September 11, 2000

Rainfall has been extremely erratic throughout the past few months. To illustrate this, the FAWN Weather Station in Immokalee recorded a total of 8.56 inches of rain for the month of August, but only 0.01 inches so far in September.

In some areas, growers have reported difficulty in preparing fields due to dry conditions. Others have reported the need the necessity of pumping water into fields to get soil adequately moistened to allow bed formation, this in a season we are traditionally pumping water off land to dry it down. In other areas, growers have reported some delays in land preparation due to excessive rain particularly in the past two weeks.

Total precipitation appears to have been highest in the interior regions south and east of Immokalee and into Devils Garden towards Clewiston while coastal areas have reported lesser amounts. In general, the drought, which has plagued the area since last year, continues to persist despite locally heavy showers. Area wide, this year’s total rainfall is 5 – 8 inches below the expected average yearly accumulation to date.

The rainfall deficit will be cause for some concern as we enter the dry season unless rainfall total approaches normal levels. There are already reports of lower than normal ground water levels and failure of flowing artesian wells. Forecasters have indicated that this could result in a worse drought than that experienced last spring, which was the worst in the past 85 years of recorded weather in SW Florida.

Daytime highs have ranged from the high 80’s to low 90’s with nighttime temperatures consistently in the mid to lower 70’s. A number of reports indicate that hot dry conditions have contributed to appreciable levels of heat stress in early plantings. Penman evapo-transpiration levels have been running between 0.170 and 0.220 inches per day. In some areas, growers have reported problems with damage from accumulated salts and the need for repeated trips through new plantings with water wagons.

Back in the saddle again ....
Planting is well under way throughout SW Florida. Tomato and pepper planting is in full swing. Eggplants and fall melons are also underway and snap bean should start going in the next few days. Growers continue to prepare land and laying plastic for fall crop planting. Most reports indicate crops in fair to good condition with new plantings beginning to establish and grow rapidly.

Fall is traditionally worm season and this year is no exception, beet armyworms are being reported in high numbers in tomato and pepper from across SW Florida. Scouts are seeing large numbers of egg masses in the fields and have indicated high trap counts of adult moths in many areas. Recent pheromone trap counts at the Everglades Research and Education Center in Belle Glade have been averaging 40 or more per night since mid-August.

Respondents are also reporting smaller numbers of southern armyworms and tomato fruitworms. A few isolated incident reports indicate that transplants are displaying armyworm damage coming from the production facility.

Armyworms belong to the family Noctuidae of the order Lepidoptera. The family name refers to the nocturnal nature of the adults. While the adult stage causes no direct damage, the immature worm stage feeds, often voraciously, on plants.

Hosts include many vegetables, agronomic crops and grasses. The worms prefer to feed on foliage but may attack the stems, fruit or even tubers of certain host plants. Damage can be extensive. Armyworms are active from spring until fall. The different armyworms are similar in color, size and markings and can be difficult to tell apart.

Most armyworms go through five larval stages within 14 to 21 days (species and temperature dependent). As they grow, their ability to consume plant tissue increases and they can chew large holes in leaves or strip an entire plant. After maturity the worms move to the soil, dig to about 1” deep, and pupate. After seven to 14 days, they emerge as adults. The entire life cycle ranges from 24 to 36 days, with an average of 28 to 30. In Florida there can be many generations per year, usually peaking June through September. Adults often flying long distances before descending to lay their eggs.

The female armyworm lays eggs in masses usually on the undersides of host plant leaves. The round or oblong mass contains 50 to 150 eggs, depending on the individual female and the species. The female moth covers the egg mass with hair from her body, giving it a felt-like appearance. The mass is usually tan, buff or off-white and is 1/4” to 3/8” in diameter or length.

