



UNIVERSITY OF
FLORIDA

E X T E N S I O N

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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

January 7, 2005

After a chilly start to the period, which saw a few nights around Christmas with temperatures in the 30's and 40's, the past few weeks have been relatively balmy with unseasonably warm conditions prevailing over South Florida. In most areas, daytime highs ranged in the mid 70's to low 80's with nighttime lows in the mid 50's.

Most areas received appreciable rainfall over the Christmas holiday with the Bradenton area reporting over 3 inches. Other areas received between $\frac{3}{4}$ and $1\frac{3}{4}$ inch for the period with the exception of Homestead, which tallied just over a $\frac{1}{10}$ inch for the period. Foggy conditions and heavy night dews have been widespread and have contributed to disease development.

Warm dry weather in most areas has permitted planting and harvesting to proceed at a normal pace with most growers taking a break for the Christmas and New Years holidays.

FAWN Weather Summary

Date	Air Temp (°F)		Rainfall (Inches)	Hours Below Certain Temperature (hours)							
	Min	Max		40°F	45°F	50°F	55°F	60°F	65°F	70°F	75°F
Bradenton											
12/16/04– 1/6/2005	33.7	78.5	3.33	16.7	8.4	2.8	53.7	40.6	14.0	44.2	94.9
Ft Lauderdale											
12/16/04– 1/6/2005	46.3	82.9	1.74	0.0	0.0	24.5	10.9	0.3	14.4	69.8	63.3
Fort Pierce											
12/16/04– 1/6/2005	40.6	78.2	1.27	0.0	11.4	6.6	6.2	22.3	1.1	27.6	115.1
Homestead											
12/16/04– 1/6/2005	42.1	82.6	0.12	0.0	2.4	18.0	5.4	31.8	34.6	21.8	62.0
Immokalee											
12/16/04– 1/6/2005	35.4	81.1	0.73	9.4	7.0	2.7	11.4	21.4	34.9	20.0	83.7

All the best for a Happy New Year!

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Crops coming to market include celery, cucumbers, eggplant, endive, escarole, green beans, lettuce, pepper, radishes, squash, sweet corn, tomatoes, watermelon and specialty items. Quality has been good but prices for most commodities have fallen off following the holidays.

The short-term forecast from the National Weather Service in Miami calls Temperatures across South Florida calls for continued warm dry weather through next week. Minimum temperatures will range from the mid 50s across the interior and west coast to the lower to mid 60s along the east coast with maximum afternoon temperatures in the low to mid 80s. A chance of showers and fog conditions are possible most days.

For additional information, visit the National Weather Service in Miami website at <http://www.srh.noaa.gov/mfl/newpage/index.html>

Insects

Leafminers

Leafminer pressure continues to build around Southwest Florida. In some places pressure is moderate to heavy and scouts report finding stippling and adults in plants only a week in the ground. Leafminers are present in a variety of crops including beans, potato, tomato and eggplant.

Reports from the Manatee Ruskin area indicate that leafminer numbers are quite high and control has been difficult in some fields with standard materials. Some growers report that where spraying has been judicious parasitism has played a role in keeping numbers down somewhat.

Respondents in Homestead area report that leafminer pressure remains high in young beans and tomato.

Growers in Palm Beach report that leafminer damage is light to moderate and seems to be almost everywhere on a wide variety of crops. Specialty growers indicate that will leafminers are present on the cotyledons and older outer leaves of leafy greens they seldom damage the younger harvestable portion.

Leafminer injury is readily visible to the grower but healthy plants can tolerate considerable damage without excessive loss of vigor and yield. 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. Heavily damaged leaves will often drop, due in part to entry of pathogenic organisms into old mines.

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 often 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.

Rotate products in different classes. Trigard, Agri-Mek and Spintor are all in chemical different classes

Do not apply more than 2 consecutive applications of a single product. Use labeled rates; most experts agree that too low or too high are to be avoided. (Agri-Mek is 8oz, Trigard 1/6lb per acre) Some other materials that may be used to conserve beneficials include azadirachtin (Neemix) and insecticidal oils. Both products 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. Practice good sanitation and eliminate old crop residue immediately after harvest.

Whiteflies

Reports from Palm Beach County indicate that growers are seeing increases in whitefly numbers especially in older plantings where nicotinoids have run out. Growers are applying IGR's and other controls as needed. Continued mild weather conditions are expected to allow numbers to continue to build.

Reports from Homestead indicate that whitefly numbers are high in many tomato fields. Whiteflies are present in beans and remain problematic in cucurbits.

Respondents in the Manatee/Ruskin area report that whitefly numbers have leveled off in some fields, but in other fields, especially where spraying has decreased, numbers are still high. Growers often reduce spraying during harvest, but with this season's extended harvest and the fact that TYLCV is still around, growers should at least be including an oil or soap with other sprays to kill adults.

Since it appears that there will not be a crop free period this winter, so growers need to stay diligent about whitefly control throughout harvest. Prompt destruction is also important, as is adding an insecticide or oil with the herbicide. Don't just rely on Mother Nature to kill the tomato plants. As they decline slowly, whitefly will continue to develop. Even though the cooler weather makes for longer life cycles, this can still be a source of problems.

Around Southwest Florida, whitefly numbers are starting to build gradually across the area. Adults and nymphs are starting to increase in several older fields (tomato, pepper, potato and

cucurbits). As more and more of these fields are finished there will be more adults migrating out of the old fields.

As fall crops come off, it is important to practice good sanitation to avoid movement of whiteflies into later plantings and a buildup in populations that carry over to the spring crop.

