray was applied when 75-85% of the plants had one to two-inch diameter heads exposed.

Application dates were October 18, 23 and 29, 2004, and the broccoli cultivar was Marathon.

Table 1. Effect of fungicide sprays on pin rot control in broccoli—2004

Treatment	Rate/AC	Sample Size—25 Heads ^{1/}	
		No. Infected ^{2/}	% of Head Involved ^{3/}
1. Untreated	0	25 a ^{4/}	33.15 a
2. Amistar	2 oz	2 b	0.21 b
3. Amistar	5 oz	2.25 b	0.03 b
4. Switch	11 oz	1.75 b	0.02 b
5. Switch	14 oz	1.50 b	0.09 b

^{1/} Data was collected preharvest, and 11 days after the last fungicide application.
^{2/} Twenty-five heads per plot were examined. Number indicates heads with evidence of pin rot.
^{3/} The severity of infection is indicated by the percent of each head infected with *Alternaria* sp.
^{4/} LSD (P=.05) Numbers followed by the same letter are not significantly different.

The data show that both rates of Amistar and Switch provided excellent control of pin rot caused by *Alternaria* spp. The commercial field outside the plot area was abandoned as almost all the heads looked like the untreated control (see

photo page 1). Inside the plot more than 90% of the heads could have been harvested, having no disease at all.

Presently, Quadris (azoxystrobin) is registered for use on broccoli and allows 2 sequential applications. For resistance management, it is wise to

rotate fungicides with different modes of action. Switch is registered on broccoli and other cole crops. Amistar is expected to be registered in California in spring 2005.

** Jake Zaccaria, Zaccaria Agricultural Consulting, Bakersfield, CA.*

Fungicide Efficacy Franklin Laemmlen

A number of new fungicides have come on the market in the last several years. The crop registration profile for these materials is in flux as manufacturers continue to expand labels. Several of these new materials have shown excellent performance against diseases in vegetables and strawberries. The following table lists several new and old fungicides and compares their efficacy against *Alternaria*- and *Botrytis*-caused diseases and also indicates the risk of resistance development. **Caution:** Always check the label for registered uses on disease and crop combinations.

TABLE 1. Fungicide Efficacy

Fungicide	Resistance risk ¹	<i>Alternaria</i>	<i>Botrytis</i>
Bravo	low	++	----
Cabrio	high	+++	----
Elevate	?	----	+++
Flint	high	+++	----
Pristine	medium	++++	++
Topsin M	high	----	+++
Switch	?	++	+++
Copper	low	+	----

Rating: ++++ excellent and consistent, +++ good and reliable, ++ moderate and variable, + limited and/or erratic, +/- minimal and often ineffective, ---- ineffective and/or not registered, and ? Unknown or not available.

1. Rotate fungicides with different chemistries to reduce risk of resistance development.

California Labor Law - Required Posters

Franklin Laemmlen



State and Federal Law requires California employers to post the following notices at most work sites. Investigations may be conducted by State inspectors. An employer found to be in violation of State or Federal Laws by willfully failing to post up-to-date OSHA posters may be subject to criminal penalties as well as civil liability actions. Posters may be available free from the issuing governmental agencies.

STATE POSTING REQUIREMENTS

OSHA Job Safety and Health Protection Law (Labor Code Sec. 6328)

“Employers will keep their employees informed of their obligations and protections under the safety and health protection law including any standards set forth in the law.”

Unemployment Insurance, State Disability Insurance, Paid Family Leave Laws (Un Ins Code Sec. 1089)

“Posters identifying unemployment insurance benefits shall be posted by employers in conspicuous places in each place of business.”

IWC Minimum Wage Law (Labor Code Sec. 1183)

“Issues related to wages

shall be posted and made available to all employees. Wages and minimum wage information shall be posted where employees normally find posted materials.”

Payday Notice Law (Labor Code Sec. 207)

“Employers will post notices or provide in written form the policies and practices of the employer regarding sick leave, vacation pay, and any other fringe benefits.”

Workers’ Compensation Law (Labor Code Sec. 3550(a))

“Workers’ compensation notices, which will identify the procedures employees should take if injured, shall be posted in conspicuous locations.”