Eggs hatch two to five days after they are laid, with hatching time quicker in warm weather. The eggs turn black just before they hatch. Young caterpillars tend to be black. They congregate in the vicinity of hatching for about 24 to 48 hours, after which they migrate to different plants and/or feeding sites. Young worms scarify the leaves as they feed, leaving a thin, windowpane appearance.
The fall armyworm, (*Spodoptera frugiperda*), may be the most damaging Florida armyworm. It may be light tan to shades of gray or green. The head capsule is usually shiny black or brown, with a prominent yellow or white inverted Y marking on the front. The body has many black tubercles, or round, mole-like structures. When fully grown, the caterpillar reaches 1-1/2".

The beet armyworm, (*Spodoptera exigua*), is about 1-1/4" long when mature. The body is usually some shade of green but can vary, with prominent dark lateral bands running its full length. There is a single prominent black spot behind the head, about halfway up the side of the body and right above the second pair of true legs. **Beet armyworms are often the most difficult to control.**

The southern armyworm, (*Spodoptera eridania*) is one of the more robust armyworms and is often called a "climbing cutworm." The mature larva can exceed 1-1/2" in length and can be either gray or pinkish. It strongly resembles the yellowstriped armyworm. The head of the southern armyworm is usually yellow to light orange. A large dark patch at the beginning of the abdomen interrupts the lateral stripe on the side of the body.

The yellowstriped armyworm, (*Spodoptera ornithogalli*), has a brownish head with a pale-yellow inverted V on the upper front. It has distinct bright-yellow lines on the top of the sides of the body. The yellowstriped armyworm occurs with both overall pale- and dark-colored bodies. It has two rows of black triangle-shaped markings running the length of the body. Each row is offset from the center of the back. A thin white line runs lengthwise through each series of dark triangles. The yellowstriped armyworm is more common in north Florida.

**Scouting is extremely important in detecting worms early before they can do significant damage.** The Florida Tomato Scouting Guide indicates a pre-bloom threshold of 1 larva/6 plants and post-bloom threshold of 1 egg mass or larva/field. In the past various, the routine use of Bt formulations was the core of a worm control program with a variety of chemical pesticides such as Baythroid, Lannate and others being called on when pressure increased.

**Over the past few seasons, growers have a variety of new tools in the battle against armyworms.** Rohm and Haas came out with Confirm last year; this is an insect growth regulator with specific action against lepidopterous worms that has given excellent results since its release. Grower’s reports indicate that Confirm has good rainfastness when compared to many of the Bts. Dow’s Spintor, DuPont’s Avaunt and the Novartis product Proclaim give growers a number of additional options for worm control with reduced impact on non-target pests. Growers are reminded to rotate between products of different chemical classes to avoid the buildup of possible pest resistance. The range of materials to choose from makes this task relatively easy to do.

**Indications are that whiteflies are appearing unusually early in higher numbers than normally seen early in the season.** Most counts in SW Florida remain low – under one per plant, unlike the situation north of us in the Manatee/Ruskin area where populations as high as 6 or more per plant are being reported.

This situation is of concern as there have been some isolated reports of tomato yellow leaf curl virus showing up in the area. In general, the incidence is less than 1 per cent. This is exceptionally early – in past few years, we have generally seen little or no TYLCV in our area before late October or November.

Some reports suggest that in a few cases, the infection is originating in the transplant house as plants are displaying symptoms in the field within 5 – 10 days after transplanting. In these fields, TYLCV incidence is in the 1-3% range. In all cases, the plants where obtained from plant houses outside of southwest Florida.

**Use of imidicloprid in the greenhouse and at planting is recommended to control the whitefly vector.** Upon identification, TYLCV plants should be rouged out and destroyed to slow the spread of the virus. Growers should also consider the source of their planting material; there have been several incidences over the
past few years, where plants from high TYLCV incidence areas have caused problems locally. Growers should ensure that production facilities are taking aggressive steps to control whitefly and prevent TYLCV infection.

