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TO: COUNTY EXTENSION DIRECTORS AND AGENTS (VEGETABLES AND HORTICULTURE)  
AND OTHERS INTERESTED IN VEGETABLE CROPS IN FLORIDA

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THE VEGETARIAN NEWSLETTER

I. COMMERCIAL VEGETABLE PRODUCTION

A. Select Herbicides by the Weed Problem

The use of herbicides to control weed populations in vegetable crop production is a valuable tool for the grower. For any individual crop, there generally are several herbicides from which the grower can select. Many factors are involved in proper selection of the herbicide, but an important one is the species of the weeds to be controlled.

The ultimate herbicide would be one which would give control of all weeds throughout the season and yet not be toxic to the crop itself. Few, if any, such herbicides are available. Herbicides, characteristically, control a spectrum of weeds. Proper use of herbicides involves utilizing the control spectrum of the herbicide to match the weed problems in the production field. It is important to consider the following point: over a period of years, the weed problems can change.

In the natural situation, competitive effects between species of plants result in the domination of the weed population by those weeds which are the best competitors. When the situation is modified by the use of an herbicide which controls the dominant species, the following will most likely occur. For a period of years, weed control will be excellent. Due to the lack of competition from the "controlled" weeds, the "uncontrolled" species will flourish. At first the numbers will be small and the weeds will probably go unnoticed. With time, the population increases and suddenly we find that we have a serious new weed pest to contend with. This new pest may or may not be controlled with herbicides which are available for the crop.

The avenues of approach open to the grower in such instances usually make use of one or combinations of the following points.

1. Alternate Herbicides - Utilization of a material (labeled for use on the crop) which will give control of the "new" pest species. This can involve complete switching to a different herbicide or use of the new material in addition to the old one. This not only implies tank mixes, but also includes differential application times such as using one preplant and one postemerge, for example.

2. Changes in Cultural Practices - Occasionally, modifications can be made in production practices which can result in improved weed control. Fullbed mulch culture systems can be taken for an example. It is common knowledge that a mulch offers benefit as a weed control method in itself. In our case, it can offer little advantage in changing the existing weed species composition. However, what it does is to move part of the weed problem further away from the crop row. This offers a benefit in that cultivation can be used to maintain the row middles relatively weed free. There is a strip of soil which covers the edges of the mulch material holding it secure. This strip must also be kept free of weeds, but because of its greater physical separation from the crop row, the use of shielded, directed sprays using a contact herbicide might be possible. The weed control problem would still exist, however, "at the hole" where the crop plant emerges from the mulch material.
3. Fallow Treatments - Control of some perennial weeds may be obtained by special manipulations during the "off season." This type of program usually involves one of the following: (a) frequent cultivation--to reduce vigor of the roots and prevent reproduction and spread of the weed, (b) cultivation and herbicide--as in (a) plus the benefit of the herbicide translocating to get a systemic type control, and (c) spot treatment with herbicides--an attempt to control the weeds where "areas" are infested in the field and prevent their spread.

4. Alternate Crops - This type of approach takes advantage of an herbicide which is effective for the pest species, but may not be labeled for the primary crop of interest. Cropping time is important to consider. Some materials clearly carry precautions on the label which state that soil treated with the material must not be planted with certain crops for a specified period of time. This can be a limiting factor for this approach and should be carefully investigated before use.

Infestation of production fields by weeds can frequently be traced to poor control of weeds around them, i.e. ditch rows, border rows, fence rows, etc. Not only do they serve as potential sources of weed seeds, but can serve as reservoirs for insect and disease problems which in themselves can be hazards. Many materials are available for use in such areas and when used with due care and concern offer little hazard to crops and environment.

Ecological change is one of the factors that weed scientists evaluate and deal with in their endeavors to recommend herbicides and practices to control weeds. The recommendations developed have taken into consideration many factors which are extremely important to good weed control. However, in most discussions where a grower may ask for a recommendation, one will find that the weed scientist will ask back, "What is your specific weed problem?" This serves to give him the opportunity to suggest for you a program that will do the job.

(Kostewicz)

B. Old Tomato Fields can be Breeding Grounds for Pinworms

Recently a rather serious outbreak of a new insect pest of tomatoes was found in Collier County. The "tomato pinworm" was described in the March, 1973 issue of the Vegetarian. Whether or not it will prove to be an isolated case is yet to be seen. In the meantime, however, growers should watch tomatoes and other closely related crops carefully for early infestations of pinworms. Early treatment with the recommended insecticides applied properly will give good control.