Dr. David Schuster reports that the trend toward more neonicotinoid resistant whitefly populations reported over the past few years seems to have reversed itself. Hopefully this is the result of improved management practices. Growers are urged to continue to practice the following recommendations

Nicotinoid Resistance Management Recommendations

- Reduce overall whitefly populations by strictly adhering to cultural practices including:
 - Plant whitefly-free transplants
 - Delay planting new crops as long as possible and destroy old crops immediately after harvest to create or lengthen a tomato free period
 - Do not plant new crops near or adjacent to infested weeds or crops, abandoned fields awaiting destruction or areas with volunteer plants
 - Use UV-reflective (aluminum) plastic soil mulch
 - Control weeds on field edges if scouting indicates whiteflies are present and natural enemies are absent
 - Manage weeds within crops to minimize interference with spraying;
 - Avoid u-pick or pin-hooking operations unless effective control measures are continued
- Do not use a nicotinoid like Admire on transplants or apply only once 7-10 days before transplanting; use other products in other chemical classes, including Fulfill, before this time;
- Apply a nicotinoid like Admire (16 ozs/acre) or Platinum (8ozs/acre) at transplanting and use products of other chemical classes (such as the insect growth regulators Courier® or Knack® as the control with the nicotinoid diminishes. Note: Courier and Applaud are the same active: buprofezin. Courier is labeled for whitefly on tomato and snap bean. The mode of action is chitinase inhibitor. Dimilin and Knack are juvenile hormone mimics labeled for whitefly control on fruiting vegetables.
- Never follow an application (soil or foliar) of a nicotinoid with another application (soil or foliar) of the same or different nicotinoid on the same crop or in the same field within the same season (i.e. do not treat a double crop with a nicotinoid if the main crop had been treated previously);
- Save applications of nicotinoids for crops threatened by whitefly-transmitted plant viruses or whitefly-inflicted disorders (i.e. tomato, beans or squash) and consider the use of chemicals of other classes for whitefly control on other crops.

Worms

Around Southwest Florida, respondents indicate that worm pressure is low to moderate but that worms are still active in a variety of crops. Depending on the location and crop beet armyworm, pickleworm, southern armyworm and tomato fruitworms are all present.

Growers and scouts in the Manatee Ruskin report that worms of all types are still around. Growers and scouts report seeing new armyworm egg deposition and a scattering of fruitworms.

Reports from Homestead note that fall armyworms are still causing problems in corn but are not nearly as widespread as earlier in the season.

Reports from the Glades note moderate to high pressure from fall armyworms on sweet corn.

Growers in Palm Beach County indicate that worms are still widely present on a variety of crops. A few diamondback moth egg masses and larvae are present in leafy brassicas.

Aphids

Respondents indicate that winged and wingless aphids are increasing on leafy vegetables, pepper and specialty items around Palm Beach County with some colony formation present.

Around Southwest Florida aphids are active and are being treated in pepper and specialty items.

Reports from Homestead indicate increasing aphid pressure in tomato along with heavy pressure in squash where aphid transmitted virus problems have also increased substantially. Aphids are also present in beans and eggplant.

Some increase in aphid activity has been noted in the Ruskin area.

Pepper weevil

Growers and scouts in Homestead report heavy weevil pressure in hot varieties with lower numbers in bells and other sweet varieties.

Around Immokalee, pepper weevils are present in low numbers in a number of widely scattered locations. Scouts indicate a few older fields have established populations that are beginning to build.

Broadmites

Growers and scouts in Palm Beach report scattered broadmite damage on peppers in some places.

Around Southwest Florida broadmites are still active on pepper in a few scattered locations.

Broad mites are still active in eggplant and pepper in the Homestead area. Scouts note that numbers are highest in fields where whiteflies are most active.

Spider Mites

Reports from Palm Beach County indicate that spider mites are still active on eggplant in places.

Reports from southwest Florida indicate that spider mite numbers remain low in most places.

Respondents in Homestead report increasing problems with red spider and two spotted mites on eggplant and cucumbers. Strawberry producers report very low mites.

Thrips

Growers in Homestead report increasing problems with *Thrips palmi* in beans, cucumber, eggplant, and pepper.

In other areas of South Florida, low numbers of thrips being found in pepper and tomato blossoms.

Silk Fly

Silk fly adults are increasing in numbers in sweet corn in Homestead and the Glades. Growers have been scheduling sprays in the afternoon when flies are most active.

Diseases

Reports indicate that disease pressure has picked up in a number of places in response to foggy morning and heavy dews.

Late blight

Late blight is widely present in both tomato and potato in a number of locations around Immokalee. Incidence remains low in most places with a few lesions widely scattered across infected fields. In a few fields incidence and severity is high with plants displaying multiple stem and fruit lesions and in some hotspots plants have been decimated in fairly large areas of the worst affected fields.

Growers also report finding infected plants arriving in transplants.

Few diseases spread as quickly as late blight. The disease can easily devastate a tomato or potato field within a few weeks if it is not properly controlled. The disease thrives under cool and wet conditions. Temperatures between 50 and 80°F combined with moist conditions such as rain, fog, heavy dews, or relative humidity above 90 percent are conducive for disease development. Night temperatures in the fifties with daytime temperatures from the mid-fifties to mid-seventies are ideal for this disease. Temperatures in the lower range stimulate the formation of many swarm spores (zoospores) from the sporangia. This situation dramatically increases the potential for disease spread.

Over the past few weeks warm days and cool night temperature and consistent nighttime leaf wetness (fogs, heavy dew, etc) along with scattered light showers in some places over the past few weeks have been ideal for late blight. Along with ideal conditions, the combination of two back to back long holiday weekends along with some possible reduction in spraying resulting from falling prices have undoubtedly worsened the situation in places. Even a short break in spray schedules, despite what is said regarding some of the newer fungicides, can result in a dramatic increase in blight under the conditions we have had during the past two weeks. If weather conditions remain mild, we could be in for a blight year.

Since the disease can spread so rapidly, growers should scout their fields thoroughly each day, especially when cool and wet conditions conducive to disease development prevails.

Since late blight symptoms may be confused with symptoms of other diseases, the following diagnostic pointers may help growers distinguish between the late blight and other diseases.

Late blight symptoms on leaves appear as irregularly shaped brown to purplish lesions with indefinite border lesions that can span veins. The lesions may be seen any time of day, on any

stage of plant growth and on leaves of any age. Velvety, white fungal growth may appear on the lower surface of affected leaflets early in the morning before leaves dry and/or in the lower canopy.

On stems, purplish lesions may be seen any time of day and may be found any where on the stem. Cottony, white growth of fungus on stems with lesions can often be seen early in the morning and/or in the lower canopy. Stems with lesions are brittle and break easily. Lesions are confined to epidermis and cortex. Leaf rolling and wilting is often associated with stem lesions and purpling of leaflets may occur in some varieties.

Several control measures including use of certified seed and destruction of culls in addition to careful scouting are absolute necessities if late blight is to be properly controlled. It is critical to keep inoculum levels low during seasons when weather conditions early in the cropping season are favorable for development of late blight (as they have been this year). Remember that prevention is the key to success.