**At present, imidicloprid – Admire is the top choice of an early season whitefly control program.** Admire should be used in the plant house and at planting. There are pending labels for some new materials from Novartis that promise to expand the range of options available to growers. Labels are expected for thiamethoxam – Actara 25 WG and Platinum 2SC – second generation neonicotinoid insecticides which have demonstrated excellent long-term whitefly control in research trials.

In addition, Fulfill (pyriproxyfen) from Novartis has shown some activity in reducing TYLCV transmission from infected whiteflies and may have a place in reducing spreading of the disease particularly in transplant production facilities.

**A series of TYLCV -Resistant Variety Tomato Variety Trials** conducted in Manatee and Hillsborough Counties and at the Gulf Coast Research and Education Center (GCREC) in Bradenton as well as in Immokalee and Palm Beach County have yielded some promising results. The goal of these trials was to compare the performance of 6 new Tomato Yellow Leaf Curl Virus (TYLCV)-resistant varieties with several known TYLCV susceptible cultivars that are widely planted in the industry.

**The trials coordinated by Dr. Jane Polston, in cooperation with a number of extension and research faculty**, evaluated included two lines from PetoSeed, (Ps 150535 and Ps 150420), and four from Hazera, (HA 3017A, 3017B, 3044 and 3048). Standard varieties were Sanibel, FL 47 and Leila.

**Although, there was very little virus pressure** in the Manatee/Hillsborough and Palm Beach trials, observations of yield data were obtained. In the Bradenton trial, there was no significant difference in early yield for any variety, except Ps 150420, which was lower than that of Ps 150535, Sanibel, FL 47 and HA3017B.

**Yields of extra large fruit** from the first harvest ranged from 456 - 25 lb. cartons/A for Ps150420 to 683 cartons/A for HA3017B. Yields were comparable for other sizes and for total early marketable yield. When the 3 harvests were totaled, there was no significant difference in extra large fruit production. Total marketable yield was highest for HA 3017B at 2399 cartons/A, but was not significantly different from Sanibel or HA3017A.

**In the Palm Beach trial**, the highest yield of extra large fruit at first harvest was obtained from Ps 150535 with 206 cartons/A, but it was not significantly different from Sanibel or FL47. The same was true for total early yield. When the four harvests were totaled, the highest extra large fruit yield was with Sanibel, but it was not significantly different from Ps 150535. The same was true for total marketable yield, with 2120 cartons/A for Sanibel. In both trials, the highest yielding varieties all had acceptable horticultural characteristics.

**In Immokalee, results were very exciting.** Virus pressure was very heavy as plots were inoculated by planting infected plants between each treatment. The susceptible cultivars were 100% infected, with symptoms initially appearing after three weeks and spreading rapidly. Highest marketable yields were obtained from HA 3017B, HA 3017A, PS150535, HA 3048 and HA 3044, with the lowest yields coming from the standard cultivars Sanibel, FL 47 and Leila. Highest yields came from HA3017A with 2680 cartons per acre.

**In nearby insecticide trials** evaluating various materials for the control of TYLCV, through the control of the silverleaf whitefly vector, the best plots resulted in an approximately 20% infection rate.

**Overall, the TYLCV resistant varieties show good promise and although they may require more research to identify the appropriate season for each cultivar and to better characterize horticultural characteristics, resistant varieties may play a big role in the future.**
Of the varieties tested, Ps 150535 is expected to be available commercially and is now being evaluated in some areas. Although it performed well, Peto feels it more suited as a spring tomato. Ps150420 is still in pre-commercial stages. Contact your Peto representative for additional availability information.

Hazera indicates that they have one line, HA3057, which is currently in initial commercial introduction. Although not one of the lines evaluated in these trials, HA3057 is very similar to the 3017 lines with reportedly an even higher level of resistance. Modest quantities were available for growers this fall and have been planted out on commercial farms in several locations. For additional information or seed availability, contact Glenn Kaufman at 561-221-0653.

The results of these trials have been published and are available upon request.

