

Vegetarian Newsletter

A Vegetable Crops Extension Publication
University of Florida
Institute of Food and Agricultural Sciences
Cooperative Extension Service
Vegetarian 01-05
May 2001

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Gulf Coast Research and Education Center Vegetable Field Day - Tuesday, 15 May 2001 - Bradenton, FL. Contact Donald N. Maynard at (941)751-7636 x239 or dnma@mail.ifas.ufl.edu.

Twilight Field Day - June 5 - NFREC-Suwannee Valley. Contact Bob Hochmuth at 386-362-1725 or bobhoch@gnv.ifas.ufl.edu.

Florida State Horticulture Meeting - June 10-12 - Stewart, FL.

American Society for Horticultural Sciences Annual Meeting - July 22-25 - Sacramento, CA.

Florida Tomato Institute - Sept. 5 - Naples, FL.

Florida Agriculture Extension Professionals Meeting - Sept. 10-14.

FACTS Meeting - Oct. 2-3 - Lakeland, FL.

Cucurbitaceae 2002 - December 8-12, 2002 - Naples Beach and Golf Club, Naples, FL. Contact Donald N. Maynard at (941)751-7636 x239 or dnma@mail.ifas.ufl.edu.



New Way to Obtain CORE CEUs

The UF/IFAS Cooperative Extension Service has teamed up with Citrus and Vegetable Magazine and the Florida Department of Agriculture and Consumer Services to offer pesticide applicators a new, more convenient way to earn CEUs in the CORE category. As most of you know, the requirement now states that license holders renewing by CEUs must obtain a minimum of 2 CORE CEUs in each primary category. Beginning with the June issue of Citrus and Vegetable Magazine, pesticide applicator license holders will be able to read an article and answer a series of questions. The completed questions will then be mailed to the Florida Department of Agriculture's Pesticide Licensing Division. They will be graded and a completed CEU form sent to the applicator. Applicators can earn one (1) CORE CEU for each question set completed. The articles will be written by UF/IFAS Extension Faculty members. Initially, this will be a six months trial program tentatively scheduled to run June, July, August, October, November,

and December of 2001. Currently, the final details are still being worked out, so watch for more information.

([P. R. Gilreath](#), Extension Agent, Manatee County - **Vegetarian 01-05)**

Virtually Impermeable Film (VIF) Research

In a series of recent grower meetings around the state, information was presented on the use of vif (virtually impermeable film or gas impermeable film) materials and their role in the methyl bromide phaseout situation. Drs. Jim Gilreath and Joe Noling have worked with a number of different vif materials over the last few years as part of the methyl bromide alternatives research program. This program included demonstration plots which are currently in place with a number of vegetable growers, including strawberries.

The idea behind vif materials is not to serve as a replacement for methyl bromide but to allow growers to utilize reduced rates of methyl bromide or other fumigants while obtaining the efficacy they have come to expect with methyl bromide. Research to date indicates that most of the vif's have at least one major shortcoming in that they are difficult to lay on the raised beds we typically use in vegetable culture in FL and most of the SE. The difficulty lies in their tendency to rip or shear linearly or in the lengthwise direction. Some vif's have a vinyl center layer, or other impervious material, and other materials are then layered over this. Since it cannot be embossed, vif does not stretch well like ldpe (low density polyethylene mulch - the standard mulch film most growers use) and that causes the problem with rips because we try to stretch it tightly across the bed. The best vif that Jim has worked with is a product made by Plastopil in Israel, but availability has been a problem as they will not export the film to the U.S. for some reason.

Currently, work is underway with a vif made by Klerk's Plastics and sold under the trade name Hytibar. So far, results with this product have been promising. The newest vif material from Klerk's is reportedly somewhat more flexible and therefore easier to lay than last year's material. Growers report that in most cases some modification of equipment, such as removing the weights on press wheels and reducing roller tension, may be required. Also, the speed of the plastic layer will probably have to be reduced. The vifs are not completely impervious to methyl bromide, but they are more impervious than

ldpe; thus, they retain the gas longer so it is more effective. Using vif, nutsedge control has been obtained with 88 lbs/acre of methyl bromide / chloropicrin (67/33%) that was equal to that obtained with 350 lbs/acre with standard ldpe. These results have been fairly consistent.

In more recent work, a slight reduction in plant growth early in the season was noted with the vif at all methyl bromide rates, but nutsedge control was excellent and may be a fair trade off. This is the first time this slight reduction in growth has been seen. It may be that due to longer retention of the fumigant by the vif, a longer waiting period should have been observed between fumigation and planting. Several trials were placed with growers last fall on tomato and in each case 175 lbs/acre of methyl bromide with vif was compared with 350 lbs with ldpe. In each trial weed control and yield were similar to what was obtained with the standard rate of methyl bromide and ldpe.