Currently, fungicides are the most effective means of controlling late blight and will remain the primary tool until cultivars with resistance to this disease become available. Fungicides slow the rate at which the disease develops in the field by creating a protective barrier on the foliage. Just applying a chemical, however, does not necessarily equate with effective disease control. Relative effectiveness of a product, coverage, and timing must be factored into the equation for maximum benefit. Newer products such as Curzate (DuPont) boast “kick back” action that can help arrest infestation if applied within 48 –72 hours of initial infection.

In Florida, it has been observed that seldom does a widespread late blight epidemic occur on tomatoes in the Manatee-Ruskin area unless the disease was present in the Immokalee area and/or Dade County. Since late blight has been confirmed on both potato and tomato in Immokalee growers in other areas are advised to adhere to a preventative spray program.

Reports indicate that late blight is also present in west central Florida. Although no reports have been received from other south Florida production areas, if not already present growers would be well advised to practice a preventative spray program given the high level of inoculum present.

Downy Mildew

Growers and scouts report that downy mildew is widely present on cucumbers and squash in scattered locations around Southwest Florida. Incidence and severity is high in some locations.

Respondents indicate that downy mildew is also active on cucumbers and squash in Homestead.

Dr Gerald Holmes, Plant Pathologist at NC State reports growers there experienced the worst case of downy mildew on cucumber in the 2004 season that anyone in NC, VA, MD or DE can remember. Statewide yield loss have been estimated at 40 % overall. In North Carolina the disease is not normally seen until mid-July and it typically hits squash and pumpkin most severely.

In the past, cultivar resistance in cucumber has been sufficient to control the disease without fungicide use. This year, the disease showed up in mid-May and hit cucumber very hard and didn't let up until frost.

Fungicides did not provide much relief as most growers were caught by surprise, then used products on established infections and often used products that were not very effective. Dr

Holmes put out a trial in late summer that confirmed lack of good control with several materials including Cabrio, Pristine, Quadris and Ridomil Gold Bravo.

Downy mildew moves around on wind currents and moves north in the spring, and south in the fall.

This fall growers have experienced similar problems with downy mildew on cucumber around south-central and southwest Florida and the UF/IFAS Plant Pathology Clinic in Immokalee has reported a higher than number than usual of cucumber samples diagnosed with downy mildew.

In North Carolina, Dr. Holmes reports that in his fungicide trial conducted under intense disease pressure, four products worked pretty well --Tanos, Previcur Flex, Gavel and Ranman (soon to be called "Hero" by FMC). Gerald notes that there are still a lot of questions about how to put these into the ultimate program and notes under his conditions that Tanos plus a protectant fungicide (Bravo, Dithane, Manzate etc) alternated with Previcur Flex plus protectant material would be a real winner as long as applications begin before the disease shows up.

He notes that all bets are off if products are applied after disease is established.

Bacterial Leaf Spot

Around Immokalee, bacterial spot continues to spread in some pepper and tomato plantings. Reports indicate that the disease is most active in older fields where heavy dews and foggy conditions have aided continued spread while younger planting remains relatively clean. Growers report good control with Tanos/Mancocide tank mixes in rotation with other products.

Bacterial spot is still causing problems on tomatoes around Palm Beach County. He notes that in some fields, it is downright bad news. He reports that this is little surprising given that fact that the weather has been fairly dry and cool, but notes that there have been some widespread heavy dews lasting well into the morning.

Respondents in Homestead indicate that bacterial spot is still active in susceptible tomato varieties.

Reports from the Ruskin area indicate that bacterial spot is still present in some fields and just refuses to go away.

Target Spot

Scouts in the Homestead area report active target spot in tomato. They note that while cool dry conditions have helped slow bacteria spot they may favor diseases like early blight and target spot.

Around Southwest Florida, target spot has increased in a number of tomato fields over the past few weeks.

Around Manatee County, target spot has picked up and has caused some post harvest problems in some areas. In some cases, this may also be a result of decreased sprays or reliance on manzate and copper alone. Target spot prefers senescence and damaged leaves and stems, and we have had plenty of that this season. Temps in the 80's, morning fogs and leaf damage sets up an excellent environment for target spot

Early Blight

Growers across the area report low to moderate incidence of early blight on tomato. In some instances lesions are associated with leafminer injury.

Tomato Yellow Leaf Curl Virus

Reports from around southwest Florida indicate that TYLCV is increasing in fall tomatoes with some field reaching 5 – 10 % infection rates. More alarming are reports of TYLCV appearing on transplants coming from the greenhouse and in-field transmission on young plantings. Growers should take precautions to rogue plants where feasible and practice a complete program of IPM and whitefly management including attention to sanitation and crop destruction. The mild winter conditions we are experiencing could help set the stage for a big spring flare up of the disease the coming weeks.

Growers and scouts in Manatee County continue to report an increase in TYLCV, especially in the usual “high risk” fields. Reports indicate that some plantings are approaching 100 % infection. This is reminiscent of last year, which saw an increase late in the season followed by an explosive increase in whitefly numbers when they seemed to come out of the woodwork in the spring. This winter there will probably not be a crop free period, unless Mother Nature steps in. Growers may want to consider using one of the TYLCV resistant cultivars, especially for early plantings, or the use of silver mulch, which did seem to delay the onset of TYLCV last spring.

TYLCV infections continue to increase around Homestead with many fields now showing 5% infection rates. Scouts have noted at least one hotspot with 50% incidence of the disease.

Southern Blight

Around Southwest Florida, respondents indicate that southern blight is present in pepper and tomato and some reports indicate it is “bad” in some older tomato plantings.

Powdery Mildew

Powdery mildew is wide spread on squash around Southwest Florida. Incidence and severity is moderate to high in some places. Growers report good results with new "Payday" variety of green squash with powdery mildew tolerance, and note it is looking good under field conditions.

Growers and scouts operating around Homestead are reporting active powdery mildew in squash

Powdery mildew is also present on cucurbits around West Central Florida as well as East Coast growing areas.

Fusarium Crown Rot

In several locations around Southwest Florida, fusarium crown rot has flared up following the recent cold weather around Christmas.

Growers in Palm Beach County are also reporting problems with fusarium on tomato and report a steady toll of older plants in some places.

Sclerotinia

Sclerotinia (white mold) is beginning to show up on tomato, pepper and beans at low levels around South Florida with a few hotspots being reported.