As expected, given the almost daily afternoon shower activity in some areas, scattered reports of bacterial leaf spot on tomato and pepper are being received. Incidence is spotty and severity is light.

Bacterial spot of tomato and pepper is a serious disease because it has a high rate of spread, especially during warm periods with wind driven rains, and because adequate control measures are not available, and because fruit symptoms reduce marketable fruit. Bacterial spot is caused by the bacterium, Xanthomonas campestris pv vesicatoria. Entry into the plant occurs when bacterial cells pass through natural plant openings (stomates and hydrothodes) or wounds made by wind driven soil, insects, or culturing operations. Bacterial spot can be seed transmitted, but most inocula in Florida comes from volunteers or decomposed debris from tomatoes or peppers in the soil. Temperatures of 75-87°F are ideal for bacterial spot.

Lesions can occur in leaf parts (leafletets and petiole) and fruit parts (fruit, peduncle, and calyx). Stems are also susceptible but usually the other foliage parts are infected to a greater degree. Positive diagnosis requires testing in a laboratory; however, certain symptoms, especially those in the fruit, are suggestive of bacterial spot. On tomatoes, distinct leaf spots with or without yellowing occur. Individual leaf spots are not more than 1/8 inch across unless they coalesce with each other, which results in browning of entire leaflets. Spots restricted by leaf veins are sometimes angular while those not restricted by veins may be somewhat round. Leaf spots often are sunken in the upper leaf surface. Leaf spots and fruit spots tend to be aggregated. Fruit spots often begin as dark specks with or without a white halo. As the spots enlarge, they become raised and scab-like. The centers of older spots may be sunken. In pepper leaves, spots may be similar to those in tomato. However, leaf spots in pepper tend to be lighter in color in the centers of the spots. Also, in some situations, larger spots with definite water soaking can occur. Fruit spots in pepper are similar to those in tomato except that the spots in pepper may appear blistered. Other bacterial diseases and some fungal diseases have leaf spots similar to those of bacterial leafspot.

Control is achieved by using several techniques together. During periods of wind-driven rains, no available control measures are adequate. Seed should be treated with acid to reduce inoculum on the seed. Sanitation is important. Destroy volunteer tomato and pepper plants. Do not place transplant beds or greenhouses near abandoned or production tomato or pepper fields. Purchase only certified disease-free transplants. Sprays applied to the plants before rain or irrigation are most beneficial. Avoid working in the fields when plants are wet because this disease will be spread more readily wet conditions.

Although copper fungicides tank-mixed with Maneb are presently the main treatment for control of bacterial spot, recent labels for two new SAR elicitors should increase the options available to growers. Eden BioScience has recently received federal and state labels for Messenger. Novartis received a federal label for Actigard in August and expects a state label in the near future.
Growers should be aware that research suggests that the use of organosilicate adjuvants has increased the incidence and severity of bacterial spot infections, possibly by enhancing the penetration of inoculum into the plant.

Low levels of pythium root rot have been reported in tomato and pepper.

EVALUATING NEW PRODUCTS

It is that time of year again; vendors promoting various products will visit growers. Anyone who has every had the opportunity to visit FACTS or one of the trade exhibits in past years could not help but be amazed by the variety of biological or organic products that purport to help vegetable crops grow better and relieve pest problems. Dozens of new products become available each year, and intelligent growers want to know if they really work.

Growers and managers who purchase chemical pest control products are familiar with the extensive university testing most chemicals have undergone. They may assume that similar testing has been done for all new products. However, many new products have little or no independent testing completed before they are introduced to the market. Many biological/organic product claims are based on non-scientific testimonials, non-vegetable crop evaluations, or simply unproven theories. How does one evaluate a new product to determine if it works and if it is cost-effective?

As we approach the fall season, growers will certainly be visited by sales people peddling all sorts of products and making all sorts of claims.

HERE ARE SOME QUESTIONS TO ASK THE VENDOR:

Have independent researchers ever evaluated the product, that is, by people with no financial interest in the product? Ask for names and a copy of their reports.