Fair Employment Practices Law (Government Code Sec. 12950(a))

“Equal employment notices shall be posted by every employer, labor organization, or employment agency. These notices shall be posted in obvious places where all employees may access them.”

FEDERAL POSTING REQUIREMENTS

Employee Polygraph Protection Act (29 USC 2003, 2005)

“Each employer shall post and maintain . . . notice [of the pertinent provisions of

this chapter] in conspicuous places on its premises where notices to employees and applicants to employment are customarily posted.”

“Any employer who violates any provision of this chapter may be assessed a civil penalty of not more than \$10,000.”

Equal Employment Opportunity (29 CFR 1601.30(a), (b))

“Every employer . . . shall post and keep posted in conspicuous places upon its premises notice in an accessible format . . . describing the applicable provisions of Title VII and the ADA . . . Title VII makes failure to comply with this section punishable by a fine of not more than \$110 for each separate offense. “

Family and Medical Leave Act (29 USC 2619 (a),(b))

“Each employer shall post and keep posted, in conspicuous places on the premises of the employer where notices to employees and applicants for employment are customarily posted, a notice . . . setting forth . . . pertinent provisions of this subchapter and information pertaining to the filing of a charge . . . Any employer that willfully violates this section may be assessed a

civil money penalty not to exceed \$100 for each separate offense.”

Minimum Wage Act
(29 CFR 516.4)

“Every employer . . . shall post and keep posted a notice explaining the Act . . . in conspicuous places in every establishment where such employees are employed so as to permit

them to observe readily a copy.”

Occupational Safety and Health Act (29 CFR 1903.2(a)(1))

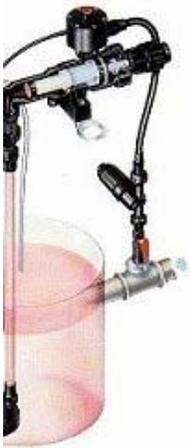
“Each employer shall post and keep posted a notice or notices . . . informing employees of the protections and obligations provided for in the Act . . . in a conspicuous place or

places where notices to employees are customarily posted. Each employer shall take steps to ensure that such notices are not altered, defaced, or covered by other material.”

Posters can be purchased from the California Labor Law Poster Service. Contact our office (805/934-6240) for an order form.

Managing Fertilizer Reactions in Fertigation

Blaine Hanson*



Although injecting fertilizer through a drip system offers a number of important benefits, irrigators should also be aware that fertilizer can interact with the irrigation water and with other fertilizers to form precipitates that may clog the drip system. The following lists general principles for a number of popular products.

Anhydrous and Aqua Ammonia

Injecting anhydrous or aqua ammonia increases the pH of the irrigation water. If the pH increases to more than 7.5, and if the irrigation water contains at least 2 meq/liter of bicarbonate, calcium carbonate can precipitate.

Calcium

If the irrigation water has more than 2 meq/liter

of bicarbonate, and the pH of the water is more than 7.5, adding fertilizers containing calcium—such as calcium nitrate—may cause calcium carbonate to precipitate.

Sulfate

If fertilizers containing sulfate, such as potassium sulfate, are added to irrigation water having a calcium concentration of more than 20-30 meq/liter, gypsum may precipitate.

Phosphorous

Many phosphorous fertilizers are not readily soluble in water and may therefore react with calcium and magnesium in the irrigation water to form phosphate precipitates if the calcium or magnesium concentrations are higher than 2.5 meq/liter or 40-50 ppm. These precipitates can be

difficult to dissolve out of emitters.

To prevent phosphate precipitates from forming, the irrigation water can be acidified to lower the pH to 5 or less, although this low pH may damage some kinds of emitters. Injecting a slug of highly concentrated phosphoric acid is sometimes effective, but the amount of acidic phosphorous fertilizer needed to reduce the water pH may greatly exceed the amount needed for fertilizer.

Mixing a fertilizer containing calcium with a fertilizer containing sulfate can cause gypsum to precipitate. One example of this would be mixing calcium nitrate with potassium sulfate. While both of these fertilizers are water-soluble, mixing them

together into irrigation water will cause calcium sulfate or gypsum to form, which is much less soluble and which will precipitate out of the water.

