Contra Costa County Agriculture and Weights & Measures Newsletter



Summer 2009

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This is a part of a series of quarterly newsletters designed to inform growers in Contra Costa County about issues important to the Agricultural community. We welcome your questions and comments about any topics in this newsletter as well as suggestions for future newsletters. Contact us at:

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or visit our website at: <u>www.co.contra-</u> <u>costa.ca.us/</u> and click on Departments, then Agriculture/Weights & Measures.

LBAM Has Arrived in East County!

Unfortunately, the Light Brown Apple Moth (LBAM) has been found again in Oakley and, for the first time, also in Brentwood. This could present a problem for any growers, nurseries, and Certified Producers in the quarantine area who want to move fresh fruit, vegetables, nursery stock, cut flowers, or hay. If you are an East County grower, you can expect that you will either be in the quarantine area now or in the future as it expands to the remainder of the County.

The light brown apple moth (LBAM), *Epiphyas postvittana* (family Tortricidae), is a native pest in Australia. It is also found infesting New Zealand, the United Kingdom, Ireland, New Caledonia, and Hawaii. It can damage a wide range of crops and other plants including California's prized cypress as well as redwoods, oaks and many other plant varieties commonly found in California's urban and suburban landscaping, public parks and natural environment. The list



Light Brown Apple Moth (LBAM) has recently been found in both Oakley and Brentwood.

of agricultural crops that could be damaged by this pest includes grapes, citrus, stone fruit (peaches, plums, nectarines, cherries, apricots) and more than 250 other fruits and vegetables. The complete "host list" contains well over 2,000 plant species.

LBAM was first found in the Richmond and El Cerrito area of Contra Costa County in March 2007. Its population has since increased in density and has spread to all areas of West County, all the cities in Central County, and in Pittsburg, Antioch, and Oakley in East County. These areas are under a state and federal quarantine. There also has been a single moth found in Brentwood.

To meet the quarantine requirements, growers within the quarantine area must have a LBAM Compliance Agreement issued by the Department of Agriculture. Retail plant nurseries are inspected by our Department monthly and production nurseries are checked twice a month to certify that they are free of LBAM. Growing grounds for farmers that sell at Certified Farmers' Markets are inspected monthly during the harvest season. Orchards and vineyards that are located inside of the quarantine area and produce nonexempt host commodities must be inspected not more than 30 days prior to harvest.

Nurseries and some other growers are also required to have in place an integrated pest management plan designed to reduce or eliminate LBAM and other moths in the Tortricidae family. The risk of LBAM infestation this year in your crop or nursery is fairly high if you are located in West County. It is low in Central County and



LBAM larva and damage.

extremely low if you are located in East County. Some crops, including tomato, asparagus, baled hay and walnuts, are exempt from the quarantine requirements. A complete list of exempt crops can be found on our Department website. Sweet corn, although not exempt, is very unlikely to become infested due to the normal control methods used for corn earworm.

The California Department of Food and Agriculture and USDA are the lead agencies charged with LBAM control and eradication. LBAM will continue to spread until a successful eradication effort is underway. Before the eradication program can resume, an Environmental Impact Report (EIR) must be completed. A lot of work has been put into the EIR and it is due out before the end of July 2009. It is then subject to a 60 day comment period.

The primary eradication method which will be used by CDFA and USDA in the attempt to eradicate LBAM will be Sterile Insect Technology (SIT). This method involves the mass rearing and release of large numbers of sterilized male moths which mate with wild female moths. Other techniques will also be considered. More information can be found on our Department website. CDFA also has LBAM information on its website at www.cdfa.ca.gov/ phpps/PDEP/lbam/lbam main.html.

Currently, Knightsen, Brentwood and Byron are not under quarantine restrictions although this could change suddenly with the find of two or more moths in the area. If this happens, we will be in contact with affected growers and will work to help them do what is needed to prevent interruption in the harvest or shipment of their crops. We will also keep our website up to date with information and changes as they occur. You can find it at www.cccounty.us. Click on Departments, then Agriculture/Weights & Measures, then Light Brown Apple Moth. If you need more information please call our Concord office at (925) 646-5250 or our Knightsen Field Office at (925) 427-8610.