There are two reasons that university results are usually reliable. Most university studies include side by side evaluations of products from many companies in their trials to see how they perform under local conditions. Each company typically pays a modest fee for each treatment in the study. Most of these studies are conducted on public lands where anyone can arrange a visit and see the results for themselves. Many of the experiments are featured at research field days, and most researchers indicate which companies sponsored which studies. Because the public has traditionally paid the salaries of researchers, the financial incentive to obtain favorable results for a particular product is reduced. This is an excellent reason for the vegetable industry to continue strong support for these research programs in the face of continuing university cuts as it helps to keep researchers financially independent of individual companies and products.

A second and equally important reason for confidence in university results is that faculty researchers receive career rewards for work that can be published in scientific journals. We have a strong incentive to conduct sound and unbiased studies. Scientific journals typically require results from at least two seasons or from two different sets of research plots before a paper can be considered for publication. Anonymous peer review of the experimental protocol, results and analysis of data is also a requirement for publication. Peer review allows other scientists to evaluate the quality of both how the study was designed and how the results were interpreted. Many single year studies are found in the Fungicide and Nematicide Tests and the Biological and Cultural Tests published annually by the American Phytopathological Society. These reports are also subjected to peer review and require replicated treatments, randomization, controls, and statistical analysis, all of which are hallmarks of proper experimental design.
1. Has the product ever been evaluated in vegetable field experiments? For what problems is this product recommended?

Many biological/organic controls may show great promise in the laboratory and greenhouse, but fail to be effective in field trials. Many products may also be successful in one kind of cropping system, such as corn or potatoes, and not work well for other vegetables. Finally, most biological controls are relatively specific in their mode of action and may work well for one disease or pest but not all problems. The same is true, of course, for many chemical products. A product that claims to reduce all pest problems and improve vegetable quality should be regarded with suspicion.

2. Has the product been tested in your area?

There are many examples in which products perform well in some soil types, at some soil pH levels, on some vegetables, and/or some climates, but not others.

4. If experimental data are available, look for these features when judging the results:

A. Non treated plots:

These are necessary to determine how much stress or pest pressure (weeds, diseases, insects, nematodes) was present. These pressures are difficult to predict from year to year and even from area to area. Some disease trials require inoculation with a pathogen to ensure uniform disease in each plot. Ask what steps were taken to decide what pest or disease was present and how uniform the problem was. This same concern applies to any experiments with "growth stimulants."

1. It is always important to leave non-treated areas. Consider what happens if you don’t. Suppose you are seeing less disease pressure this year than last. Could it be due to a change in your fertility practices, different weather patterns the new product you applied to your fields, or some undetermined factor? Or suppose you have a bacterial spot outbreak. Did the crop recover from the disease this week because of a change in the weather or because of that new product you applied? Growers may think that they know the answer to these questions, but without non-treated areas for comparison, no one can be sure, not even the most highly respected vegetable pathologist in the world.

B. Replications:

Field trials should include replications of all treatments. For example, if you were testing five new products, you would need 6 plots - one for the non-treated control and one for each new product. You would then need 3 to 4 more sets, or replications, of these 6 plots for a total of 18 or 24 plots. There are several ways to do this, but typically we have the five treatments plus the control randomized within each row. As the season progresses, you can see if the same results occur in each of the 3 or 4 replicated plots that received the same treatment. This helps separate out real differences among treatments from variation simply due to environment. The same reasoning is used for the World Series, which is settled by the best of seven and not just a single game.