Lettuce downy mildew

Dr Rick Raid, UF/IFAS Pathologist reports that lettuce downy mildew, caused by the fungal parasite *Bremia lactucae*, was observed on lettuce grown on the sand in Devils Garden shortly before Christmas. South Florida commercial lettuce growers have been alerted quickly alerted and are advised to have preventative applications of maneb in place and to consider additional fungicidal compounds as well. Candidates here would include Tanos, Amistar, Cabrio, Acrobat, Aliette, or a number of registered phosphonic compounds. To date, the disease has not appeared in the major lettuce-growing region of the Everglades Agricultural Area.

Growers are urged to keep a close lookout for this destructive pathogen and to contact Dr. Richard Raid (561-993-1564) as soon as possible if spotted. Producers are also reminded to incorporate old lettuce residues immediately after harvest, so that this does not serve as a source of downy mildew inoculum for young lettuce plantings.

New You Can Use

Final Rule on the Process for Exempting Critical Uses from the Phase-out of Methyl Bromide

EPA administrator, Michael Leavitt, signed the final rule that provides the framework for exempting methyl bromide approved for critical uses in 2005. Official publication in the Federal Register is tentatively scheduled for the 23rd of December, and will become effective on January 1, 2005. The Rule will allow the production and/or import of 7,659 metric tones of methyl bromide for use under Critical Use Exemptions. The total quantity will be apportioned as follows: 7,170.230 metric tones for pre-plant uses and 488.770 metric tones for post-harvest uses. An additional quantity of 1,283.214 metric tones will be drawn for existing stock for use under the Critical Use Exemption and will be allocated as Critical Stocks Allowances among 29 entities, including basic manufacturers, formulators, distributors, dealers and fumigators.

These amounts of methyl bromide will only be available to individual users that meet the criteria provided for in the Rule for the 17 sectors represented in the U. S. Critical Use Nomination of 2003 under the Montreal Protocol on Substances that Deplete the Ozone Layer. In Florida, CUE materials may be available to and used by tomato growers pepper growers (all varieties), strawberry growers, eggplant growers, Yoder Brothers-chrysanthemums, specific tree nurseries, and certain turf grass producers and specific golf course users.

A comprehensive bulletin on the proposed rule was distributed by FFVA in September that detailed many of the concerns we had to the Rule as originally proposed. Many of those concerns were addressed in the Final Rule as provided on EPA's website. Growers who use methyl bromide from the C.U.E. stocks after January 1, 2005 will be subject to the requirements in the Rule.

IT IS EXTREMELY IMPORTANT TO NOTE THAT WHILE THE TOTAL QUANTITY OF METHYL BROMIDE AVAILABLE UNDER THE FINAL RULE IS NOT APPORTIONED BY SPECIFIC USE SECTOR, THE CAP ON CUE MATERIAL IS A FIXED AMOUNT AND SIGNIFICANT PENALTIES CAN BE ASSESSED IF THE USE REQUIREMENTS ARE NOT FOLLOWED.

The standard for eligibility for access to critical use methyl bromide has been changed in the Final Rule from a hard certification to one of "reasonable expectation". Use in Florida by sector will be governed by the conditions shown in the following table.

Growers that take advantage of the methyl bromide available under the CUE during the period January 1, 2005 through December 31, 2005 are subject to the following conditions and criteria.

- 1) No person shall take possession of quantities of critical use methyl bromide or acquire fumigation services using quantities of critical use methyl bromide without first completing the appropriate certification. The rule suggests the following language.

"I certify, under penalty of law, I am an approved critical user and I will use this quantity of methyl bromide for an approved critical use. My actions conform to the requirements associated with the Critical Use Exemptions published in 40 CFR Part 82. I am aware that any agricultural commodity within a treatment chamber, facility or field I fumigate with critical use methyl bromide cannot be subsequently or concurrently be fumigated with non-treatment for a different use (e.g., a different crop or commodity). I will not use this quantity of methyl bromide for a treatment chamber, facility, or field that I previously fumigated with non-critical use methyl bromide purchased during the same control period, excepting a QPS treatment or a treatment for a different use (e.g., a different crop or commodity), unless a township limit now prevents me from using methyl bromide alternatives."

The certification also has to indicate: 1) the type of critical use methyl bromide purchased; 2) the location of the treatment; 3) the crop or commodity treated; 4) the quantity of critical use methyl bromide purchased; 5) the acreage or square footage treated; and, 6) must be signed and dated by the approved user.

- 2) No person who purchases critical use methyl bromide may use such quantities for a use other than the specified critical use in Column A and the specified location of use in Column B of Appendix L to this subpart.
- 3) No Person who purchases critical use methyl bromide produced or imported with expended critical use allowance for pre-plant uses, may use such quantities for other than the pre-plant uses as specified in Column A and Column B of Appendix L to his subpart
- 4) No person who purchases critical use methyl bromide produced or imported with expended critical use allowances or post-harvest uses may use such quantities for other than the post-harvest uses as specified in Column A and Column B of Appendix L this subpart.
- 5) No person who uses critical use methyl bromide on a specific field or structure may concurrently or subsequently use non-critical use methyl bromide on the same field or structure for the same use (as defined in Column A and Column B of Appendix L) in the same control period, excepting methyl bromide used under the quarantine and pre-shipment exemption.
- 6) No person who purchases critical use methyl bromide during the control period shall use that methyl bromide on a field or structure for which that person has used not-critical use methyl bromide for the same use (as defined in Column A and B of Appendix L) in the same control period, excepting methyl bromide used under the quarantine or pre-shipment exemption, unless subsequent to that person's use of the non-critical use methyl bromide, that person becomes subject to a prohibition on the used methyl bromide alternatives due to the reaching of a local township limit described in Appendix L of this part.

It is important to understand that the control period begins on January 1, 2005 and runs through December 31, 2005.

