Jan., 2002

Note: The information provided on products/pesticide use below, is from other states and thus the products may have no current Hawaii registration. Always read the label before making any product/pesticide applications. Due to environmental effects the effectiveness of particular products may also vary across locations.

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1.0. Pythium in pepper

Abundant soil moisture and elevated temperatures make the fall planting season a prime time for vegetable growers in Florida to encounter problems with *Pythium* spp. on a variety of vegetables. Pythium typically attacks roots causing damping off,
seedling blights, root rots and wilting of affected crops. In some instances, Pythium may affect the above ground portions of crops.

*Pythium myriotylum* and *P. aphanidermatum* are generally most abundant in Florida because they are adapted to high soil temperature. The optimum temperatures for their growth and infection of plants range between 86 and 98 °F.

The host range for *Pythium* spp. is extremely wide. Vegetable crops commonly infected include beans, cucurbits, peppers, southern peas, strawberries, and tomatoes. A number of broadleaf and grassy weeds may host *Pythium* spp. and serve as important sources of inocula.

*Pythium* is one of the “water molds.” It thrives in moist soils and multiplies and spreads rapidly under wet conditions. Although *Pythium* is capable of producing several spore types, zoospores and oospores are most important. Zoospores are mobile. They are produced rapidly and in great numbers and contribute to the organism’s ability to cause disease almost “over night.” Zoospores may be detected within half an hour after a site is flooded and can “swim” for up to 30 hours and move three or more inches through soil. Oospores are extremely durable and can survive in soil and infected crop debris for more than 10 years.

*Pythium* is often associated with root rots and pre emergent and post emergent damping off. One of the characteristics of tissue infected with *Pythium* spp. is the presence of water-soaked or greasy appearing tissue. This is distinct from the orange to red to dark, sunken lesions caused by *Rhizoctinia solani*.

Infection with *Pythium* spp. also causes wilting of numerous crop species. Plants affected by *Pythium* root and stem rots commonly exhibit yellowing of the lower leaves.

In small plants planted thickly, such as greenhouse transplants, *Pythium* can infect and colonize the plants with the result that the entire plant is destroyed. Look for water-soaked tissue in this situation. It is also common to see white mycelial growth in such situations.

Excess fertilizer, flooded soils, insect feeding, and nematode feeding may also contribute to dysfunctional roots. For accurate diagnosis, it is best to submit samples to a reputable diagnostic laboratory.

Resistant cultivars do not exist so control of *Pythium* depends on a variety of tactics. Crops should be planted on raised beds in well-drained soils.

Pre-plant soil fumigation is effective if applied correctly. Soil solarization has successfully suppressed *Pythium* in some cases. If a solarization or a soil fumigant is used, raised beds are important since fumigated soil has minimal or no beneficial organisms to compete against pathogens.

A number of chemical treatments are available for the control of damping off. Seed treatments containing mefenoxam (Apron) work best. Mefenoxam should be used in combination with a broad-spectrum fungicide to avoid the development of resistance.

Fungicidal drenches such as Ridomil Gold (mefenoxam) are effective for the suppression of seedling blights and root rots if applied before infection occurs.
Several biological control agents, including actinomycetes and other bacteria and fungi, are available commercially for suppression of Pythium and other soil borne pathogens. Their success rate has been variable.

Some soils are naturally suppressive to diseases caused by Pythium or may become suppressive by increasing organic matter or manipulating soil pH. Incorporation of cover crops prior to planting may support competing organisms in the field, but in some cases may result in increased populations of the pathogen. Sunn hemp has been implicated in this regard.

There have been a few reports of growers finding Pythium and bacterial spot on transplants received from transplant producers. When purchasing transplants, growers should examine them carefully for symptoms of disease. Evidence that dead or dying transplants have been removed from flats may be an indication that further investigation is warranted. Evidence of poor sanitation may also indicate that you look more closely at your choice of transplant producer. (Gene McAvoy, editor, South Florida Pest and Disease Hotline. September 14, 2001)

2.0. Downy Mildew (Arizona)

DOWNY MILDEW OCCURRENCE WITH RAIN AND COLD. Downy mildew is a foliar disease caused by Bremia lactucae, an obligate fungal-like parasite that is capable of infecting and colonizing only living host tissue. B. lactucae can infect any head or leaf lettuce growth stage from seedling to mature plant. Lettuce downy mildew has a direct effect on yield and quality because it affects the marketable portion of the crop. Cool, moist conditions are necessary for disease development. Free moisture on the leaf surface is essential for spore germination and infection, but not growth of the pathogen within the leaf. Initial symptoms are pale yellow regions on the upper side of older leaves with corresponding white fluffy growth, the spores of the pathogen, on the lower leaf surface. Infected areas are limited by leaf veins and the tissue turns brown. Infection stops when temperatures rise above the disease optimum of 50 to 72F and free moisture from rain, irrigation, or dew is absent. Azoxytrobin (Quadris*) is registered for use in lettuce and should be used in rotation with other fungicide chemistries that include maneb, fosetyl-Al and metalaxyl. (Kai Umeda, Arizona State Univ., Vegetables Newsletter - vol 8, issue 11, Nov. 9, 2001)
3.0. Phytophthora in pepper and other veggies (Florida)

