



Vegetable Crops Department
VEGETARIAN

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TO: COUNTY EXTENSION DIRECTORS AND VEGETABLE AGENTS

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I. Success or Failure with Herbicides?

The vegetable grower expects to get good weed control without injury to the crop everytime he uses herbicides. From experience, we know that this is not always the case. The first reaction is to put the blame on the effectiveness of the herbicide. In most cases, the fault lies with the grower or the foreman who fails to apply the chemical correctly.

Herbicide application is one of the most exacting cultural practices used in vegetable production today. Over the years, we have observed poor weed control or crop injury resulting from mistakes made in land preparation and use of equipment. Rather than attempt to discuss correct application techniques in detail, it may be more helpful to just list the mistakes that have been observed in the hope that growers may be able to avoid these in the future.

- (1) Poor Land Preparation
 - (a) Excessive undecayed plant residues.
 - (b) Too many clods.
 - (c) Surface of soil not level and not finely prepared.

- (2) Wrong Timing
 - (a) Applied too early, too late, or under adverse weather conditions resulting in crop injury, reduced weed control, etc.
- (3) Wrong Rate
 - (a) Too high causing crop damage.
 - (b) Too low resulting in poor weed control
- (4) Wrong Herbicide
 - (a) Not recommended for the crop or specific weed problem.
- (5) Improperly Placed Herbicide
 - (a) Too deep
 - (b) Too shallow
 - (c) Misplaced when applied directionally
- (6) Drilled Row Surface Not Properly Shaped
 - (a) Herbicides leaching into drilled row when left concave.
 - (b) Herbicides leaching away from drilled row when over-crowned.
- (7) Poor Soil Moisture Levels
 - (a) Low soil moisture hindering activity of herbicide.
 - (b) Excessive irrigation or rain causing movement of herbicide away from desired zone.
- (8) Use of Wrong Equipment
 - (a) Equipment not suited for herbicide application.
 - (b) Equipment not maintained adequately.
- (9) Inadequate and Infrequent Calibration
 - (a) Application rates of both granular and spray equipment changes with wear and time.
- (10) Movement of Soil
 - (a) Cultivation causing movement of soil away from or to application zone.

II. Mottling of Summer Squash

The question of "what causes my summer squash to be mottled with patches of green and yellow" arises every year during the spring season. Squash with these symptoms is usually infected with a strain of Watermelon Mosaic Virus. It is not seed-transmitted, so it cannot be blamed on the seedsman. Actually, it is transmitted primarily by winged aphids from host plants of the vine crop family or certain other crop plants and weeds commonly found in the vegetable growing areas.

The disappointing aspect of this problem is that adequate aphid control in the crop may not prevent the infection. The aphid requires only a short period of time to infect a plant. Furthermore, even if the squash planting appears to be completely free of aphids, sufficient winged aphids may be present to spread the virus rapidly.

III. Label Extended for DNBP for Potato Vine-Killing

At the time the last Vegetarian was written, Dinoseb (DNBP) could not be recommended as a potato vine-killer because the label had not been extended beyond January 1, 1970. Since then, we received word that the label has been extended to January 1, 1971. Dinoseb is now the coined or common name for several formulations of the dinitro compounds. Growers using DNBP, which is now recommended for killing potato vines, should read the label carefully as formulations vary in percentage of active ingredients.

IV. Highlight Notes from Central Florida Field Day Reports

The vegetable field day held at the Central Florida Experiment Station at Sanford, Florida, on March 3, 1970 was most informative. Following are some highlights from four of the reports.

A. Fertilization of Direct Seeded Cabbage

Dr. R. B. Forbes, in attempt to determine the best fertilizer program for direct seeded cabbage, tested 13 treatments where timing, sources, placement, etc., were included. When the plants were 48 days old, the best plants were in the following treatments.

1. Band, 5-2-9 liquid @ 500 lbs/A at 10 days and repeated 4 weeks later.
2. Preplant, castor pomace @ 500 lbs/A at planting + 500 lbs. 5-5-8-2 at 4 weeks.
3. Preplant, 5-5-8-2 @ 500 lbs/A + 500 lbs/A at 4 weeks.

These results must be repeated, but it is interesting to note that, in this case, liquid fertilizer was among the better treatments. In other research, liquid materials have performed well on certain crops in some seasons. We feel that the liquid fertilizers will find a more prominent place in vegetable production programs. However, considerably more research and experience will be needed on these materials before we can be more specific in our recommendations.

B. Sting Nematode Control in Cabbage

Dr. H. L. Rhoades reported on a nematicide test on cabbage in soil heavily infested with sting nematodes. The results are interesting because they show that sting nematode control affected "first cut" yield to a greater degree than final total yield. Of the 16 treatments used, two are selected to show these results.

Effect of Nematicides on Nematode Populations and Cabbage Yield

Treatment	Rate/ Acre	Sting Nematodes	Yield (crates/acre)	
			First Cut	Total
Check		115	347	698
D-D	25 gals. broadcast	10	606	822

This kind of information is extremely important in light of ever-pressing needs for uniformly maturing crops which lend themselves to once-over harvest by machines.

C. Cabbage Variety Trials.

Dr. J. O. Strandberg tested 75 varieties of cabbage on which he made observations on resistance to black speck and black rot, maturity, head size, leaf color, head shape, interior quality and uniformity.

Considerable resistance was noted to black speck--a non-parasitic disease that seems to intensify in storage. Rating on a scale of 0 (none) to 5 (severe), susceptibility to speck ranged from 0.3 for a numbered hybrid to 3.7 for one of the standard hybrid varieties.

The same was true for black rot. Susceptibility ranged from about 1.0 to as high as 5. Some of the varieties that combined fair resistance to both are Saf-Gard, Round-up, and Rio-Verde. Several numbered hybrids exhibited resistance which was as good or better than the varieties named above. Rio-Verde was observed to be rather highly susceptible to internal tip burn last year at Bunnell, Florida.

NOTE: Anyone wanting a copy of this cabbage variety trial may request it from this office.

D. Looper Control on Cabbage

Dr. G. L. Greene reported on results of a study conducted at Sanford which is part of a four-station project in Florida. He stated "control of cabbage looper larvae is nearly impossible to obtain using currently recommended materials, particularly when large, late instar larvae are abundant." He further stated "the percentage of heads unmarketable was extremely high indicating the weekly application schedule was too long a treatment interval."

Dr. Greene and others are continuing work to find better materials. His work points out that loopers must be killed shortly after hatching or control becomes next to impossible.

Sincerely,


James Montelaro
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