APPENDIX L TO SUBPART A OF PART 82 – APPROVED CRITICAL USES, AND LIMITING CRITICAL CONDITIONS FOR THOSE USES FOR THE 2005 CONTROL PERIOD

COLUMN A – APPROVED CRITICAL USE	COLUMN B – End User and Location of Use	COLUMN C – Limiting Critical condition
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Pre-Plant uses

Eggplant	Florida growers	With a reasonable expectation that one or more of the following limiting critical conditions either already exist or could occur without methyl bromide fumigation: moderate to severe yellow or purple nutsedge infestation, or karst topography
Peppers	Florida growers	With a reasonable expectation that one or more of the following limiting critical conditions either already exist or could occur without methyl bromide fumigation: moderate to severe yellow or purple nutsedge infestation, or karst topography
Strawberry Fruit	Florida growers	With a reasonable expectation that one or more of the following limiting critical conditions either already exist or could occur without methyl bromide fumigation: moderate to severe yellow or purple nutsedge infestation, or karst topography
Tomatoes	Florida Growers	With a reasonable expectation that one or more of the following limiting critical conditions either already exist or could occur without methyl bromide fumigation: moderate to severe yellow or purple nutsedge infestation, or karst topography
Forest Tree Seedlings	Florida, Members of the Southern Forest Nursery Management Cooperative	With a reasonable expectation that one or more of the following limiting critical conditions either already exist or could occur without methyl bromide fumigation: moderate to severe yellow or purple nutsedge infestation, or moderate to severe disease infestation.
Turfgrass	U.S. Turfgrass sod nursery producers who are members of Turfgrass Producers International (TPI)	For the production of industry certified pure sod
	U.S. Golf Courses	For establishing sod in the construction of new golf courses or the renovation of putting greens, tees, and fairways
Ornamentals	Yoder Brothers Inc. in Florida	For use in all chrysanthemum production

Post - Harvest uses

Food Processing	Member, North American Millers' Association	With a reasonable expectation that one or more of the following limiting critical conditions either already exist or could occur without methyl bromide fumigation: older structures that cannot be properly sealed to use an alternative to methyl bromide, or the presence of sensitive electronic equipment subject to corrosivity, time to transition to alternative.
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Of major significance to Florida growers is the fact that the U.S. nomination did not cover the entire production areas in Florida. Only approximately 60% of the acreages across the four commodities covered by petitions submitted by FFVA in cooperation with the Florida Strawberry Growers Association and the Florida Tomato Growers Exchange was covered in the U. S. nomination. It is also important to understand that the quantity is based on treatment level of 200 lbs. Of 67:33 per gross acre (150 kg/ha) for tomatoes, peppers, and eggplant, and 246 lbs. 67:33 per gross acre (185 kg/ha) for strawberry.

Use at rates higher than this may result in severe shortages of critical use material later during the control period.

Vegetable and Agronomic Crop BMP Manual Workshop Summary

The Best Management Practices (BMP) Manual for Vegetable and Agronomic Crops was developed to address agricultural non-point pollution sources as originally mandated by the Federal Clean Water Act back in 1972. More recently, Total Maximum Daily Load (TMDL) guidelines have been a driving force behind ensuring that growers are following BMPs to reduce impacts to impaired water bodies. Currently the draft BMP manual is 167 pages in length and after 3 years of development and review, is scheduled to be adopted by rule. The purpose of the recent workshops was to give growers an opportunity to provide input and feedback to FDACS, the lead agency in development of the manual.

What's in it for you? Once adopted by rule, verified by FDEP and implemented, growers who voluntarily sign up and follow BMP guidelines will receive a "Presumption of Compliance" with regards to state water quality standards. Also, monetary assistance may be available through cost share programs such as FARMS.

BMP implementation will rely upon a three-pronged approach. There are 13 general or universal BMPs that are applicable to many farming operations (page 10 of the manual). By doing an inventory of current farm practices, growers will find that they are already following some of these baseline BMPs.

You do not have to do them all, but growers will be expected to make a reasonable effort to implement as many as practical. Think of these as Tier 1 guidelines. Following this inventory, growers should turn to the BMP Decision Tree Flowchart (pages 7 & 8), which will take you to Tier 2 guidelines. These are more specific BMPs applicable to different situations. For vegetable growers in Central and South Florida, the two that would be most applicable include the Plasticulture Farming and the Seasonal/Temporary Farming Operations. The Plasticulture Farming Performance Standard includes 2 pages of qualitative guidelines (beginning on page 133). The Seasonal/Temporary Farming Guidelines begin on page 137. Follow the flowchart until you reach the block(s) that best describe your farming operation. The implication here is that participating growers will implement both the general or Tier 1 BMPs and the Tier 2 BMPs applicable to their situation.

The next step is an on-farm assessment using the checklist in appendix A-1. FDACS Ag-Teams may be able to assist growers with these on-farm assessments that are specific for vegetable growers. This is the tool that growers would use to mitigate the risks from practices such as "over-fertilization". BMP 33 (Optimum Fertilization Management/Application) contains these guidelines. Obviously, as with most programs these days, documentation and recordkeeping will be important.

Growers are encouraged to take a look at the manual, which is available, online at <http://www.floridaagwaterpolicy.com/PDFs/BMPs/vegetable&agronomicCrops.pdf> paying particular attention to the sections that would be applicable to them.

There is still time to comment. Call your extension agent if you have comments or concerns and we will pass your comments along to FDACS. Once the manual has been adopted (anticipated date of adoption is currently March, 2005), growers can sign-up electronically by completing a Notice of Intent form.

Thanks to P. Gilreath and A. Whidden for this summary.

President Bush Inks Specialty Crop Bill

The Specialty Crop Competitiveness Act is official. The act, which authorizes \$54 million annually for five years, will fund investment in the produce industry through technical assistance, research, conservation, education, promotion, and improved food inspection facilities. The legislation received support from produce industry leaders for its emphasis on promoting increased consumption of fresh fruits and vegetables.

"The signing of this bill is a significant victory for growers and consumers alike," said Western Growers President Tom Nassif. "As a model for federal agricultural funding, none of the millions of dollars earmarked for the produce industry will come in the form of direct subsidies. Instead, the funding will be an investment in the produce industry to enhance exports through technical assistance, specialized research programs, conservation, education, promotion, improved food inspection facilities and similar initiatives. It marks the nation's first major federal funding program for the fresh produce industry."

Some of the features of the Act include: the quantification of the clean air benefits of specialty crops; the enhancement of fresh produce quality; new crop protection tools and pest management systems; and research on the impact of foreign pest and disease invasions and effective solutions. In addition, technical assistance for specialty crops to help enhance exports will be increased and plant inspection programs will also be bolstered. VegWire Online 1/7/05

Soybean Rust Confirmed In Florida

Soybean rust, caused by *Phakopsora pachyrhizi*, will be a disease of concern for south Florida snap bean growers this spring, since snap beans, pole beans, and wax beans are also listed as potential hosts. The presence of soybean rust has been verified in a number of southern states, including Florida. Growers suspicious of the disease's presence on their crop should contact their local extension agent for verification. Keep in mind that common bean rust is also prevalent in the spring. Along with resistant varieties, control may be achieved with an effective fungicide program. Effective rust compounds registered for snap beans include, chlorothalonil, Nova, Headline, and Amistar.