Dr Ken Pernezney, Plant Pathologist at the Everglades Research and Education Center in Belle Glade reports that some growers in Palm Beach are having significant problems with phytophthora blight on pepper. Growers also report seeing some instances of soil-borne phytophthora affecting eggplant, squash and tomato in Palm Beach. Most reports indicate that infection of new plants has slowed but some growers continue to report slow in-the-row spread to include a few new plants adjacent to earlier infestations. There have been no recent reports of phytophthora from southwest Florida. Losses from Phytophthora capsici have consistently affected pepper production areas on the east coast of Florida for many years. The disease is also a sporadic problem in pepper, summer squash, and watermelon in most other vegetable production areas of the state, including most notably, southwest and west central Florida. Phytophthora capsici can also cause significant losses in eggplant and tomato. The host range of P. capsici is wide and, additionally includes cantaloupe, chayote, cucumber, honeydew melon, marigold, macadamia nut, papaya, and pumpkin. Diseases caused by P. capsici are often referred to as Phytophthora blight. Phytophthora capsici causes seed rot and seedling blight in many solanaceous crops (pepper, eggplant, tomato) and cucurbits (cantaloupe, cucumber, summer squash, pumpkin, watermelon), similar to those seen with damping-off fungi. Rotting of seedlings prior to emergence (preemergence damping-off) and blighting of recently emerged seedlings (postemergence damping-off) can occur. The roots and plant base may be discolored and infected seedlings often fall over. White fungal growth may cover infected areas of blighted seedlings under moist conditions. All parts of pepper are susceptible to the disease. Infection can occur at any height on stems, but is most common at the soil line, and starts as a dark, water-soaked area. Stem lesions are dark brown to black and result in girdling and plant death. Infected roots are dark brown and mushy. Leaf spots are at first small, irregular to round, and water-soaked. With age, the spots enlarge, turn a light tan, and may crack. Infected areas may be bordered by white fungal growth during wet periods. Rapid blighting of new leaves and the entire emerging shoot may take place. Pepper fruit is infected through the fruit stalk. Fruit rot appears as dark green, water soaked areas that become covered with a white to gray mold. Infected fruit dries, becomes shrunken, wrinkled, and brown, and remains attached to the stem. In eggplant, fruit rot is the primary symptom caused by P. capsici. It begins as a round, dark brown area on any part of the fruit at any stage of maturity. A rapidly expanding light tan region typically surrounds lesions. White to gray fungal growth may appear during wet, humid periods, starting on the oldest part of the fruit lesion. Phytophthora fruit rot in eggplant lacks the concentric patterns and dark fruiting structures present with Phomopsis rot. Fruit rot in eggplant may also be caused by other Phytophthora spp. Phytophthora capsici can cause crown infections, leaf spot, and foliar blight in tomato transplants. Infections are generally most severe within the first four weeks after transplanting in the field. Diseased crowns are brown and soft and the plant may wilt and topple over. Another common symptom is fruit rot. Fruit of any age may be infected. Rot is most prevalent where fruit contacts the soil and begins as dark, water-soaked spots. The spot rapidly expands during warm weather and covers 50% or more of the fruit surface with a brown, watery discoloration that may assume the appearance of concentric rings. At first, infected fruit remains smooth and firm even though the discoloration extends to its center. Over time and under humid conditions infected fruit may be covered with white fungal growth and rot entirely following invasion by secondary microorganisms. The symptoms of fruit rot in tomato caused by two other Phytophthora spp., P. dreschlera and P. nicotianae, are essentially the same. Fruit rots caused by P. infestans (late blight) however are characterized by wrinkling and a definite, sunken margin. Summer squash is highly susceptible to Phytophthora foliar blight and fruit rot. Early foliar symptoms include rapidly expanding, irregular, water-soaked lesions in leaves. Dieback of shoot tips, wilting,
shoot rot, and plant death quickly follow. Sunken, dark, water-soaked areas appear in infected fruit, and are rapidly covered by white fungal growth. Under warm, wet conditions, P. capsici can devastate entire squash plantings in a matter of days. Angular water-soaked lesions, as well as a rapid fruit rot, which is covered with white fungal growth, are produced in cucumber. Symptoms of Phytophthora blight in cantaloupe include leaf lesions and tip dieback of vines. Phytophthora capsici may survive in and on seed and host plant debris in the soil by means of thick-walled, sexually produced spores (oospores). Both mating types of the pathogen necessary for oospore production are present in Florida. The pathogen produces spores of another type called zoospores that are contained within sac-like structures called sporangia. Zoospores are motile and swim to invade host tissue. Plentiful surface moisture is required for this activity. The sporangia are spread by wind and water through the air and are carried with water movement in soil. Phytophthora capsici is also moved as hyphae (microscopic fungal strands) in infected transplants and through contaminated soil and equipment. Since water is integral to the dispersal and infection of P. capsici, maximum disease occurs during wet weather and in low or waterlogged parts of fields. Excessive rainfall, coupled with standing water creates ideal conditions for epidemics caused by P. capsici. Growth of this pathogen can occur between 46-99°F, but temperatures between 80-90°F are optimal for producing zoospores and infection. P. capsici can rapidly affect entire fields. Under ideal conditions, the disease can progress very rapidly and symptoms can occur 3-4 days after infection. Management practices in transplant production areas include the use of pathogen-free and fungicide-treated seed, and sterile potting media. Transplant trays, benches, seeding equipment and plant house benches and other structures should be disinfested using a sodium hypochlorite solution or other disinfectant. Steam sterilization of transplant trays may be useful. Transplant trays with infected plants should be removed immediately from production sites. Workers should disinfect their hands after contact with infected plants before resuming their duties. Planting sites should be well drained and free of low-lying areas. Optimal water management is essential to prevent the occurrence of flooded field conditions that favor Phytophthora blight. The drainage area of the field should be kept free of weeds and volunteer crop plants, particularly those in the solanaceous and cucurbitaceous groups. A preplant fumigant should be used. Equipment should be decontaminated before moving between infested and noninfested fields. Infected fruit should be culled to prevent spread in the packinghouse and during shipment. Effective, labeled fungicides should be used preventively according to label instructions. Ridomil Gold and Ridomil Copper have given good results. It is essential that fungicides with different modes of action be rotated to prevent the buildup of fungicide resistance in P. capsici. Rotating or tank-mixing a systemic with a contact fungicide is recommended. Resistance to this disease has not been identified in cultivars currently grown in Florida. Excerpted from Plant Pathology Fact Sheet SP-159 - Vegetable Diseases Caused by Phytophthora capsici in Florida. (Gene McAvoy, ed., Univ. Florida, South Florida Pest and Disease Hotline, October 12, 2001)