Testing the Irrigation Water

Before a drip system is used to inject fertilizer, the irrigation water should be tested for any potential to form precipitates through water-fertilizer interaction. As a first step, the water should be analyzed for calcium, magnesium, bicarbonate and sulfate content. Concentrations of any of these elements exceeding 2.5 meq/liter suggest a potential to form precipitates when mixed with certain fertilizers. Next the fertilizer should be mixed into a container of irrigation water at the concentrations desired for fertigation. The mixture should then be covered and held for the length of time approximating the period the fertilizer

would be present in the irrigation system. If the water turns cloudy or white, or if a precipitate collects on the bottom of the container, precipitation will probably result from injecting the fertilizer into the irrigation water. This testing procedure may have to be repeated frequently, particularly when phosphate fertilizers are used, since characteristics may differ by manufacturer.

Guidelines for Mixing Fertilizers

Mixing fertilizers can result in complex chemical reactions sometimes not well understood. In general, avoid mixing fertilizers unless clear guidelines are available. A product compatibility chart was developed by UNOCAL as a guideline for determining if mixing fertilizers with water or other chemicals may create a potential clogging problem. This chart can be obtained by contacting me

at (530) 752-1130. Some general recommendations obtained from the chart are as follows:

- Do not mix CAN17 with fertilizers containing ammonium or with N-pHURIC.
- Do not mix N-pHURIC with potassium chloride or calcium nitrate.
- Do not mix UAN32 or AN20 with N-pHURIC.
- Do not mix Phosphoric acid with potassium chloride or calcium nitrate.

N-pHURIC can be mixed with some fertilizers to form N-P-K blends. However, the sequence of mixing is very important and is found in the reference manual published by UNOCAL. This sequence can also be obtained by calling me at the above number.

**Blaine Hanson is a UC Irrigation and Drainage Specialist at the University of California, Davis.*

Symphylans Alert

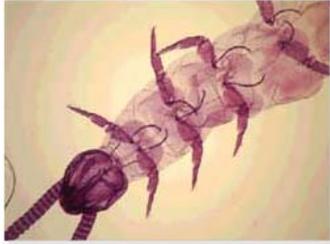
Franklin Laemmlen

Symphylan, symphyid, or garden centipede, are all names for a minute (3/16" or less long), white animal that has 12 pairs of legs, no eyes, long segmented antennae and three pairs of jaws, which are used to eat organic matter. Symphylans also eat germinating seeds, seedlings and transplants of

many crops. Economic levels of symphylans will cause seed to fail to emerge, will cause stunting, poor growth, and death of seedlings and may cause transplants to fail to grow, or to be permanently stunted.



Diagnosis of symphylan activity can be difficult. Affected areas of fields may be small or large, circular or irregular in shape. The areas may or may not



Pictures Courtesy of Oregon State University Extension Entomology

follow row patterns. Examination of affected plants may not reveal the problem. Symphylans move very fast, and they do not like dryness. So when you examine soil or plant roots, the symphylans quickly seek shelter between the soil particles, or among the roots and disappear from view. Usually a number of samples need to be examined, and the examination must be done gently, but quickly so the symphylans are exposed long enough to see if they are present.

During field, "soil-in-hand" sampling, the visual presence of two symphylans per handful of moist soil is good evidence that a symphylan problem exists. Always examine moist soil, symphylans will not be found in dry soil.

There are two other methods of detecting symphylans. For a rough esti-

mate of symphylan numbers, crumble a handful of moist soil taken from the root zone, or seed line, into a small bucket half full of water. If symphylans are present, they will float to the surface. The presence of two or more animals present indicates a problem. The second method of detection, which also will provide a quantitative estimate of the population is the potato slice. Carefully dig down to moist soil. Disturb the soil structure (pore spaces) as little as possible while making a relatively flat spot. Place a one-half inch thick potato slice on the flat soil surface. Cover the potato slice with a Styrofoam cup to maintain humidity around the potato slice. Weight the cup, so it does not blow away. Leave the potato slice in place for 24 hours. Then quickly examine the

soil-side of the potato slice, as the symphylans will begin to disperse immediately. A symphylan count of 10-15 definitely indicates an economic problem in the infested field.