At this point, vif may be an intermediate, short term solution for those who are highly dependent upon methyl bromide for their soilborne pest control - such as for crops where fewer herbicide alternatives are available. It may be particularly useful for those blocks where nutsedge pressure is higher, leaving the alternatives for use in other blocks while application techniques are fine tuned. It may not be a long term answer but for the short term it may allow growers to stretch their methyl bromide supply while maintaining the level of pest control which they have come to expect.



Figure 1. Left bed = LDPE mulch. Right bed = Plastopil VIF mulch. Both beds treated with 88 lbs/A methyl bromide 67/33. Peppers, 1999.



Figure 2. Left bed = LDPE mulch. Right bed = Plastopil VIF mulch. Both beds treated with 175 lbs/A methyl bromide 67/33. Peppers, 1999.

(P. R. Gilreath and J. P. Gilreath, assoc. prof., GCREC-Bradenton-Vegetarian 01-05)

Budless Tomatoes; A Physiological Condition

Phyllis Gilreath and I recently visited some growers in Manatee County with plants that exhibited a condition known as budlessness. Our knowledge of this condition indicates that it begins in the greenhouse during transplant production and is manifested by a loss of apical meristem development over time. Abnormal, incomplete, or arrested development of the terminal bud has been reported in a number of crops including broccoli, cauliflower, baby's breath, roses, and geranium. Research literature for this condition comes from the UK, northern United States, Arkansas, New Zealand, and Norway. The condition has variously been called blind-, budless-, topless-, blind-wood or bud abortion. Termination of shoot growth and lack of visible flower production (in cauliflower and broccoli) are characteristics of this condition. Leaves may be fewer in number, distorted, thick, fleshy, and/or stem-like. The condition may yield a multi-stemmed plant with decreased growth.

The loss of the terminal bud growth in tomato seedlings can result in significant problems in the field. When transferred to the field, transplants not identified as budless within 30 days undergo a further developmental setback at pruning when all of the remaining growing points are removed. Affected foliage then exhibits a 2,4-D like growth expression and a complete loss of growth from the main stem. Surveys of commercial plantings from production areas in FL afflicted with this condition show the rate of occurrence to range from 10% to more than 90%. Production losses associated with the budless condition can be substantial particularly in pruned plants that are cultivated during the late Fall – early to mid Winter seasons when the condition is most prevalent.

While referred to as a "greenhouse problem," budlessness has not been directly correlated with any specific greenhouse production practice. One can theorize that subtle changes in the environment trigger the symptoms and because of the apparent link to time of year we believe it is a light related phenomenon, but the fact is, we simply do not know the cause. For a complete description of budless tomatoes go to <http://www.imok.ufl.edu/liv/groups/cultural/index.htm> and look under Physiological Problems

(Vavrina and P. Gilreath - Vegetarian 01-05)

Select 2EC (Clethodim) Receives Supplemental Labeling

Select 2EC (Clethodim) has received labeling for use on potato, sweet potato, yams (and other tuberous and corn vegetables), tomatoes, peppers (bell and non-bell), eggplant (and others in fruiting vegetable subgroup), celery, carrot, radish, strawberry, squash (including pumpkins), cucumber, and melons (muskmelon and watermelon).

Select is a post-grass herbicide and will control a large number of grassy weeds in the above

crops. A crop oil concentrate should always be used in the finished spray mix at 1% v/v. The addition of a liquid fertilizer may be added in applications to potatoes.

Application rate depends on grass species to be controlled. A maximum of 32 fl oz (0.5 lb ai) may be applied per season. Preharvest intervals vary depending on commodity. Read the label for information.

The labeling must be in the possession of the user at the time of pesticide application.

(Stall, Vegetarian 01-05)

Command 3ME Labeled on Several Vegetables

Command 3ME (clomozone) has received labeling on several vegetable crops. The difference in this product from the command 4E is the microencapsulation of clomozone, which is intended to minimize movement away from the site of application. Applicators should avoid making applications when spray particles may be carried by air currents to areas where sensitive crops and plants are growing. Foliar contact with spray drift or vapors may cause foliar whitening or yellowing of sensitive plants.