The U.S. Department of Agriculture (USDA) laboratory in Beltsville, MD confirmed soybean rust on samples taken from an experimental test plot managed by the University of Florida/Institute of Food & Agricultural Sciences (UF/IFAS) in Quincy, Florida. The disease was also found and confirmed several days earlier in Louisiana and Mississippi. These southeast U.S. discoveries are the first occurrences of soybean rust in North America. Pathologists strongly suspect that Hurricane Ivan that hit the panhandle of Florida in mid September is responsible for the spread of the disease from South America.

The soybean rust pathogen (*Phakopsora pachyrhizi*), which is easily spread through wind-borne spores, is a fungus that causes small pustular lesions on the foliage and pods of soybeans and several other legume hosts, including lima beans. Soybean rust also infects kudzu, the exotic nuisance weed that has spread throughout Florida. While the health of the kudzu plant is not severely

impacted by the disease, it serves as a reservoir for the soybean rust pathogen. Forage legumes, such as yellow sweet clover also serve as a refuge for the pathogen in the off-season.

The disease was first recorded in Japan in 1903, and identified for the first time in the Western Hemisphere in Hawaii in 1994. Severe outbreaks in the last few years in South America have heightened concern for the spread of the disease to the North American soybean growers. In other countries, it is not unusual for this pathogen to reduce yields by half or more.

Current management strategies include emphasis on early detection and timely fungicide applications. Over time, soybean rust-resistant varieties may become available.

Soybean Rust - Minor Hosts

Scientific Name	Common Name	Comments/occurrence
<i>Alysicarpus glumaceus</i>	Alyce clover	Naturalized in West Indies and FL
<i>Cajanus cajan</i>	Cajan, pigeon pea	Widely cultivated in trop. Countries, FL
<i>Centrosema pubescens</i>	Butterfly pea	Frequent in fields; FL, W. Indies & Mex.
<i>Crotalaria anagyroides</i>	Rattlebox	Tropical northern South America, FL
<i>Delonix regia</i>	Royal Poinciana	S FL, wide-branching tree
<i>Lablab purpureus</i>	Hyacinth bean	syn (<i>Dolichos purpureus</i>), FL
<i>Lotus americana</i>		
<i>Lupinus hirsutus</i>	Blue lupine	Annual; southern Europe
<i>Melilotus officinalis</i>	Yellow sweet clover	Eurasia; naturalized in N. America
<i>Mucuna cochinchinensis</i>		Velvetbean relative
<i>Pachyrhizus erosus</i>	Yam bean; jicama	C. America; naturalized in south FL
<i>Phaseolus lunatus</i>	Butter bean, lima bean	important edible bean
<i>P. vulgaris</i>	Kidney bean; green bean	widely cultivated in FL and US
<i>Pueraria lobate,</i>	Kudzu	FL
<i>Sesbania exaltata</i>	Colorado River hemp	NY to FL; west to southern CA
<i>Trigonella foenum-graecum</i>	Fenugreek	Asia & southern Europe; forage, FL
<i>Vicia dasycarpa</i>	Wooly-pod vetch	naturalized in US
<i>Vigna unguiculata</i>	Cowpea, black-eyed pea	Widely planted in warm regions

Typical symptoms on leaves include raised, small brown pustules on the undersurface of the soybean leaf. If you think your plants may be infected with soybean rust, visit the FL Department of Agriculture's Web site www.doacs.state.fl.us/pi/ to learn more information about the disease and to call the Department's toll-free helpline number at 888-397-1517 to arrange for an inspection of your plants.

Up Coming Meetings

Palm Beach County

January 12, 2005 **General Standards/Core Test Review** 8 AM – 12 PM 4
CEUs

Belle Glade Extension Office
2976 State Road 15

Belle Glade, Florida

Contact Laura Powell at 561-996-1655.

February 9, 2005	General Standards/Core Test Review	8 AM – 10 AM	2
	CEUs		
	Agricultural Row Crop Test Review	1 PM – 3 PM	2
	CEU's		

Belle Glade Extension Office
2976 State Road 15
Belle Glade, Florida

Contact Laura Powell at 561-996-1655.

Southwest Florida

January 18, 2005	Vegetable Growers Meeting	6:00 PM
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UF/IFAS - SW Florida Research and Education Center
Hwy 29 N
Immokalee, Florida

Contact Gene McAvoy at 863-674-4092

January 20, 2005	Worker Protection Standard Training
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Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida

Contact Gene McAvoy at 863-674-4092

Other Meetings

January 11 –12, 2005	Good Agricultural Practices Research and Extension Conference
	Renaissance Hotel Orlando, Florida

For details, go to <http://www.gaps.cornell.edu/meetings.html>

Websites

Syngenta Crop Protection University Information Bank - This site contains an index of articles, links and information related to controlling weeds, insects and disease in agricultural crops. Although the info bank is focused primarily on corn and soybean information at this time, coverage to all major crops is planned over the next few months and the site already features vegetable news from the South Florida Pest and Disease Hotline. Set your browser to <http://syngentacropprotection-us.com/infobank/>

Cost of Production of Florida Vegetables - This UF/IFAS Food and Resource Economics' Department website provides links to estimated costs of production major vegetable crops produced

in one or more of 8 producing areas in Florida. The cost budgets were constructed using the computerized budget generator program, AGSYS. Technical coefficients used in constructing the budgets were obtained by consultation with individual growers, county agents, and IFAS researchers. The input prices used in conjunction with the technical coefficients were obtained by survey and correspondence with farm suppliers and growers in each of the areas in which production costs are reported. Go to <http://www.agbuscenter.ifas.ufl.edu/cost/>

Quotable Quotes

In general, the art of government consists in taking as much money as possible from one party of the citizens to give to the other. – Voltaire

Just because you do not take an interest in politics doesn't mean politics won't take an interest in you. – Pericles

The inherent vice of capitalism is the unequal sharing of the blessings. The inherent blessing of socialism is the equal sharing of misery. – Winston Churchill

The only difference between the tax man and a taxidermist is that the taxidermist leaves the skin. - Mark Twain

The ultimate result of shielding men from the effects of folly is to fill the world with fools. - Herbert Spencer

On the Lighter Side

Strange and Inexplicable Fears

If you are a closet dendrophobe, you have an intense and overpowering fear of trees.

Xenophobia describes an irrational fear of foreign people and cultures.