4.0. Early Blight on Tomato (Florida)
Around Immokalee, respondents report some increase in early blight on tomato and potato. Incidence and severity is low.

Early blight is caused by the fungus, Alternaria solani. The fungus carries over on tomato and potato volunteers or non-decomposed debris from previously diseased tomato or potato plants. Black nightshade is also reported to be susceptible.

Spores of the fungus are formed when temperatures of 60-90°F (75-85°F is optimum) occur provided wet weather is present. Spores land on susceptible host tissue and germinate
when the tissue is wet and penetrate leaf, stem, petiole, or fruit tissue. Within 7 to 14 days, depending on numerous weather variables and host vigor, symptoms will appear and a new generation of spores is formed on this diseased tissue. With each new generation, the epidemic spreads and becomes increasingly difficult to control.

Leaf symptoms begin as pinpoint-size brown to black spots, usually on the older leaves. These lesions expand in size up to one-half inch across, remaining brown, with or without yellowing surrounding the spot. Concentric rings are usually seen within the enlarged spots. Similar spots may occur on stems and if the plant is in the seedling stage, the spot will girdle the stem, often killing the plant. Symptoms in tomato fruit are usually found associated with the stem end and shoulder and may expand in size. Fruit symptoms include a sunken, greenish-brown-black spot with concentric rings.

Control of early blight is best achieved by using several techniques together. Cultural controls will allow the fungicide to do a better job as cultural controls reduce the amount of initial inoculum (spores).

1) Use crop rotation where possible. 2) Use disease-free tomato transplants or disease-free seed pieces for potatoes. 3) Destroy volunteer tomato and potato plants in and around the field. 4) Adjacent fields planted to potatoes or tomatoes the previous season should have been plowed down immediately after harvest. 5) Maintain host vigor via adequate fertilization. Less vigorous plants are more susceptible to early blight than vigorous plants. 6) Begin a fungicide spray program at first sign of disease or before, based on your experience in your particular area.

Maintain spray applications on a 5 to 14 day interval throughout the growing season. Use the shorter intervals if rainfall is frequent or where history of early blight has been severe or when temperatures from 75-85°F prevail. Also, if your spray program started after disease buildup occurred, shorter intervals would be appropriate. (Gene McAvoy, Univ. Florida, South Florida Pest and Disease Hotline, December 17, 2001).

5.0. Pepper Weevils (Florida)

Pepper weevils are also being seen around southwest Florida. In many instances, sightings are in fields and areas with a history of weevil problems. Growers have been picking them up in sticky traps over the past two weeks and continue to find fallen pepper fruit in fields.

Fallen fruit should be checked to determine if weevils are responsible. Infested fruits can be recognized before they fall by the yellow calyx the presence of oviposition punctures that look like small dimples. Pheromone traps made by Trece are a good way to detect populations early. Spraying needs to commence at the first sign of weevils or with flowering in fields with a history of problems. Vydate is the standard control and has given pretty good results even at 2 pts/acre when sprayed weekly in Phil Stansly’s trials at the Southwest Florida Research and Education Center. A total of 24 pts can be applied for the season. Many growers have indicated disappointing results in obtaining satisfactory control in the field. Some growers have terminated older plantings where weevils had become unmanageable. A number of growers have indicated obtaining good results in controlling weevils with either Capture or cryolite. Actara, a newly labeled nicotinoid insecticide from Syngenta has also demonstrated good control in trials, but growers are limited to 2 applications season. Timing of usage for best results remains to be determined. All currently labeled materials are difficult to work into an
IPM program once plantings begin to be harvested due to the 7 day PHI in force for all of them. This is especially true for hot peppers, which are often harvested several times a week. (Gene McAvoy, ed., SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE, November 9, 2001)

6.0. Leaf Miners (Florida)

Leafminer activity is beginning to pickup around South Florida. In the Delray Beach/Boynton Beach area, leafminer pressure is continuing to increase on young plantings especially where there are older plantings of tomatoes nearby. In some cases, plantings have required treatment as soon as two weeks after transplanting.