Control of symphylans in a standing crop using sprinkler-applied pyrethroid has not proven successful. Symphylan control needs to be done before planting, or at planting. Recent research indicates that the pyrethroids provide effective control. Use broadcast rates applied to a four-inch band on the seedline. The pyrethroid should be lightly incorporated—one inch for direct seeding and about two inches for transplants.

Research on this re-emerging pest is currently underway in Monterey County. I will keep you appraised as more information is developed.

Reproductive Herd Health

Wayne Jensen

As you have read in previous editions of this newsletter, I like to include articles written by Dr. John Maas, Extension Veterinarian at the School of Veterinary Medicine at University of California, Davis. You may think the following article is out of sync with our calving season, but the concepts Dr. Maas discusses can apply to either fall or spring calving systems.

Cattle prices are still

up, despite all the BSE pronouncements over the past 14 months and the loss of the majority of our beef export revenues. Demand is growing, and the future looks better than we expected. So it's time to increase your herd size and sell more calves. Selling more pounds of calves is definitely a good idea, but the average producer doesn't necessarily need to increase the number of cows in the herd. Repeatedly,



research has indicated the three most important factors determining profitability in cow/calf operations are: (1) cost of production, (2) reproductive rate, and (3) weaning weight of calves. This research enforces our common sense view of cow/calf profitability. If the cost of production is very low, then almost anything sold is at a



profit. On the other hand, if it costs \$800 per year to run a cow, then making a profit will be a rare event. The third most important factor is weaning weight, and again its importance is obvious. Weaning weight is a function of genetics and feed conditions, and it is important to match your genetics with your particular ranch conditions. However, a poor feed year will result in lower weaning weights, no matter what we do. The second most important factor is reproductive rate, and while genetic selection is important here, the reproductive management of the herd is more important, and we will focus on some of the practical things you can do to maximize the reproductive rate in a cow/calf herd.

What is the reproductive rate?

The most honest way to calculate the reproductive rate is to look at % calf crop weaned. This is the primary product you sell. This rate is the % calf crop per cow (or herd) exposed to breeding (bull and/or artificially inseminated (AI)).

$$\% \text{ net calf crop} = \frac{\text{number of calves weaned} \times 100}{\text{number of cows exposed to breeding}}$$

So if you started with 200 cows exposed to the bulls and weaned 160 calves, that would be an 80% calf crop. By the way, this is better than the national average of about 71%. If those weaned calves averaged 500 pounds each, then the average for the original 200 cows exposed would be 400 pounds of

calf per cow exposed. Let's say you increased your net calf crop to 88% (176 calves), and they still weaned at 500 pounds, then your new average per cow is 440 pounds/cow exposed. At \$1.00 per pound of calf, that's \$8,000 more from those 200 cows. At \$1.20 per pound, that's \$9,600 additional income. The economic incentive to get cows pregnant, to maintain that pregnancy to get a live calf, and to keep the calf alive and healthy to weaning is clear. So how do we get that done? What are the potential problems that stand in our way? In this discussion we will split this up into three areas: (1) getting the cows pregnant, (2) maintaining the pregnancy, and (3) keeping the calf alive after birth. Nature doesn't make these nice distinctions in all cases, and we need to be aware of that variability.

What are the industry averages for calf crop losses?

As mentioned above, the U.S. average for net calf crop weaned per cow exposed is about 71%. Therefore, 29% of the cows exposed to breeding fail to wean a calf. About 17% of cows exposed to the bull or AI'ed do not become pregnant. These are cows that do not cycle and come in heat, cows that are exposed to infertile bulls or AI'ed incorrectly, and cows that contract Trichomonosis or vibriosis and lose the pregnancy early. Nationwide, about 2.3% of cows have abortions and thus do not wean a calf. In Califor-

nia this number is probably higher because of our problems with Foothill Abortion. Six percent of calves born die in the neonatal period, which is the first month or so of life. These deaths are usually due to diarrhea and/or pneumonia. However, in some regions in California we lose a number of calves to "white muscle disease" because of selenium deficiency. About 3% of calves that make it through the neonatal period die before weaning, these deaths are due to pneumonia, BRSV, blackleg, and similar infectious diseases. With over 50% of our reproductive losses due to cows that don't become pregnant, we will discuss this aspect first.