B. Statistics:

Statistical analysis can be simple or complex, but it is an important way to determine how sure you are that an effect is due to a treatment. Here is a simple example:

Imagine two different experiments where you are testing two new products: "Bio-Sure" and "Eco-OK" for bacterial spot control. In each experiment, there are 4 replications of the three treatments: 1) the non-treated
control, 2) Bio-Sure, and 3) Eco-OK. The data numbers in the table refer to the number of dollar spot infection centers in each plot. Note that both experiments have the same average results: 103 dollar spots in the non treated control, 23 dollar spots in the Bio-Sure plots, and 10 dollar spots in the Eco-OK plots. The data look pretty convincing that both products are giving significant control compared to the non treated plots, but can you also conclude that Bio-Sure gives better control than Eco-OK? A statistical analysis can answer that question.

<table>
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<tr>
<th>Treatment</th>
<th>In each of four plots</th>
<th>Average of all 4 plots</th>
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<td>Non treated Control</td>
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<td>103 a</td>
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<td>103 a</td>
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<td>Bio-Sure</td>
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<td>Eco-OK</td>
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<td>10 c</td>
<td>10</td>
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</table>

LSD (p = 0.05) for Experiment A 7.5  
LSD (p = 0.05) for Experiment B 16.0

Even though the averages are the same in both experiments, look at the variation in the numbers in the four plots. Which set of results is more convincing? In Experiment A, the numbers are similar in all replications of each treatment. This gives you more confidence that both products gave disease control, and that Eco-OK reduced disease better than Bio-Sure. In Experiment B, there is more variation and overlap between the numbers in the various replications. It is not so clear that Eco-OK worked better than Bio-Sure even though the average numbers are identical.

Statistical analysis tells you how to interpret the average numbers because most reports list only the average (or mean) of the replications. If they are "statistically significant" they are more like the numbers in Experiment A and you can have more confidence in them.

The two common ways to indicate statistical significance are shown in the table. The first is to report the Least Significant Difference (LSD). If you subtract two averages from each other and the difference is greater than the LSD, then the difference between the treatment averages is probably real and not an artifact of the experiment. For example, the LSD in experiment A is 7.5. The difference between the averages of Bio-Sure and Eco-Ok (13) is more than 7.5, so you can be 95% sure that the difference is real. In Experiment B, the LSD is 16.0 and the difference between the averages is still 13, so the difference is not statistically significant. You cannot be
confident that Bio-Sure works better than Eco-OK from the data in Experiment B. (Most LSDs are calculated at the 90% or 95% confidence level which is indicated by $p = 0.1$ or $p = 0.05$, respectively.)

Another way to indicate differences is by placing letters next to the average numbers. If the two averages have no letters in common, the differences are statistically significant. In the table, you can see that the letters are different for the averages of the Bio-Sure and Eco-Ok treatments in Experiment A but are not different in Experiment B because there was no statistically significant difference between them. Next time you attend a field day or read a research report, look for the statistical analysis to help you determine how confident you can be in the results.

1. If the product is for pest or disease control, does it have an EPA registration number?

2. This is important for several reasons, not the least of which is your own liability. There are many unanswered questions about the efficacy and safety of many of the new products, just as there are with traditional chemical controls. There is some concern about potential allergy problems, especially with fungal formulations. Some bacterial bio-control agents, such as *Burkholderia (Pseudomonas) cepacia*, are secondary human pathogens that could be a serious health threat to people with compromised immune systems. Be aware also that contamination of many biologics with unknown organisms is common and difficult to control. Thus, even if a biological product has an EPA registration, it is important to conform to all safety regulations for application and use, with particular attention to inhalation protection.

3. EPA registration is required for a product if it claims to directly control a pest. Registration means that the safety of the product has been determined and is acceptable to the EPA. Be aware that some well-known biological products are being sold without EPA registration. Some companies are avoiding EPA registration by claiming that disease and/or pest control is due to improved microbial environment that reduces the chances of disease or pest problems. The safety questions listed above apply to any microbial application.

**Conclusions**

By this time, you might be feeling that this is a lot of detail that may not be worth your time or concern. The purpose of this article to demonstrate what it takes to determine if a new product really works as it claims, and why it is not easy to conduct such tests on a working farm. Non treated areas; replications and statistical analysis are time-consuming and best left to people whose job it is to evaluate such things. That is the philosophy that led to the founding of the land-grant universities and the Cooperative Extension Service. Unfortunately, year by year, support for this unbiased source of research results has been whittled away to a fraction of its former level.