Command 3ME may be utilized as a soil applied treatment prior to weed emergence, for control or suppression of annual grass and broadleaf weeds in beans (succulent), peppers, squash (including processing pumpkins) sweet potatoes and tuberous and corn vegetables (arrocacha, cassava, taniel, yams). Make a single application in a minimum of 10 gallons of water per acre at the rates specified for each individual crop. Apply as a preemergence soil applied treatment prior to seeding or transplanting. Place seeds, or roots of transplants, below chemical barrier when planting. Command 3ME may be tank mixed with other herbicides registered for use on vegetables to broaden the weed control spectrum. In beans, use the rate of 0.4 pints (0.15 lb ai) per acre, in cabbage use the rate of 0.67 pt (0.25 lb ai) for both seeded and transplants. For cucumbers, melons (muskmelon and watermelon) and summer squash, use 0.4 pints (0.15 lb ai). Higher rates may be used in winter squash and pumpkins, from 0.67 pints to 2 pints.

Peppers are very tolerant to clomozone and a rate up to 2.67 pints (1.0 lb ai) may be used. In sweet potatoes, a rate of 1.3 pints may be made or the product may be applied at 1.5 pints (0.56 lb ai) after transplanting, but before crop emergence. Command 3 ME may be applied at 2 pints (0.75 lb ai) to the tuberous and corn vegetables.

In studies that I have personally carried out in Florida, i.e., peppers, pumpkins, winter squash, sweet potatoes and yams, are very tolerant to clomozone applications. The cucurbits, beans, and cabbage can be severely bleached if applications above the rates listed for course soils are used.

Growers should use the product on a trial basis to gain experience before using the product on large acreages in the more sensitive crops.

At the present time, the Florida registration has not been approved. I was assured that registration in the state is eminent.

(Stall, Vegetarian 01-05)



Community Gardening in Florida

A. Before you Start

1. Purpose of Community Gardens (CG)

Limited space - Community gardens provide a means for individuals and families to have a vegetable garden even though they have insufficient space or soil where they live.

Vacant lots - Community gardens can help utilize otherwise waste and unsightly sites such as vacant lots and cluttered fields.

Pride - Community gardens foster a sense of community pride and social interaction.

Benefits - Community gardens provide the many benefits of growing fresh vegetables of gardening to limited resource families as well as to others of more substantial means.

Demonstration - Community gardens incorporate the learning process of demonstration teaching for inexperienced and experienced gardeners as well.

2. Organization.

Sponsoring groups - CG's are traditionally organized and conducted by such groups as government, church, social club, housing developments, health care facilities, school, or private business. Organizations such as "Gardens For All" (est. 1973) have been developed to promote community gardening. These groups have developed a considerable amount of literature and resource material for anyone who would seek to find it.

Leadership - Normally, there needs to be a sponsoring group and a supervisory group. It is essential to identify an individual as the project leader. Without such leadership the community gardening project is doomed to chaotic failure.

Extension MG - The role of the Extension Service is educational in nature, serving to advise the organizing group on how to set up and operate the garden, and how to grow the crops. Extension agents should not be expected to perform organizational or leadership duties relative to any community garden. However, Florida Master Gardeners may assume this role with the agents permission.

Need assessment - The CG committee however formed and empowered, will need to thoroughly determine the need for such a project within a specific community, and accurately assess the probability of success for the venture. Fortunately, vegetable gardening is popular in all areas of the state, although many would-be gardeners are recent arrivals and lack gardening experience under local conditions.

B. Getting Started.

1. Location

Close to users - Obviously the CG should be located within or adjacent to the area where most of the residents who will use the garden live or attend regularly. Vegetables require a good deal of attention and care, so the plots must be close by to prevent neglect. Most community gardens (71%) are found in cities.

Vandalism - It is sad, but some neighborhoods are just too unsettled and crime-ridden for a CG to succeed. Experience elsewhere has shown the unfairness of asking gardeners to make considerable inputs in time, money, and effort into planting a garden only to lose it to vandalism and theft. Of course, such communities are the very ones that could benefit the most from such projects.

Government - Some of the most frequently utilized locations are: school yards, inner-city vacant property lots, and government property. The Florida Department of Agriculture Consumer Services has experience in identifying government owned property suitable for community gardening. Nationwide, cities own the sites (35%), followed by private (20%), non-profit groups (15%), and schools (8%).

2. Site

Select site - Once a community is targeted, the actual site for the CG must be selected. It is advisable to first identify more than one site, then to discuss the pros and cons of each before selecting the very best for the project.

Site clearing - Look for a site that is reasonably level, cleared of trees, trash, or structures, and moderately well drained. Soil fertility can be enhanced; however, try to avoid areas of deep, excessively drained sandy soil if possible. Some clearing of debris is possible, but beware of the possibility of hazardous wastes, such as oily products, lead-based paints and other heavy metals.