Restricted Entry Intervals

A restricted entry interval (REI) is the amount of time after a pesticide application when there are restrictions on going back into the area that was treated. Its purpose is to help keep people from being exposed to dangerous levels of pesticide residues. That's why it is so important that no unprotected persons enter a treated field until after the REI has expired.

Property operators are required to give notice to anyone who will be in or are likely to enter a treated field either during the application or when the REI is in effect. Any employees, businesses, or contractors hired by the property operator who may be working within 1/4 mile of the field during the REI must also be notified. The notice includes the location of the field, the time when the REI begins and ends, and instructions not to enter until the REI has expired.

REI requirements are listed on the pesticide label and sometimes also in California regulations. The REI information on a pesticide label is usually located in the box entitled "Agricultural Use Requirements". However, sometimes the length of the REI for a pesticide will vary depending on the crop. In this case, each crop's REI will usually be listed on the pesticide label with the use directions for that particular crop.

The length of an REI can vary from a short time, such as until the spray has dried or dust has settled, to several weeks or more. The amount



REI's help protect workers from exposure to hazardous pesticide residues.

of time generally depends on the crop, the toxicity of the pesticide, how much time it takes to break down, and the type of human exposure that is likely to occur. Some pesticide labels will specify an REI that depends on the field activity such as "48 hours for mowing or irrigating and 14 days for hand thinning and harvesting". Climate may even affect the length of the REI, such as "72 hours in outdoor areas where average rainfall is less than 25 inches a year". When an applicator uses a mixture of two or more pesticides with different REI's, the resulting REI for the combination should generally be the longest of the intervals on the various labels.

REI's for pesticides tend to be longer when they are used for agricultural production than for nonagricultural uses. This is because agricultural workers generally have more potential exposure

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An example of an REI statement located in the "Agricultural Use Requirements" section of a pesticide label (above) and one included with crop specific use directions (below).

	FRUIT AND NUT CROPS		
CROP	PEST	RATE	
ALMONDS (California Only)	San Jose Scale, Parlatoria Scale, Black Scale, Brown Scale, Apricot Scale, European Red Mite eggs, Brown Mite eggs, Twig Borers, Apple Aphid eggs, Black Cherry Aphid eggs, Mealy Plum Aphid eggs, Mealybugs	1 – 1 1/2 ibs. per 100 gals. water	
	 Do not apply more than 6 lbs. of diazinon or 9 gals. of Make a maximum of one application per year during Apply every other year unless pest infestations can b treatments. The REL is 7 days. 		
APPLES (21)	San Jose Scale	1 lb. plus 2 gals.	

from their daily activities. Part of the conditions for an agricultural REI can even include notification of workers both orally and by posting warning signs. Hand labor, such as harvesting, weeding, planting, pruning, and packing produce into containers in the field, can cause substantial contact with surfaces that might have pesticide residues. For this reason, hand labor is often not allowed or severely restricted during an REI.

California regulations can sometimes require longer REIs than those found on pesticide labels. For instance: when a mixture of two or more organophosphate pesticides is applied, the REI is the longest interval required by any product in the mixture plus 50 percent of the next longest interval required by any other product in the mixture. Regulations may also extend the REI's of certain highly toxic pesticides that are used on crops such as grapes, peaches, and apples, in order to protect fieldworkers from excessive exposure to residues.

There are other additional requirements under California regulations. Treated fields must be posted when the REI is longer than seven days. Whenever there is both a labeling REI and a regulatory REI, the longest one must be followed. An REI can never be less than the one specified on the pesticide labeling.

Under certain conditions, persons may need to enter a treated field before the REI has expired.



When workers will have contact with leaves and fruit, REI's are often longer.



Posting of warning signs is required for REI's that will be longer than seven days.