Brontophobes have an irrational fear of thunder and lightening.

Opidiophobia is fear of snakes.

An arachibutyrophobic is obsessively terrified of peanut butter sticking to the roof of the mouth.

Agoraphobia is an intense fear of being surrounded by people.

Triskaidekaphobia describes an irrational fear of the number thirteen.

A gephyrophobic has an overpowering fear of crossing bridges.

Sesquipedalophobia describes one who suffers from fear of long words.

A New Year's Wish for You and Yours

May you get a clean bill of health from your dentist, your ophthalmologist, your psychiatrist, your cardiologist, your urologist, your proctologist, your gynecologist, your podiatrist, your plumber, and the IRS.

May your hair, your teeth, your face-lift, your love handles, and your stocks never fall, and may your blood pressure, your triglycerides, your cholesterol, your white blood count, your weight, and your property assessments never increase.

May you be sensitive to the needs of others and may you create within yourself a balance of your own needs.

May you laugh at yourself and realize if you were supposed to touch your toes while exercising, the Lord would have placed them further up, and may you realize the reason so many people take up jogging is to hear heavy breathing again.

May what you see in the mirror delight you and what others see in you delight them.

May someone love you enough to accept and forgive your faults and be blind to your blemishes, and tell the whole world about your virtues.

May you live in a world at peace, with an awareness of the beauty of every sunset, every flower, every child's smile, and every wonderful astonishing beat of your own heart.

If by laughter I can cause you to wipe one tear from your cheek, that is my only reward - the government takes everything else!

Above all, may you continue to smile, may your life be filled with laughter, and may you never forget the words found in the Book of Proverbs, "A gloomy spirit rots the bones; but a merry heart is like good medicine."

All the best for a happy, healthy and prosperous New Year

Contributors include: Joel Allingham/AgriCare, Inc, Karen Armbruster/SWFREC, Kathy Carbiener /Agricultural Pest Management, Jim Connor/SWFREC, Bruce Corbitt/West Coast Tomato Growers, Dr. Kent Cushman/SWFREC, Dr. Phyllis Gilreath/Manatee County Extension, Fred Heald/Farmers Supply, Sarah Hornsby/AgCropCon, Cecil Howell/H&R Farm, Loren Horsman/Glades Crop Care, Bruce Johnson/General Crop Management, Dr. Mary Lamberts/Miami-Dade County Extension, Leon Lucas/Glades Crop Care, Gene McAvoy/Hendry County Extension, Alice McGhee/Thomas Produce, Jimmy Morales/Pro Source One, Tim Nychk/Nychk Bros. Farm, Chuck Obern/C+B Farm, Teresa Olczyk/ Miami-Dade County Extension, Darrin Parmenter/Palm Beach County Extension, Dr. Ken Pernezny/EREC, Dr. Pam Roberts/SWFREC, Dr. Nancy Roe/Farming Systems Research, Wes Roan/6 L's, Kevin Seitzinger/Gargiulo, Jay Shivler/ F& F Farm, Ken Shuler/Stephen's Produce, Ed Skvarch/St Lucie County Extension, John Stanford/LNA Farm, Mike Stanford/MED Farms, Dr. Phil Stansly/SWFREC, Eugene Tolar/Red Star Farms, Dr. Charles Vavrina/SWFREC, Mark Verbeck and Donna Verbeck/GulfCoast Ag, and Alicia Whidden/Hillsborough County Extension.

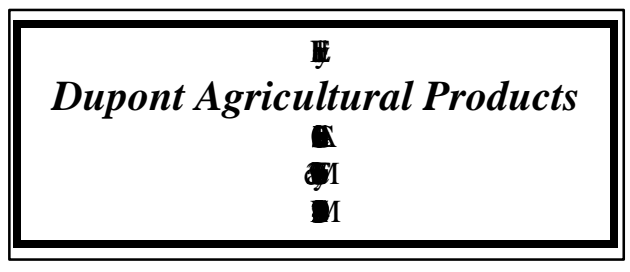
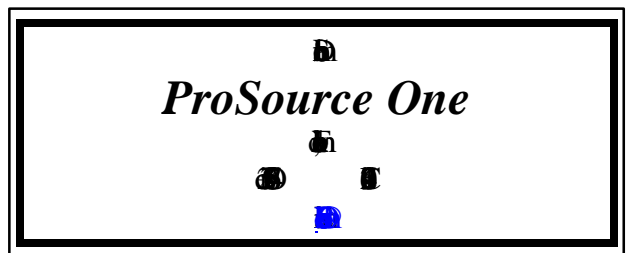
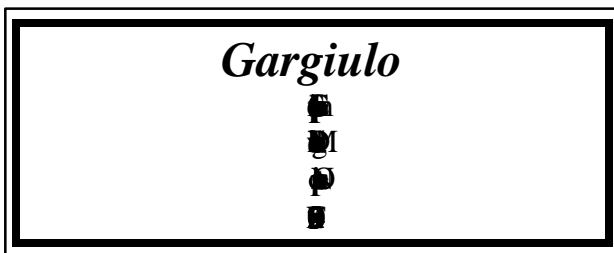
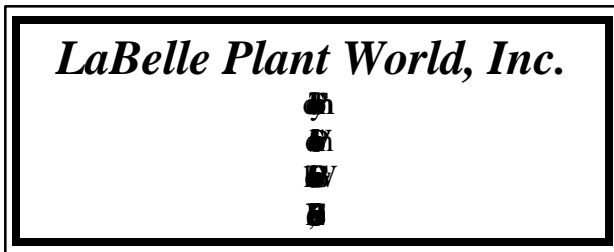
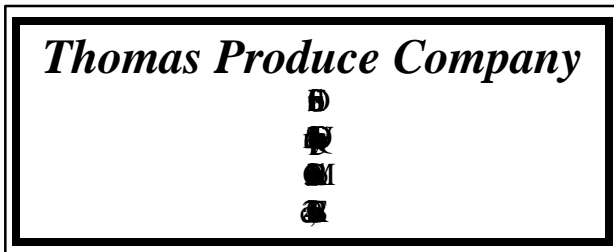
The **South Florida Pest and Disease Hotline** is compiled by **Gene McAvoy** and is issued on a biweekly basis by the **Hendry County Cooperative Extension Office** as a service to the vegetable industry.