Away from trees - Vegetables need full sun for best growth, so make sure the site is not too

shady. Make sure close-by trees are not going to be damaged by any of the gardening practices. For example, some gardening can be accomplished in pecan and other fruit groves, but care must be taken to avoid injury to tree roots.

Irrigation drainage - A source of irrigation water must be included in the site plan. It is sometimes possible to hook onto city water with a water meter installed at the site for the express purpose of the CG. Conversely, the proper disposal of drainage water from the entire site must be considered. Keep in mind that such drainage water could contain fertilizer and pesticides so should not be allowed to enter the aquifer or waterways.

Size of site - The size of the CG site should be large enough to accommodate at least ten gardeners. Thus, the actual area for growing the crops should be a minimum of 5,000 square feet (1/10 acre, approx.), not including area for parking. Most sites will range from one to three acres in size.

3. Fencing

Fence - A fence (hog-wire, barbed-wire, or chain-link) establishes the boundary, reduces theft, and discourages vandalism. It is best to select a fenced-in area, or to fence the boundary of the CG site. Individual plots need not be fenced, although quite often even these are fenced, usually by the individual gardeners. Any restrictions or standards on fencing should be clearly established in the CG rules at the very beginning.

4. Plots

Plot No - The number of plots will vary from one CG to another, there being no standard. However, it is unusual to find less than 10 or more than 100. The city of Jacksonville has 20 Urban Gardening sites, with an average of 10 plots per site. Fenway of Boston, one of the nation's largest projects, contained 500 plots at one site.

Size of plots - Size of individual plots also varies, but averages about 300-600 sq ft. Of course, the overall size and configuration of the CG site helps determine plot size. Also, the method of culture is important. If grow-boxes (raised bed with frame-sides) are used, an individual plot might be as little as 4x10, whereas large row-gardens might be as much as 1000 sq ft (20'x50') each. Some of the more popular plot sizes are: 15x20, 20x20, 20x25, 25x25, and 20x30. The Fenway plots are 15x30. It is quite common for a gardener to claim more than one plot, especially when plots are small or if a family is involved.

Configuration - The plot-configuration should be rectangular so that the overall CG can be more easily partitioned and managed. **Note:** Try to bunch the plots together so that there are not a lot of unassigned (thus neglected) plots scattered among those being tended. Open up new sections of the site as more plots are needed. Some projects include a special section for handicapped gardeners, where plots are super-raised or other wise altered.

5. Plot assignment

Assignment of plots - Assign plots on the basis of the rules and restrictions as drawn up and agreed upon. Usually, this will be on a first-come basis. However, a system of lottery has also been used successfully in some projects. Certain exemptions can be made where gardeners wish to retain "stewardship" from one season to the next. Some trading might be done by gardeners on sign-up day, but this should be minimized for the sake of record keeping. It is best to have a well publicized sign up period, after which assignments might still be made. In certain projects, plots assigned but not planted by a predetermined time, might be re-assigned, according to well-established rules.

6. Site Clearing/plowing.

Site clearing plowing - It is the responsibility of the sponsor and project supervisor to get the site cleared, plowed, and ready for assignment. In some projects, this labor is provided by the participants in a "work-day" fashion. However, it is best for the over all site to be roto-tilled as an entire unit, then plotted and staked for assignment. Such once-over treatment allows for liming, pest and weed control, and water management to be accomplished more efficiently. Of course, each gardener should have the right to replot his own plot at any time.

Remove equip, etc. - To facilitate plowing, individual plot fencing, irrigation tubing, and other gardening paraphernalia must be removed by gardeners according to established rules, and by certain dates.

7. Irrigation.

Irrigation - Provision must be made for irrigation, either on an individual plot basis (preferred), or the scheduling overall garden site. It is best for individuals to have the means to water independent of others, since each has specific crop needs and to reduce the labor requirement. The main problem with individual plot watering is scheduling. Water pressure and supply is quite often insufficient during very dry periods when everyone wants to water at once. Scheduling helps alleviate this problem. Allot hours of the day during which water may be applied. Of course there are timing devices available which may be set at predetermined intervals.

Water charges - Cost of water and how it is purchased must be considered and included in the rules. Some projects charge a water-fee collected by the manager (either monthly or periodically). Others include the water charge in the plot rental.

Watering the plots - Water outlets must be positioned near each garden. No more than 4 plots should use off a single outlet. For example, one spigot could be placed at the junction of 4 plots. The practice of dragging hoses long distances creates disturbances and is generally unsatisfactory. Watering by bucket is also inadequate except for very small plots.