Respondents around southwest Florida are also reporting an increase in leafminer pressure. Scouts report finding adults, larvae and stippling on tomato plants. Reports indicate that some growers in the Immokalee area have begun to apply Agrimek and Trigard for leafminer control. In most areas, populations remain below threshold levels but several respondents have indicated the development of hot spots around field margins and row ends.

Leafminer injury is readily visible to the grower but healthy plants can tolerate considerable damage without excessive loss of vigor and yield. Heavily damaged leaves will often drop, due in part to entry of pathogenic organisms into old mines. The Florida Tomato Scouting Guide sets action thresholds at 0.7 larva per plant for young plants with less than 2 true leaves and 0.7 larva per 3 terminal leaflets for larger plants.

An integrated pest management program that stresses conservation of natural enemies is the primary tactic for the successful control of leafminer. Chemical control is difficult due to the feeding habits inside the leaf of the host plant. Insecticides that specifically target the leafminer are recommended as use of broad-spectrum materials may decimate beneficial insects including those that attack leafminer. This often results in a larger leafminer problem if the pesticide reduces field densities of leafminer parasites.

Fortunately, populations are usually prevented from reaching truly damaging levels by a number of parasites that attack leafminers. Several parasites for this insect have been recorded in Florida, but parasitic wasps such as *Opius*, *Diglyphus* are most common. Wasp larvae develop on or in the leafminer larva or pupa. The host ceases to feed and the parasitoid egg or larva is visible through the leaf epidermis using a hand lens against strong light. In scouting fields, growers should be careful to note the number of parasitized mines before deciding to apply insecticides.

Due to its feeding habit, this pest is resistant to many insecticides. Cyromazine (Trigard) alternated with abamectin (Agrimek) are effective against leafminer in tomato. Both of these products have limited crop registrations and must not be used on unregistered crops. Spinosad (Spintor) has also given good results and is labeled on a wide range of crops. Some other materials that may be used to conserve beneficiais include azadirachtin (Neemix) and insecticidal oils. Both are approved for use by organic growers.

Field sanitation is an important control tactic that is overlooked. When crops are not present in the fields, leafminers can survive on a variety of broad-leaf weeds. These
plants serve as reservoirs for pest. (Gene McAvoy, ed., SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE, November 9, 2001)

Around southwest Florida, reports indicate that leafminer pressure is variable. In some areas pressure is quite high and growers have sprayed several times for control. In other areas pressure is fairly light although most tomato fields have been treated for leafminer at least once. Leafminers are also being seen at lower levels in other crops such as pepper, cucurbits and beans. Heavy leafmining damage can reduce photosynthesis and cause leaf desiccation and abscission. Regularly check crops for stippled leaves and leaf mines. Adult females use their ovipositor to tear holes (stipples) in upper leaf surface for feeding and laying eggs. Most mines occur on older bottom leaves. If leafminer populations build to high levels, a chemical treatment may be necessary. Action thresholds for tomato given in the Florida Tomato Scouting Guide are 0.7 larva/plant from the 0-2 true leaf stage and above the two true leaf stage 0.7 larva/3 terminal leaflets. Growers should avoid the use of harsh chemicals to control other insects if possible to help preserve beneficial populations. Growers have obtained good results with abamectin (Agri-Mek), cyromazine (Tri-gard) - peppers, spinosad (Spintor) and azadirachtin (Neemix). These materials are relatively soft on beneficials. There are a number of other labeled materials that will give good control. A number of natural enemies, primarily parasitic wasps, often control leafminers. If these parasites are killed by pesticides leafminer outbreaks may become more severe. Several scouts have expressed concern about some grower’s over-reliance on Spintor in leafminer maintenance programs. Growers are advised to practice resistance management and avoid repeated back-to-back applications of all pesticides (Gene McAvoy, UF, South Florida Pest and Disease Hotline, November 30, 2001).

7.0. Green Peach Aphid (Florida)
Aphid populations appear to be on the increase although numbers remain moderately low in most places.

Reports from east coast growing areas indicate small colonies of aphids have been found to be building up in older plantings, which will be taken out soon. No viruses are being found so they are not considered to be a major problem.

Around southwest Florida, winged aphids are becoming more common in many crops. Colony formation has been noted in pepper, tomato, eggplant and cabbage.
The green peach aphid, (Myzus persicae), is found throughout the world and is viewed as a pest principally due to its ability to transmit plant viruses. The green peach aphid readily infests vegetables and can be transported long distances by wind and storms.

The life cycle varies considerably. Development can be rapid, often 10 to 12 days for a complete generation, and with over 20 annual generations reported in mild climates. In Florida, populations cycle continuously on annual plants.

The rate of reproduction is positively correlated with temperature, with the developmental threshold estimated to be about 4.3º C. As aphid densities increase or plant condition deteriorates, winged forms are produced to aid dispersal. The dispersants typically produce about 20 offspring, which are always wingless. This cycle is repeated throughout the period of favorable weather. In south Florida, this cycle repeats continuously, though the aphid development rate may slow greatly during the winter.