A serious matter that growers should give attention to is danger posed by old, abandoned tomato fields. Extension specialists for many years have recommended plowing under all vegetable crops as soon as possible after completion of harvest. The destruction of old crop residues eliminates a source of inoculum for viruses, fungi, bacteria and as well as insects which could attack younger plantings in the area.
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With the introduction of the tomato pinworm and the fact that little is known about it, everything possible should be done to lessen the danger of this pest. Therefore, growers are urged to destroy all tomato fields immediately after harvest. The benefits that may be derived from this simple practice may far outweigh the minimal costs involved.

(Montelaro)

C. Managing Bees in Vine Crops

Growers of vine crops are well aware of the need for bees for the pollination of flowers. Good pollination increases set, size and yield as well as shape of cucumber, watermelon, squash and cantaloupe fruits. The mere placement of honeybee hives in or near a vine crop planting does not assure good pollination. However, if a few simple precautions are observed in the handling of bees, growers will reduce the possibility of failures.

These precautions are:

(1) Place enough bees in each field to assure multiple bee visits to each flower. Research has shown that eight visits from bees are more effective than four visits. A rule of thumb is at least one good beehive for every five acres of vine crops. Some growers use one hive for every two or three acres with good results.

(2) Distribute the hives in and around the edges of the field in a pattern which will permit even coverage of the field. Bees tend to work in the areas nearest the beehive. If the distance between hives is too great, some areas of the field may not be adequately pollinated.

(3) Apply insecticides carefully so as not to kill bees. Bees start work in the morning when air temperature reaches about 60° F. and continue until mid to late afternoon. Insecticides should be applied after bees stop working. Late afternoon and early evening are the best times to apply insecticides. When applying insecticides by ground or air, care should be taken to avoid spraying or dusting pesticides directly over the beehives. Covering beehives during application is good insurance against a mass kill of bees in the hives.

(Montelaro)
II. VEGETABLE GARDENING

A. Table-stock Potatoes Should be Eaten - Not Planted

Many home gardeners, and maybe a few farmers too I suspect, purchase table-stock potatoes from grocery stores for the purpose of planting as seed potatoes. Such a practice is generally unsatisfactory for a number of reasons.

First, if the potatoes are newly dug (from South Florida, for instance), there will be a problem of getting them to sprout when planted. Most potato varieties undergo a "rest period" for some length of time following harvest. (Time varies with each variety.) The rest period can be broken by chemical treatment, using such chemicals as sodium thiocyanate or ethylene chlorohydrin, but we are not suggesting home gardeners use these materials as they are highly poisonous.

Secondly, where stored table-stock potatoes are utilized for seed-stock, problems often arise due to chemicals which may have been applied to inhibit sprouting in storage. Not only will such treated table-stock potatoes be slow to emerge if planted, with resulting poor stands, but the vines often exhibit a condition similar to that which might be attributed to virus infection. Leaflets and aboveground stems emerge strap-leaved, twisted and distorted in shape. Should you run across this condition, first check to see if table-stock had been used as the source of seed.

Maleic hydrazide is one of the growth regulating chemicals which has been approved by the EPA for inhibiting sprouting. It is applied on the plants in the field 2 to 4 weeks before harvest. Another chemical sometimes used is CIPC (isopropyl N-3-chlorophenyl)carbanate) which is applied to the potatoes after harvest for sprouting control during storage and in marketing. TCNB (tetrachloronitrobenzene) and gamma irradiation are also approved. None of these treatments is used on seed potatoes as sprouting is either retarded or prevented.

Thirdly, planting table-stock potatoes may lead to poor growth, low yields and reduced quality due to diseases which quite likely are present in the uncertified tubers. Many diseases, such as viruses, show no visible signs on the exterior of the tubers, so may be present in table-stock.

And lastly, a gardener who obtains potatoes off the supermarket counter usually cannot obtain the variety of potato best suited for planting in his locality.

In summary, the home gardener should follow the example set by the commercial grower and use certified seed. Such seed tubers are free from the effects of a rest period, have not been sprayed with sprout inhibitors, are relatively free of disease and are true to variety. (Stephens)

B. Know Your Vegetables - Corn Salad

Corn salad (Valerianella olitoria) is also called lamb's lettuce and fetticus. It is a salad plant, but may also be used as a cooking green. Since
it does not have a sharp distinctive flavor, it is often mixed with other more tasty greens such as mustard.

Corn salad forms a rather large rosette of leaves which are spoon-shaped to round, up to 6 inches long. Sometimes the leaves are covered or bunched together to exclude light for the purpose of blanching.

The vegetable plant is grown in Florida very similarly to endive or lettuce. It tolerates cool weather, so may be sown from seed in October through May. Space the rows 12 to 18 inches apart, and the plants about 6 inches.

On sandy soil, prepare the row for planting by broadcasting 2 pounds of 6-6-6 or other common garden fertilizer per 100 square feet of row and rototilling it into the soil. Then, band about 1 pound of fertilizer per 50 feet of row beside the planting furrow.

(Stephens)