8. Fees

Fees - Fees per plot are the general rule. Unless there is a benefactor involved, a fee is necessary to defray the general expenses of the over-all project. Such expenses might include:

irrigation (water and supply equipment; liming; plowing; staking; mulching material; common tools; and plot rental. Usually, fees have ranged from \$3 to \$10 per plot per season, but with inflation would appear more realistic at \$10-\$20 per plot. Sponsors often pick up the tab for needy gardeners in certain projects, especially with youth groups. Whatever the fee, it should be well publicized and entered into the rules sheet. Obviously, one person such as the project supervisor should be responsible for collection and disbursement of fees.

9. Rules and regulations

Rules

- a. Every CG project should have a well-written set of rules and regulations for everyone to go by. These rules should be specific for the project. Use generic rules formatting your individual projects rules. Keep in mind that CG is a social event involving several (sometimes hundreds) of people. Dos and don'ts must be clearly stated and defined.
- b. In addition to the rules, an application form (including a Contract Agreement) is **strongly recommended**. A form should be used which is brief, simple, yet covers the essential points. It must be signed by the lead gardener in the presence of the supervisor and kept in file during the duration of the garden season.

Here are some of the points the RULES should contain:

Liability - Release from liability - says gardener does not hold the sponsors at fault for injuries sustained in the project.

Occupancy limit - Period of occupancy - when can the plot be started, and by which date must it be given up. Most CG's will require a period of 4 to 5 months to allow for planting and complete harvesting of a crop of vegetables.

Loss of privileges - Special reasons for vacating or losing gardening privileges. Some project's rules stipulate that loss of gardening privileges can result from: a) plot neglect; b) rules violations; c) public disturbance; d) alcohol, or other.

Grievance - Grievance procedures should be stated, not only in case dismissals, but against the actions of other gardeners or the project management.

What practices - Allowable and prohibited gardening practices and products need to be spelled out, allowed if any pertain. This is especially important regarding organic gardening projects.

Rules on practices - Rules on watering, weeding, fencing, perennials, cover cropping, harvesting, pest control, and disposal of rotted produce/plants must be established.

Hours - Hours of operation for the garden, use of special areas such as for toddler, pet, bicycles, motor bikes, and parking need to be considered.

Authorized guests - List others (than yourself) that are authorized to work in, visit, and harvest from your garden.

Common tools - Special rules on the common use of tools and equipment. List what to do in case something tears up.

Plat - A plat of the CG with plot numbers clearly indicated (make sure plot markers and corners are well marked in the garden).

10. Permits

Permits\ordinances - It is the responsibility of the sponsoring group to be aware of and abide by all of the local (city and county) ordinances and permit requirements pertaining to the Community Gardening project. A good place to start is the local County Cooperative Extension Service. Call the zoning department and ask for assistance. The local traffic department can advise on parking and traffic (entering and exiting) requirements. Most community gardens are non-profit projects, so require no license as an endeavor. Your city recreation department can also give good advice when planning a CG. Be sure to check with health department about toilets.

11. Application Form/Contract of Agreement

Application form -

- a. Contains information about the gardener - name, address, phone, next of kin contact.
- b. Contains reason for wanting a plot and plans for the garden in future seasons.
- c. Ask the gardener to list special needs or handicaps.
- d. Signature of applicant, signifying that all the rules have been read and understood.
- e. Number of plots, and location (if applicable).
- f. Release from liability (signature).
- g. Rules (see list of rules).
- h. Dates: (when signed) and due in dates (for application returns).
- i. Where to send completed form and to whom.

j. Acceptance signature block (of person authorized to accept applications). Indicate status, such as: "placed on waiting list" or "accepted".

(Stephens, Vegetarian 01-05)

Extension Vegetable Crops Specialists

<u>Daniel J. Cantliffe</u> Professor and Chairman, Horticultural Sciences Department	<u>Mark A. Ritenour</u> Assistant Professor, postharvest
<u>Timothy E. Crocker</u> Professor, deciduous fruits and nuts, strawberry	<u>Ronald W. Rice</u> Assistant Professor, nutrition
<u>John Duval</u> Assistant Professor, strawberry	<u>Steven A. Sargent</u> Professor, postharvest
<u>Chad Hutchinson</u> Assistant Professor, vegetable production	<u>Eric Simonne</u> Assistant Professor and Editor , vegetable nutrition
<u>Elizabeth M. Lamb</u> Assistant Professor, production	<u>William M. Stall</u> Professor, weed control
<u>Yuncong Li</u> Assistant Professor, soils	<u>James M. Stephens</u> Professor, vegetable gardening
<u>Donald N. Maynard</u> Professor, varieties	<u>Charles S. Vavrina</u> Associate Professor, transplants
<u>Stephen M. Olson</u> Professor, small farms	<u>James M. White</u> Associate Professor, organic farming

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