What steps do we need to take to get the cows pregnant?

First, be sure the cows are in good body condition prior to calving. The cows' ovaries are beginning to produce the eggs that can become next year's calf well before calving, and the cows need to be in positive energy and protein balance for that to occur. The cows should be in body condition score 5, 6 or 7 (on a scale of 1 to 9 with 1 being too thin to stand and 9 being obese). Body condition scores of 5, 6 and 7 are optimum for most beef herds. Cows with body condition scores of 3 and 4 may need additional feed before calving, so think about segregating these cows from the main herd for supplemental feed, or marking them for culling after they calve (don't

expose them to the bulls). This assessment of body condition can easily be done at the time the cows are checked for pregnancy at 4-7 months of gestation. In addition to general nutrition, be sure the cattle have adequate trace mineral supplementation. Copper deficiency and selenium deficiency both decrease reproductive performance in beef cattle and both problems are very common in California. If you are in doubt of the cows' mineral status, your veterinarian can

take a few samples at the time of the pregnancy check to supply that information.

Second, be sure the bulls are ready to perform. Your veterinarian should check each bull for semen quality, any infections of the reproductive tract (seminal vesiculitis, etc.), general soundness (feet, legs, body condition), and eyes (no cloudiness or eye infections). Additionally, all bulls should be checked for Trichomonosis before the breeding season. This is particularly important if any of

your neighbors have had problems with "Trich." More than 10% of California beef herds are infected with "Trich" by conservative estimates. Checking the bulls **before** the breeding season will eliminate or minimize economic losses. Checking after the breeding season will only help to diagnose an existing problem, but losses for that year will continue. It is very important that the bulls are checked for breeding soundness and "Trich" **before** each breeding season.

Current Research & Information of Interest

Franklin Laemmlen

- Toxicity of Fungicides to Urediniospores of Six Rust Fungi that occur on Ornamental Crops. D. S. Mueller, et al. March 2005.
- Weedborne Reservoirs and Seed Transmission of *Verticillium dahliae* in Lettuce. G. E. Vallad, et al. March 2005.

Call my office (805/934-6240) if you wish a copy of these research reports.



Sign-up Underway for Livestock Assistance Program

Wayne Jensen

Sign-up is underway at the Santa Barbara/Ventura County Farm Service Agency office for the Livestock Assistance Program (LAP), a grazing loss program that will pay eligible livestock producers for grazing losses on a per head basis of eligible livestock.

According to Rupert J. Butler, FSA county executive director, the program will

provide relief to livestock producers who have suffered grazing losses in 2003 and 2004 due to drought, severe weather and related causes, and have limited safety net and risk management tools available.

To speed up the process, producers may sign up online from their home or business, beginning in April or at any USDA Service Center across

the nation. To sign up online, producers must first establish an e-authentication identity in their local USDA Service Center. Currently, producers also may sign up online for USDA's Farm Service Agency Loan Deficiency Payment Program, and the Direct and Counter-cyclical Payment Program.

To qualify for the program, a producer's grazing

land must be located in a county designated as a primary disaster county under a presidential or secretarial disaster declaration, and declared by USDA to be eligible for the program. In this area, the following counties are covered under this program: Santa Barbara and Ventura.

A county may meet eligibility requirements for both 2003 and 2004. However, a producer in that county may receive benefits for only one of those calendar years.

By law, producers who reduced the number of livestock because of a natural disaster shall not be penalized for those reductions. If, because of a natural disaster, a producer sold eligible livestock that were placed on grazing land on or after Jan.

31, 2003, the producers will receive compensation for the entire disaster payment period. Benefits will be based on the number of livestock the producer would have owned if the disaster had not occurred. For livestock that were sold in the course of routine business, producers will receive benefits for those animals only up to the date of sale. Producers of dairy and beef cattle, bison and beefalo, goats, swine, sheep, and certain equine, elk and reindeer are now eligible to participate in both programs.

A producer must have control of adequate grazing land to support the eligible livestock, and the producer must possess beneficial interest in eligible livestock that have been owned or leased for at least three months.

During 2003 or 2004, a livestock producer must have suffered a 40 percent or greater loss of grazing production for three or more consecutive months due to natural disasters.