Green peach aphid feeds on hundreds of host plants in over 40 plant families. Vegetables that are reported to support green peach aphid include artichoke, asparagus, bean, beets, broccoli, Brussels sprouts, cabbage, carrot, cauliflower, cantaloupe, celery, corn, cucumber, fennel, kale, kohlrabi, turnip, eggplant, lettuce, mustard, okra, parsley, parsnip, pea, pepper, potato, radish, spinach, squash, tomato, turnip, watercress, and watermelon.

Broadleaf weeds can be very suitable host plants for green peach aphid, thereby creating pest problems in nearby crops. Common and widespread weeds such as field bindweed, lambsquarters, and redroot pigweed are often cited as important aphid hosts.

Green peach aphids can attain very high densities on young plant tissue, causing water stress, wilting, and reduced growth rate of the plant. Prolonged aphid infestation can cause appreciable reduction in yield of root crops and foliage crops. Early season infestation is particularly damaging to potato, even if the aphids are subsequently removed. Contamination of harvestable plant material with aphids, or with aphid honeydew, also causes loss. Blemishes to the plant tissue, usually in the form of yellow spots, may result from aphid feeding.

The major damage caused by green peach aphid is through transmission of plant viruses. This aphid is considered by many to be the most important vector of plant viruses throughout the world. Nymphs and adults are equally capable of virus transmission but adults, by virtue of being so mobile, probably have greater opportunity for transmission. Both persistent viruses, which move through the feeding secretions of the aphid, and non-persistent viruses, which are only temporary contaminants of aphid mouthparts, are effectively transmitted. Kennedy et al. (1962) listed over 100 viruses transmitted by this species.

Because some of the virus diseases transmitted by green peach aphid are persistent viruses, which require considerable time for acquisition and transmission, insecticides can be effective in preventing disease spread in some crops.

Transmission of nonpersistent viruses such as cucumber mosaic virus can sometimes be reduced by coating the foliage with vegetable or mineral oil. Oil is believed to inhibit virus acquisition and transmission by preventing virus attachment to the aphid's mouthparts, or to reduce probing behavior. Oil seems to be most effective when the amount of disease in an area that is available to be transmitted to a crop is at a low level. When disease inoculum or aphid densities are at high levels, oils may be inadequate protection.
Hundreds of natural enemies have been recorded, principally lady beetles (Coccinellidae), flower flies (Syrphidae), lacewings (mainly Chrysopidae), parasitic wasps (Braconidae), and entomopathogenic fungi. Most are general predators, moving freely among green peach aphid, other aphids, and even other insects. There is a strong association between high aphid densities and sudden population decrease following the appearance of lady beetles, wasp parasitoids, or entomopathogenic fungi. Various studies that selectively excluded or killed beneficial organisms have demonstrated the explosive reproductive potential of these aphids in the absence of biological control agents, thus demonstrating their value in reducing damage potential.

Excessive and unnecessary use of insecticides should be avoided. Early in the season, aphid infestations are often spotty, and if such plants or areas are treated in a timely manner, great damage can be prevented later in the season. In some cases, use of insecticides for other, more damaging insects sometimes leads to outbreaks of green peach aphid. Destruction of beneficial insects is thought to explain this phenomenon, but aphid resistance to some types of insecticide may also be involved.

The wide host range of green peach aphid makes crop rotation a difficult tactic to implement successfully. Crops grown down-wind from infested fields are especially susceptible because aphids are weak fliers and tend to be blown about. Infested crops should be destroyed immediately after harvest to prevent excessive dispersal, and it may be possible to destroy weedy hosts if they are present. (Gene McAvoy, Univ. Florida, South Florida Pest and Disease Hotline, December 17, 2001).

8.0. New Community Food Processing Center-
Massachusetts

NEW FOOD PROCESSING CENTER TO OPEN IN WESTERN MA: OCTOBER, 2001 Location: Greenfield, MA

The Franklin County Community Development Corporation is very excited to announce the opening of a new commercial food-processing center in Massachusetts. "This shared use, commercial kitchen incubator is furnished with modern food processing equipment, walk-in cooler and freezer and dry storage areas. This State Board of Health approved Center is a valuable element in supporting [Massachusetts] agriculture by adding value to your farm products, generating new revenues and creating new business opportunities. This Center, unique for Massachusetts, is ideal for specialty food entrepreneurs, farmers, caterers, churches, schools, and civic organizations from all areas. Special services are available including business lending, technical assistance, office equipment and multiple resources to assist people on how to craft their products."

To use the Center, begin by calling Program Manager, Andrea Kohles and complete a user application (which is short - one page!). Next, set up an appointment with Andrea to tour the facility and attend orientation training. This training is designed to introduce you to any commercial equipment you may not have experience with and to discuss safety, sanitation and Good Manufacturing Practices (GMP). The training takes about two
hours. Andrea will discuss the hourly rate with you at that time as well as address any questions you may have. The final step is to set up your desired block of time to cook up your jams, jellies or other value-added delight.

Andrea Kohles, who has an extensive background in food handling, will be available full-time (9-5) to assist you with questions or problems that may arise while using the center.