This situation is called "early entry". Early entry is intended to allow for certain tasks that are necessary and unforeseen and will require limited or no exposure to surfaces that may have pesticide residues. Limited contact activity during early entry is generally allowed only for no more than 8 hours in a 24-hour period. However, this type of entry is not permitted for high toxicity pesticides that require double notification of workers (both oral and posting). If the activity involves no contact with any treated surfaces, early entry is permitted after the inhalation exposure standard on the pesticide label has been met. Occasionally, there may be an emergency that requires a high contact activity. In this case, the worker may perform this type of activity for no more than one hour in a 24-hour period and wear all the safety equipment required of the applicator

Conditions for early entry can be found on pesticide labels and sometimes also in California regulations. Commonly, early entry requires the use of personal protective equipment (PPE) such as protective eyewear, respirators, chemicalresistant gloves, suits, footwear, aprons, and headgear. Employees must wear at minimum, coveralls, socks, chemical-resistant footwear, and gloves. If the pesticide label and the regulations both specify types of early entry PPE, employees must use whichever are the most restrictive.



Entry of fields during the REI requires the use of personal protective equipment.

Sometimes, the time period between the expiration of an REI required by a pesticide label and that of an REI required by regulation allows a reduced set of PPE. Under these conditions, employees conducting activities other than hand labor must wear work clothing with long sleeves and legs, shoes with socks, and gloves.

For all early entry situations, (other than when handling the pesticide and for activities where there is no contact with treated surfaces) the employer must assure the following: at least four hours have elapsed since the end of the application; any inhalation exposure does not exceed the standard allowed by the pesticide labeling (for greenhouses, the regulationrequired ventilation criteria must also have been met); workers have been informed *before* they enter the work area of the mandatory 4-hour, restricted entry condition and the inhalation exposure levels (and greenhouse ventilation criteria if they apply).

Early entry workers often must have additional training beyond what standard fieldworkers would receive. This includes: pesticide product labeling requirements, including those regarding possible hazards, first aid, and symptoms of poisoning; how to obtain emergency medical treatment; how to recognize, prevent, and treat heat-related illness; the need for and proper use, maintenance, laundering, and storage of PPE; and the importance of washing thoroughly at the end of the exposure period.

Heat Illnesses and Injuries

Although heat illnesses can threaten anyone, the high temperatures and humidities found in farm fields put agricultural workers at greater risk. This is especially true for pesticide handlers and early entry workers who must wear protective clothing that traps heat next to the body. Heat illnesses can kill directly by causing heat stroke but they can also indirectly cause injuries and death. When the body is overheated, blood flow to the skin increases and there is less going to the muscles and the brain. People become weaker and less alert, leading to accidents, falls, and heart attacks.

Heat illnesses are caused both by the buildup of heat generated by the muscles during work and by heat in the environment. The way the human body cools itself is to increase circulation of blood to the skin where it can be exposed to the evaporation of sweat. People can lose more than one quart of water per hour through sweating alone. If they don't replace the lost fluids, it will not only limit their ability to sweat, but will also reduce their blood volume and stress their hearts. Weather conditions with high humidity can lead to a rapid buildup of body heat when sweat can't evaporate quickly and completely. Likewise, hot weather with high winds can cause sweat to evaporate too fast, causing dehydration.

Certain physical conditions put people at greater risk for heat illnesses. Generally, the body's



Heat illnesses can be a serious problem for anyone who works outdoors.



When suffering heat illnesses, it is important to cool the body and replace lost fluids.

ability to cope with extreme heat decreases with age. Other risk factors include pregnancy, obesity, colds and flu, diabetes, circulatory diseases, asthma, and sunburn. Alcohol, caffeine, and medications can also affect heat tolerance.

The first signs of heat stress include heat cramps. Heat cramps are involuntary muscle contractions caused by dehydration. To treat heat cramps, it is important to replace the lost fluids and electrolytes (which are also components of sweat) as soon as possible. Victims of dehydration may not feel thirsty so it is important to drink regularly throughout the day.