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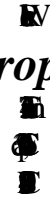
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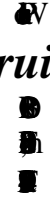
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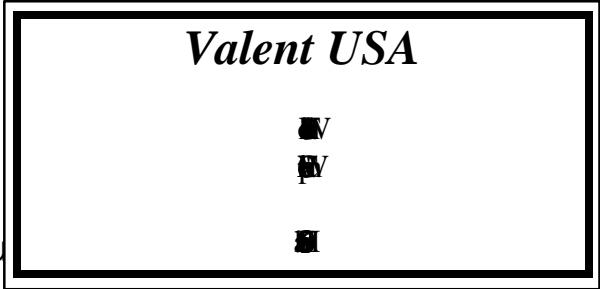
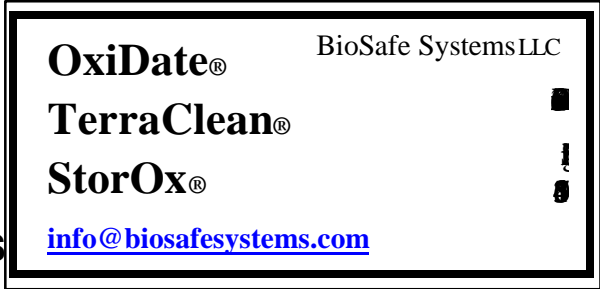
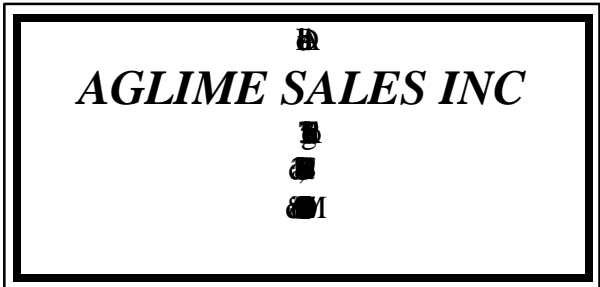
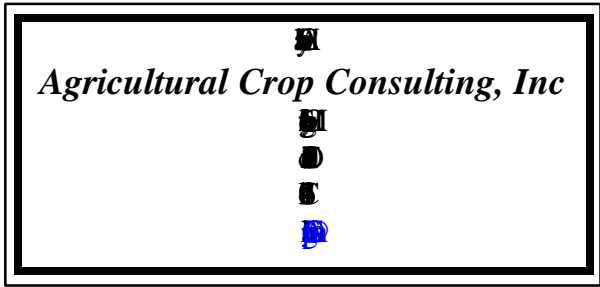
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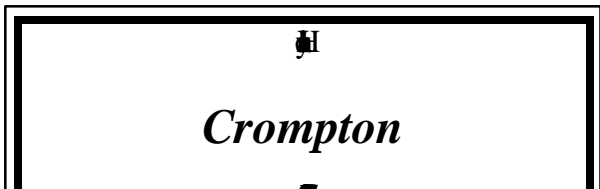
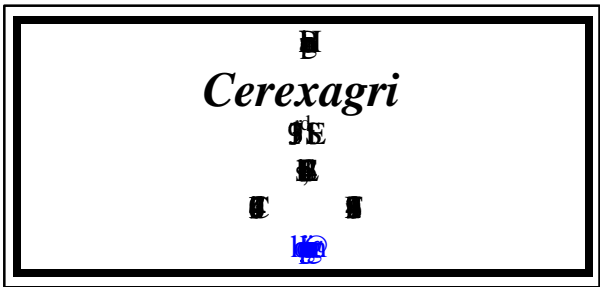
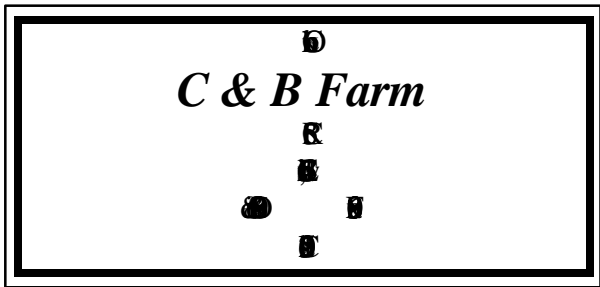
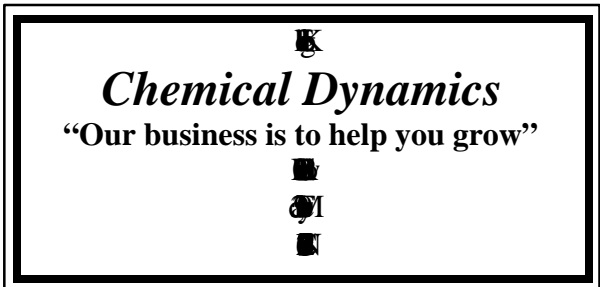
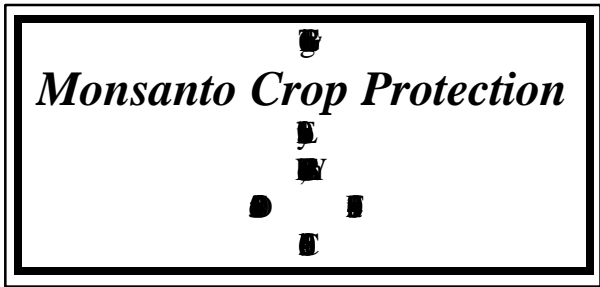
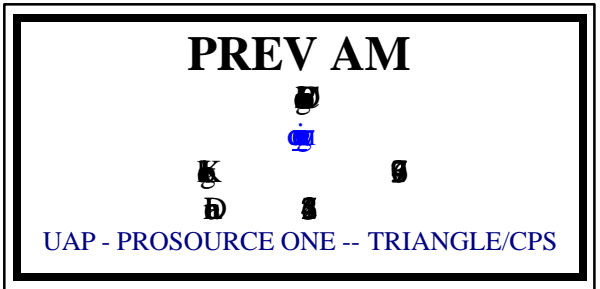
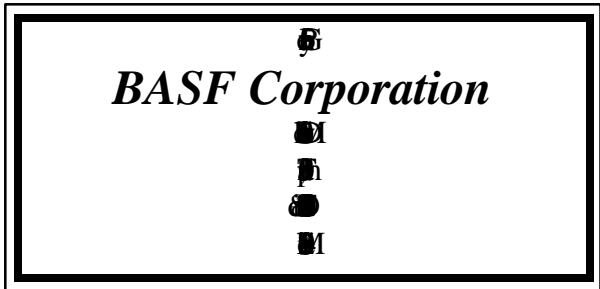
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