Funding for this endeavor comes from the MA Department of Food and Agriculture, USDA's Rural Development and the U.S. Department of Housing and Urban Development's Economic Development Initiative.

--Chris Wychorski, in the Massachusetts Marketeer, newsletter of the Federation of MA Farmers Markets, Fall 2001 (Vegetable IPM Newsletter, University of Massachusetts Agroecology Program, Vegetable Program, OCTOBER 22, 2001, VOLUME 12, NUMBER 19)

9.0. Farm Bureau to Legislature: Hold Cuts to Florida’s College of Ag

(GAINESVILLE, Fla.) – Citing the increasing importance of agriculture to Florida’s troubled economy, Florida Farm Bureau Federation today asked the state legislature to limit cuts to the University of Florida’s Institute of Food and Agricultural Sciences (UF/IFAS) to $2 million. This would allow for an orderly reorganization and transition within UF/IFAS over the next two years.

In its first special session, the legislature proposed cutting the UF/IFAS budget by $6 to $10 million. If those cuts are sustained in the upcoming special session, they will force the closure of research centers at Hastings and Bradenton, the aquaculture research facility at Blountstown and the North Florida Research and Education facility at Monticello. The poultry and beef research units in Gainesville and two of the state’s four 4-H camps will also be shut down.

“After the Sept. 11 attacks, tourism has declined. That decline is largely responsible for the economic crisis the state is facing today,” said Carl B. Loop Jr., Florida Farm Bureau’s president. “On the other hand, our agricultural producers anticipate a more profitable 2001-2002 harvest season. Now is not the time to place barriers in the way of their impending economic recovery, which will help pull Florida out of its current recession. The agricultural economy remains stable and a source of dependable economic growth.”

Agriculture is more than just farming. It contributes about $54 billion annually to the state’s economy in food, fiber and quality of life; it has traditionally been the state’s
second-largest industry. The UF/IFAS budget reflects only 0.2 percent of that $54 billion impact.

The UF/IFAS research centers are part of a statewide system that supports agriculture by providing research and development. Loop noted that Florida’s budget increased by 24 percent during the mid-1990s. During that period, the UF/IFAS budget actually declined by 7 percent. Funding for UF/IFAS is an investment in economic stimulus.

Loop said if lawmakers limit the cuts to the UF/IFAS budget to $2 million, administrators should be able to keep the research centers open.

“As the state’s largest agricultural organization, Farm Bureau supports our IFAS researchers, because their work goes a long way toward keeping our Florida producers competitive in domestic and world markets,” Loop said. “If the research center activities are curtailed, it would not be long before our farmers find themselves being left behind by competitors in other states and other countries.”

Florida Farm Bureau is the state’s largest general-interest agricultural organization. It is comprised of 61 county Farm Bureaus with more than 143,000 member-families. It is headquartered in Gainesville and maintains a full-time legislative office in Tallahassee (Rod Hemphill, director, Public Relations, Florida Farm Bureau Federation, 352-374-1516, Press Release, Nov. 19, 2001).

10.0. IPM CERTIFICATION GROWS NATIONWIDE

THE FOOD ALLIANCE, a non-profit, IPM-based eco-label headquartered in Portland, OR has received a grant for $810,374 from the Kellogg Foundation to continue its national expansion. The Food Alliance and affiliated Midwest Food Alliance have certified more than 100 farms and ranches for IPM, human resource management, and soil and water conservation practices. Funded project title: "Create a replicable model for organizations across the country interested in promoting market-based incentives for sustainable farming and ranching in their region.” See The Food Alliance <http://www.thefoodalliance> for more information on the Food Alliance, or Kellogg Foundation <http://www.wkkf.org/> for more information on the Kellogg Foundation.

Sixteen CORE VALUES NORTHEAST tree fruit farmers have been certified as IPM producers for 2001. Certification is managed by the IPM Institute. For more information on the program and how to contact certified growers, see CVN <www.corevalues.org>.
RED TOMATO, a non-profit broker for CORE Values Northeast and other IPM-produced fruit and vegetables, has received a two-year grant in the amount of $56K to help further the marketing of local, ecologically grown product using integrated pest management (IPM) methods. The Environmental Protection Agency (EPA) Region I Office under the Agricultural Initiative grant program awarded the grant.

A new non-profit organization growing out of the Wisconsin Potato Collaboration is seeking an executive director. PROTECTED HARVEST is dedicated to the promotion of sustainable agriculture and enhancement of wildlife and the environment. The executive director will report to the Board of Directors and will be responsible for the organization's consistent achievement of its mission and financial objectives. The new position is funded by a grant from the Joyce Foundation. Contact Jeff Dlott CEO, Real Toolbox, 7600 Old Dominion Court, Apros, CA 95003. Phone: (831)684-9207, Fax: (831)684-9218, e-mail: <jeff@realtoolbox.com>.