The 2005 Act also imposes a requirement that limits assistance to persons with a gross revenue limit of \$2.5 million, which is a change from the previous LAP. A \$40,000 per person payment limitation also applies to LAP assistance. A payment limitation of \$40,000 per person is in effect, and persons with a gross income in excess of \$2.5 million are ineligible.

USDA's Web site, <http://disaster.fsa.usda.gov>, provides one location for details on new and existing disaster assistance.

Initial Meeting of the Blueberry Association

Mark Gaskell

Approximately 60 growers, fruit marketers, PCAs, and farm advisors met on March 9, 2005 at Jon Marthedal's packing shed near Parlier to learn of initial plans for the formation of the California Blueberry Association (CBA). Speakers included Marthedal, Tom Avinelis, and Bill Steed of San Diego County who provided some background of association formation efforts to date. It is anticipated that the CBA will be a unified voice for California blueberry growers and at the same time provide an opportunity

for growers to exchange information on technical aspects of cultural practices and shifting market windows for fresh fruit. The association will aid communication among growers and between the growing California blueberry industry and organizations of interest within and outside of California. Areas of common interest mentioned initially include: pesticide registrations, labor issues and water and other environmental concerns. The crop is so new in California that the types and severity of pests are unknown and the CBA feels it is important to

anticipate new potential pesticide registration needs while there is an opportunity.

Mark Villata, Executive Director of the Folsom-based U.S. Highbush Blueberry Council (USHBC) also spoke and provided an overview of U.S. blueberry markets, the role of the USHBC and the growth of California blueberry acreage and volume. Villata said the recent focus of USHBC has been to educate consumers about the blueberry "health halo" and also to assist in the development of wider use of blueberries by food service.



Villata also described efforts to educate Western U.S. consumers, who do not know blueberries as well as Eastern consumers. He said that USHBC has also targeted several Asian countries – including Japan, Taiwan, and Korea - with growing blueberry consumption.

The most current figures available indicate that there are around 1700 acres of blueberries planted in California, and approximately 1200 acres of these are in production. Approximately 4.6 million pounds of California fresh blueberries were sold through wholesale market channels in 2004. It is

anticipated that with growing acreage in production and increasing yields, approximately 8.5 million lbs will be available in the 2005 season.

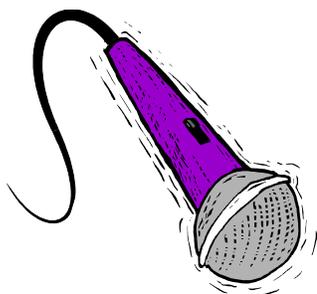
The Board of Directors of the association will be composed of five members with representation from different production regions. The initial group of growers, who have agreed to act as the Board, are Jon Marthedal, David Munger, Tom Avinelis, Paul Gotelli, and Dennis Bureson. Bill Steed will serve as Board secretary. Board members will serve staggered 2-year terms. It is anticipated that the CBA will meet three times per year. The association dues

have yet to be decided and will depend in large part on the anticipated operating budget, which is still being developed.

Grower-members anticipate concentrating, initially, on communications involving:

- Cultural practices
- Pest and disease control
- Weed management
- Research project priorities
- Understanding markets

For more information on the California Blueberry Association contact Bill Steed via email at info@californiablueberries.com or via fax at (949)-766-9441.



Announcements

Organic farming compliance handbook available online.

With organic produce now the fastest growing segment of agriculture, farmers and advisors are looking for accurate information about production and marketing. A new source of information is an online organic compliance handbook posted to the website of the University of California Sustainable Agriculture Research and Education Program (SAREP).

“Growers and advisors want the most up-to-date information about organic farming,” said David Chaney, education coordinator for SAREP and federal Western Region Sustainable Agriculture Research and Education (SARE) program representative. The online handbook at <http://www.sarep.ucdavis.edu/organic/complianceguide/>

is aimed at agricultural professionals in the West.

“We’re being asked more questions about practices and the standards organic farmers have to meet,” said Mark Gaskell, UC Cooperative Extension farm advisor in Santa Barbara County. “This online guide will be a valuable resource in providing assistance to those farmers and ranchers.”