What if you can’t find any reliable research and you want to try a new product?

A. Try new products on a small area first.

B. Try them where they are least likely to cause serious problems if they injure the crop or don’t do what they claim. For example, try new products on one field or part of a field rather than the whole farm at once.

C. Find a way to leave a non treated test area for comparison so you can better judge the results you obtain.

Get a sheet a plastic and place it over the center of an area to be treated before you spray. Remove the plastic using appropriate protective equipment and you have a non-treated test area. If you treat a field ditch to ditch and then proclaim that "it worked great," you will never really know what would have happened had you done nothing at all.
Network with your colleagues. Ask those who have evaluated new products if they followed the guidelines outlined above: replications, non-treated controls, etc. The more of this that they have done, the more confident you can be in their comments. Watch out for "testimonials," and exercise some healthy skepticism.

This article is adopted for similar piece prepared by Gail L. Schumann, Monica L. Elliott, and Paul Vincelli of University of Massachusetts, University of Florida, and University of Kentucky, respectively regarding the turf grass industry.

Growers are reporting that some suppliers have reduced methyl bromide availability to 25% less than that allocated last season. Other suppliers have not followed suit but conversations indicate reductions in supply can be expected as we approach the legislated January 2001 date for a 50% reduction in methyl bromide production.

There are a number of alternatives to methyl bromide out there and growers would be well advised to start to consider these and experiment with them before the 2005 cutoff date. Supplies are already starting to get tight and prices are rising on this material.

At our May vegetable growers meeting, which focused on methyl bromide alternatives, Dr. Jim Gilreath, summed up the situation nicely by stating that growers should not wait around for some magic bullet. He advised that all the tools that a likely to be available to growers are available now and growers will have to learn how to use these to their best advantage.

MB alternatives will certainly involve some changes in your crop management program and it would be wise begin conducting on-farm trials to see what’s involved and how these alternatives might be successfully incorporated into your operation.

Up Coming Meetings:

September 20-21, 2000    Private and Commercial Pesticide Applicator License Training
Dallas B Townsend Agricultural Center
1085 Pratt Blvd
LaBelle, Florida

Earn up to 12.5 CEU’s – pre-registration requested.
For more information, contact Sheila at 863-674-4092

September 26-27, 2000    7th Annual Florida Agricultural Conference and Trade Show
Lakeland Center
Lakeland, Florida

For more information, contact Kathy Murphy at 407-678-5357

October 10, 2000        WPS Train-the Trainer
Dallas B Townsend Agricultural Center
1085 Pratt Blvd
LaBelle, Florida
For more information, contact Sheila at 863-674-4092

Web Sites:

Hendry County Horticulture Web Site – keep up with educational opportunities, find back issues of the SW Florida Vegetable Pest and Disease Hotline, or the SW Florida Vegetable Newsletter. It is all here and more http://www.ifas.ufl.edu/~gmcavoy/index.htm

SWFREC Weather Station homepage – get current and historical weather data from Immokalee and FAWN weather stations throughout Florida. New feature – FAWN now has leaf wetness data helpful in disease forecasting. Check it out at http://www.imok.ufl.edu/weather/

Internet IPM Resources on the Internet – links to a plethora of vegetable pest management resources on-line. http://www.ippc.orst.edu/cicp/Vegetable/vegindex.htm

HORT410 - Vegetable Crops – Although this is the web site of a Purdue University Vegetable Crops Course – it has a great number of useful reference links. You can also test your knowledge with the pest of the week. You are never too old to learn http://www.hort.purdue.edu/rhodcv/hort410/INDEX.HTM

Florida Tomato Scouting Guide – The Guide will assist growers and scouts in identifying insects and diseases commonly encountered in monitoring tomato fields in Florida. Great graphics depicting the situations most often experienced in Florida tomato fields. This guide should also benefit scouts, consultants, and growers in the southeast, southwest, and far west regions of the United States. http://FTSG.ifas.ufl.edu/intro.HTM

Update on the Southwest Florida Vegetable Research Investment Fund

The "SW Florida Vegetable Research Investment Fund." fund is envisioned as a strategic partnership of growers and others in the vegetable industry who pool their resources to address research needs of common concern.