The USDA Small Business Innovative Research (SBIR) Program has awarded IPM WORKS of Madison, WI a two-year $271,000 grant to complete research and development on comprehensive IPM risk management for corn and cotton farmers. The ultimate goal of the project will be to provide financial risk management products to cover the risks farmers face when adopting IPM techniques. For example, corn farmers following a crop consultant's recommendation not to treat for corn rootworm (i.e., as a result of below-threshold visual or trap counts for beetles) currently bear significant economic risk if the consultant's advice is in error. New financial products such as insurance policies or warranties could compensate farmers for rare failures of IPM techniques, and thus reduce an important barrier to adoption. FMI: See the web site for project partner Agricultural Conservation Innovation Center ACIC <www.agconserv.com>. From IPM Institute News: IPM in the Marketplace, October 16, 2001, Volume 2, Issue No. 3 (Vegetable IPM Newsletter, University of Massachusetts Agroecology Program, Vegetable Program, October 22, 2001, Volume 12, Number 19)

11.0. Eco-Labels in the Market
ECO-LABEL IDENTIFIES ‘GREEN’ PRODUCTS

‘Protected Harvest’ is a new eco-label now being introduced into grocery stores. Protected Harvest is a collaboration between farmers, scientists and environmental advocates. Farmers in the program minimize their use of toxic pesticides by using Biologically Integrated Pest Management (BioIPM) practices. The first products to be certified under the Protected Harvest label are potatoes from Wisconsin, marketed under the Healthy Grown brand. The World Wildlife Fund (WWF) is allowing the WWF logo to be placed on Protected Harvest certified bags of Wisconsin potatoes. To qualify for Protected Harvest certification, growers must achieve a minimum number of points in two different groups of standards: production and toxicity score. For example, participants rotate their fields and they must eliminate the use of 12 toxic pesticides. All of the standards and supporting documents are available on
12.0. Avoiding Fungicide Resistance
The Canadian Province of Ontario's Ministry of Agriculture, Food and Rural Affairs lists tactics for staving off development of fungicide-resistant pathogens.

1. Use multiple countermeasures against crop diseases: disease resistant crop varieties; biological controls; and appropriate hygienic practices, such as crop rotation, removal of diseased parts of perennial crop plants, and clean seeds.

2. Once verified, treat diseases in their early stages before further spread occurs when there is a better chance for eradication; in the case of a fungus, early treatment leaves fewer spores that could possibly develop resistance.

3. Vary the fungicides used, if possible, to avoid a fungal pest becoming less vulnerable: rotate products with differing modes of action as another defense against developing resistance; keep accurate records of crops, fungicide(s) applied, as well as number and timing of applications.

4. Be sure to scrupulously adhere to a label's recommended dose; applying less of a product when an infestation doesn't seem wide-spread might get rid of the immediate problem, but lower doses could provide an opportunity for fungi to survive a treatment and potentially build up resistance to the fungicide (IPM NetNews, Dec. 2001).

13.0. KERB HERBICIDE FOR LETTUCE WEED CONTROL.
Kerb (pronamide) is in the amide family of herbicides related to Devrinol* (commonly used in vegetables outside of the desert) and propanil (rice). Kerb is effective as a soil applied product but has limited activity when applied to the foliage of weeds. It is readily absorbed into the roots and translocated upwardly throughout the plant. Use of Kerb is not risk-free as crop injury may occur with its use when lettuce is not growing vigorously in ideal conditions. In the soil, Kerb may be lost to volatilization under hot and dry conditions above 85°F. The label states that it should be shallow incorporated or watered into the soil as soon as possible (within 1 to 2 days) after application. Studies have shown that sprinkler irrigation influences Kerb performance with respect to timing of application. Kerb has an average half-life of 60 days in the soil, therefore, its effectiveness is limited to the period during stand establishment. Depending on the soil type and climatic conditions, Kerb may persist from 2 to 9 months. Most rotational crops listed in the label may be planted back from 90 to 180 days after applications of Kerb at typical use rates. Repeated applications do not accumulate in soils, however, only one application is allowed to each crop of lettuce, endive, escarole, or radicchio. Another notable limitation is that Kerb cannot be applied to the above listed crops that would be harvested in less than 55 days after treatment. California growers have a Special Local Need 24c registration for direct seeded leaf lettuce or transplanted lettuce that is harvested 35 days after application. (Kai Umeda, Arizona, Maricopa County Vegetables Newsletter - vol 8, issue 12 vol 8, issue 12 December 14, 2001)

14.0. Food Safety for Meat, Poultry, and Seafood Lovers!
We all know that meat, poultry, and seafood provide great sources of protein and other essential vitamins, but mishandling them may not be so healthful. Remember that all perishable foods, like meat, poultry, eggs, and seafood, need to be handled properly to prevent foodborne illness. http://www.fightbac.org/food_safety.cfm

15.0. Food Safety and Terrorism- Questions
"Frequently Asked Consumer Questions About Food Safety and Terrorism" (FDA) http://www.cfsan.fda.gov/~dms/fsterrqa.html

16.0. US farm equipment, Classifieds, Washington Tilth
Editor's note: please let me know if you know of any other useful used farm equipment sites on the WEB.

Washington State's organic and sustainable growers association, operates a FREE classified ad service at www.tilthproducers.org (click on "Classifieds")

You can post stuff you have for sale or stuff that you want to buy or trade. It's easy. Just follow the on-screen instructions.

Try it out!