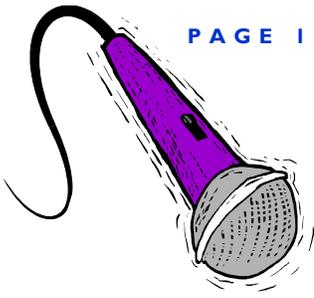
The online handbook is organized in seven sections, including the principles of organic agriculture, national organic standards, setting up organic production plans, materials, marketing and economics, and resources and organizations.

Flood assistance available for qualifying agricultural producers.

The recent rain events of 2005 have caused severe damage in Santa Barbara and Ventura Counties. Farms and ranches suffering severe damage may be eligible for assistance under the Emergency Conservation Program (ECP) administered by the Santa Barbara/Ventura Farm Service Agency (FSA) County Office if the damage:

- Will be so costly to rehabilitate that federal assistance is or will be needed to return the land to productive agricultural use.
- Is unusual and is not the type that would recur frequently in the same area.
- Affects the productive capacity of the farmland.
- Will impair or endanger the land.





Announcements

A producer qualifying for ECP assistance may receive cost-share levels not to exceed 75% of the eligible cost of restoration measures. No producer is eligible for more than \$200,000 cost sharing per natural disaster occurrence. There is also a minimum of \$1,000 in damage. The following types of measures may be eligible:

- Removing debris from farmland.
- Grading, shaping, or releveling severely damaged farmland.
- Restoring permanent fences for inclusion or exclusion of livestock.
- Restoring conservation structures and other similar installations.

Producers who have suffered a loss from this natural disaster may contact the local FSA County Office and request assistance from March 1, 2005, to April 29, 2005.

For more information call the FSA Office at (805) 928-9269 or look online at www.fsa.usda.gov under fact sheets for the Emergency Conservation Program.

Well head protection, chemigation, ground water contamination, safety and prevention device were the topics of a recent rules and regulation talk given at a pest control advisors meeting. If you wish a copy of the talk, call the UCCE office—(805) 934-6240.

Teaching Direct Marketing and Small Farm Viability: Resources for Instructors is the title of a new publication from the Center for Agroecology and Sustainable Food Systems (CASFS). This resource covers a variety of topics with the goal of improving the skills it takes to make a small farming operation economically viable. The table of contents provides a glimpse of topics covered:

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The cost of this publication is \$25.00 plus \$4.00 for shipping within the USA. To order, send a check payable to UC Regents to: CASFS, 1156 High Street, Santa Cruz, CA 95064, Attn: Direct Marketing Manual. Make sure to provide a return address.

CASFS also has **Teaching Organic Farming and Gardening: Resource for Instructors**. This resource can be viewed or downloaded (600 pages) from the web. See website www.ucsc.edu/casfs to get more information.

California Crop Weather will no longer be available by mail subscription as of April 4, 2005. If you wish to access this publication, it will continue to be available online at: www.nass.usda.gov/ca/r/setoc.htm If you have questions about California Crop Weather, call Jennie Peterson or Jack Rutz at 1-800-851-1127.

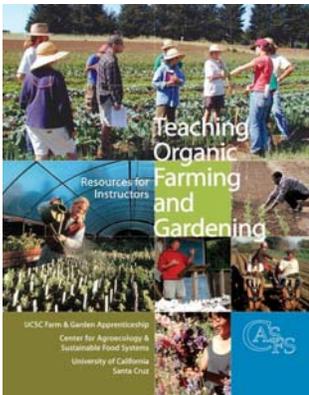
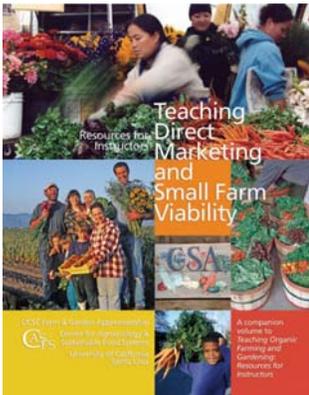
DID YOU KNOW THAT ...



Fresh water is in short supply? Of the world's total water supply 97.2% is salt water 2.8% is fresh water

Of the 2.8% fresh water 0.6% is ground water 0.01% is in lakes, streams and rivers

Glaciers and icecaps hold 2.2% and the atmosphere holds 0.001%.



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