The contributor members manage the SW FLORIDA Vegetable Research Investment Fund through a democratically elected advisory committee, who will prioritize and fund research projects based on members' needs. Membership is based on contributions of one dollar per cropped acre per year or flat fee for industry partners. Contributors hold the purse strings and are free to choose from public or private research groups and hold researchers accountable for performance.

Since a successful kickoff on May 11th, 2000 over $32,000 dollars of industry and grower support have been received. On June 10, members selected an advisory committee consisting of Thomas Barfield, Skeeter Bethea, Cecil Howell, AJ Nychk, Chuck Obern, Jack Partin, Wes Roan, Jay Shivler, and Eugene Tolar.

A Methyl bromide Alternatives in Vegetable Production position paper has been funded. The grant to perform this work was awarded to Glades Crop Care. The paper is nearly complete and should be available to members in the next few weeks.

Challenges will continue to confront the industry. The process of change is certain to move faster and faster. Foreign competition is here to stay and will undoubtedly increase. Our industry will never be able to compete on the basis of cheap land or labor - we must compete on the basis of technological advances based on sound research.

It really is time for everyone involved in the vegetable industry to take stock, circle the wagons, and look after
their own best interests. If you don't - no one else will. As a participant in the vegetable industry, you need to ask yourself several questions. What will the future bring? Will your needs be met? How will your needs be met?

By participating in the SW Florida Vegetable Research Investment Fund, you will be helping to ensure the future of practical research that addresses the needs of the local vegetable grower. The strength and ultimately the future survival of not only the vegetable industry in southwest Florida, but also every vegetable grower will depend on cooperation and unity within the industry.

For more information on becoming a member of the SW Florida Vegetable Research Investment Fund, please contact any of the advisory committee members listed above or Gene McAvoy at the Hendry County Extension Office.

Don't hesitate - join the fund today – every grower and industry partner is needed to make this a success!

Quote of the day - "Too bad the only people who know how to run the country are busy driving cabs and cutting hair." -- George Burns

Contributors include: Karen Armbrester/SWFREC, Jim Connor/SWFREC, Bruce Corbitt/West Coast Tomato Growers, Marty Gross/SWFREC, Ed English/Pacific Tomato Growers, Fred Heald/Farmers Supply, Sarah Hornsby/AgCropCon, Cecil Howell/H&H Farm, Leon Lucas/Glades Crop Care, Gene McAvoy/Hendry County Extension, Alice McGhee/Thomas Produce, Tim Nychk/Nychk Bros. Farm, Chuck 0bern/C+B Farm, Dr. Pam Roberts/SWFREC, Wes Roan/6 L's, Kevin Seitzinger/Gargiulo, Jay Shivler/ F& F Farm, Ben Stanaland/Pacific Tomato Growers, John Stanford/LNA Farm, Mike Stanford/MED Farms, Dr. Phil Stansly/SWFREC, Eugene Tolar/Red Star Farms, and Dr.Charlie Vavrina/SWFREC, Donna Verbeck/GulfCoast Ag.

The SW 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.

Gene McAvoy
Extension Agent II
Vegetable/Ornamental Horticulture 863-674-4092 phone
Hendry County Extension Office 863-860-8811 mobile
PO Box 68 863-674-4097 fax
LaBelle, FL 33975 gmcavoy@gnv.ifas.ufl.edu
http://www.ifas.ufl.edu/~gmcavoy/index.htm

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