Categories include: Farm Equipment Livestock Farms & Acreage For Sale Farms & Acreage Wanted Products and Services Products and Services Wanted Positions Offered Positions Wanted Seeds and Plants Produce For Sale Other

17.0. USDA Agricultural Marketing Service seeking grant proposals

The USDA's Agricultural Marketing Service is seeking grant funding proposals for the FY 2002 Federal-State Marketing Improvement Program (FSMIP), under which $1,347,000 is expected to be available to State Departments of Agriculture or other appropriate state agencies. This is a matching fund program designed to assist State Departments of Agriculture or other appropriate State agencies in conducting studies or developing innovative approaches related to the marketing of agricultural products. Other organizations interested in participating in this program should contact their State Department of Agriculture's Marketing Division to discuss their proposal. See http://www.ams.usda.gov/tmd/fsmip.htm

18.0. Pesticide Risk Reduction Short-Course, Hilo & Maui 2002

*February 26-28, 2002: Short course: Pesticide Risk Reduction Education, Hilo; fee: $100; registration deadline February 1; registration form at http://pestworld.stjohn.hawaii.edu/studypackets/ordfrm2.html (contact Charles Nagamine, phone 808-956-6007, fax 808-956-9675, email charlie@hpirs.stjohn.hawaii.edu
*March 19-21, 2002: Short course: Pesticide Risk Reduction Education, Kahului, Maui; fee: $100; registration deadline: February 22; registration form at http://pestworld.stjohn.hawaii.edu/studypackets/ordfrm2.html (contact Charles Nagamine, phone 808-956-6007, fax 808-956-9675, email charlie@hpirs.stjohn.hawaii.edu

19.0. Maui Ag Trade Show April, 2002
April 27, 2002: Maui Agricultural Trade Show and Sampling, The Ulupalakua Thing! 11:00 a.m.-4:00 p.m., Tedeschi Vineyards, Ulupalakua, Maui (contact: Tedeschi Tasting Room for general information, 808-878-6058; for booth information, 808-875-0457; or http://www.mauiag.org/)

20.0. Tri-State Veg Conference (Mississippi), 2002
The Tri-state (Mississippi, Louisiana, and Arkansas) Vegetable Conference will be held on Feb. 6, 7 & 8th in Biloxi, MS. For Information contact John Braswell, tel. 601-795-4526, braswell@ext.msstate.edu

21.0. Organic Farming Expo, New Mexico
New Mexico Organic Farming & Gardening Expo, Feb. 8, 2001, Workshops dealing with: How to Start and Plan a Farm Business · Organic Sustainable Greenhouse Design and Production · Organic Commercial Cut Flowers and Marketing · Introduction to Agriculture Policy · Using Federal Programs to Support Sustainable Agriculture Expo information and registration can be obtained from Lynda Prim at the Farm Connection, 505-579-4386, email: lunalsfc@la-tierra.com and Joanie Quinn at NMOCC, 505-266-9849. Some details are also available on the Western SAWG’s website at www.westernsawg.org.

NORTHEAST ORGANIC FARMING ASSOCIATION OF NEW YORK 20TH ANNUAL EDUCATION CONFERENCE LOCAL FARMS AS THE BASIS OF A SOUND LOCAL ECONOMY or Is a California Tomato Good Enough for New Yorkers? JANUARY 25, 26 & 27, 2002 NOFA-NY Annual Conference Keynote Speakers: Sally Fallon and Will Stevens. Join NOFA-NY members and friends, working together to make the organization as responsive to organic and sustainable farmer needs as possible. 36 workshops, including advanced marketing, experienced grower techniques, farm business and management skills, equipment decision making, organic certification, biodynamic methods) and more. Workshops will include NOFA-NY organizational change and growth. For more information, contact NOFA-NY at 518-734-5495 or write to P.O. Box 880, Cobleskill, NY 12043. Or check our website at: ny.nofaic.org to download the conference workshop list and registration form.

23.0. Sustainable Livestock Conference, New Mexico
Sustainable Livestock Management in the West, Santa Fe, New Mexico, February 7-8, 2002. Expo information and registration can be obtained from Lynda Prim at the Farm Connection, 505-579-4386, email: lunalsfc@la-tierra.com and Joanie Quinn at NMOCC, 505-266-9849. Some details are also available on the Western SAWG’s website at www.westernsawg.org.
24.0. Water/Irrigation Conference, California 2002

"2002 - Water and Energy: Working for Solutions" and it will be in Sacramento, California at the Radisson Hotel on January 16 and 17, 2002. For additional information: www.caai.org

25.0. Irrigation Short Course, Colorado 2002

The Central Plains Irrigation ShortCourse is scheduled for Feb 5-6, 2002 in Lamar, Colorado. At this point the session topics have been determined. There will be two SDI sessions (1. Design and Mgmt. 2. Recent Research Results in the Central Plains) and an additional vegetable irrigation session that supposedly will have additional drip irrigation presentations. A trade show is planned and more exhibitors are wanted. More details on the Short Course and Exposition including exhibitor registration can be found at http://www.oznet.ksu.edu/SDI/revents/cpia.html

26.0. New York Vegetable Conference 2002


27.0. US Plasticulture Conference 2002


28.0. Forage Field Day, Big Island 2002

Forage Field Day is scheduled for June 21, 2002 at the Mealani Experiment Station in Kamuela on the Big Island. For more information contact: Wayne Nishijima, Interim Hawaii County Administrator, waynen@hawaii.edu