Heat exhaustion is a more serious type of heat illness. The symptoms include weakness, nausea, headaches, and clammy skin. Heat exhaustion is treated by resting in a cool environment and replacing fluids and electrolytes.

The most serious heat illness is heat stroke. Heat stroke can cause convulsions, coma, permanent kidney and brain damage, and death. The early symptoms include confusion, irrational behavior, fainting, nausea, rapid pulse, and hot, dry skin. Heat stroke is a medical emergency. Call 911, get the victim to a cool environment, loosen or remove excess clothing, provide cool drinking water if the person is conscious, and fan and mist the victim with water.

One way to reduce the risk of heat illness is to

become acclimated to heat by gradually increasing the amount of exposure to hot working conditions. During this time, the body learns to improve its rate of sweating and its ability to quickly increase blood flow to the skin. It will also change the composition of the sweat so the body can be cooled without losing too much of its vital electrolytes. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat. Once established, it will last about two weeks.

There are strategies that will help reduce heat illnesses. The most important is to be aware of both the environmental and your personal risk factors for heat stress. Try to plan work schedules to avoid the hottest times of the day. Drink fluids before work in order to "pre-load" your system. Take frequent breaks during work to drink water, even if you don't feel thirsty. Keep drinking water supplies close to where you are working. If the water is too far away, you might not want to take time out to go get it. If you feel symptoms of heat stress, go to a shaded area to recover. Try not to work alone. Establish a buddy system so workers can watch each other for signs of heat illnesses.

When employees will be working in hot environments, there are legal requirements that must be followed. At least one quart of cool,



Under hot conditions, it is important to take frequent breaks to rest and drink fluids.



Cal/OSHA requires that employees have access to shade for rest breaks.

clean, drinking water must be provided per employee per hour for the entire work shift. They should be encouraged by the employer to drink water frequently. Employees must have access to an area with shade that is either open to the air or provided with ventilation or cooling. They must be allowed to take rest breaks if they feel they are suffering from heat stress.

Both supervisors and employees must be trained on heat illnesses before starting to work outside. Employees need to know how to identify the signs of heat illness and how to recognize both the environmental and their own personal risk factors. They need to understand the importance of drinking water frequently throughout their work shift, the importance of acclimatization to heat, and how to give first aid for heat illnesses. Employees must immediately report signs of heat illnesses to their supervisor and be able to contact and direct emergency medical service providers to the work site if necessary. The employer's procedures for all these topics must be in writing and made available to employees.

There are many heat illness prevention and training materials in English and Spanish available to employers on the Cal/OSHA website. Go to www.dir.ca.gov and click on Cal/OSHA, then on "Heat Illness Prevention". The website also includes links to other useful sites.

Contra Costa County Yesterdays

Contra Costa County has been producing award winning wine for well over 100 years. However, from 1920 to 1933, more than 95% of American wineries closed due to Prohibition.

The Prohibition movement started in the mid 19th century when there was a growing public concern about the effects of alcohol consumption on society. Alcohol was believed to be linked to gambling, prostitution, poverty, crime, and violence. In 1851, Maine was the first state to pass laws restricting alcohol manufacture and sales. By the beginning of World War I, thirty three states had enacted prohibition laws.



Prohibition created a market for Contra Costa grape growers to sell juice grapes directly to home winemakers.

National Prohibition was passed by Congress in 1920. It prohibited the sale, manufacture, possession, and transportation of all intoxicating liquors. It was also illegal to possess any equipment used to make alcohol. Exemptions to Prohibition included liquor used as medicine or for religious purposes as well as an exemption allowing individuals to make up to 200 gallons of cider and juice per year for their own use. This exemption led many people to become home wine makers and created an alternative market for many Contra Costa County grape growers.

Today, our local wineries are again winning awards. The 2009 San Francisco Chronicle Wine Competition evaluated 4,636 wines from 26 states. Contra Costa County wineries collected 40 medals. Gold medals went to Bloomfield Vineyards and Hannah Nicole Vineyards in Brentwood. Shadowbrook Winery in Walnut Creek won both a gold and a double gold medal.



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