CORN EARWORM CONTROL -- it's still with us.

Entomologist N. C. Hayslip, Everglades Station, feels there is still a lot of confusion in the corn earworm control picture mainly due to difference in infestations.

"The severity of the infestation is the most important thing about the program of control. As to materials, DDT remains to be the best one we have for the job. But keep this in mind -- under light to moderate infestations, DDT may give 90% to 100% clean corn. However, a heavy infestation can result in only 25% worm-free corn.

"Just as the tassels begin to push, get in with a 5% DDT dust every 2 to 3 days at the rate of 30-35 pounds per acre. The pushing tassel exposes these worms and this is definitely a crucial period in corn production. The ideal situation would be to get the silk fly and migrating worms at this time and leave only the earworm to control (a task in itself, we might add). Chlordane must be added as needed for the silk fly adult (3% chlordane with the 5% DDT).

Chlordane 5% alone at the tasseling stage is all right for tassel worms, but shift back to 5% DDT dust for the earworm control.

"It's still experimental, but we're working on a mineral oil-DDT spray. As far as corns are concerned, this has given better control than dusts -- some other wrinkles remain to be ironed out, however.

"Ground equipment is better than airplane application when silk dusting -- the idea remains to get dust directly on the silk. The airplane is as good as any other equipment when dusting at the tasseling stage."

Parathion is not recommended in the corn insect control program. Dr. Hayslip reminds us that it's getting hotter as the days go by -- anyone using parathion for any reason may find it convenient to remember that as the temperatures increase the material is more volatile and therefore most dangerous.

NEW WATERMELON DISEASE -- are you on the lookout?

Dr. G. K. Parris, Watermelon and Grape Investigations Laboratory, Leesburg, gave us an especially quick follow-up on the mosaic disease of watermelons reported from the Immokalee area in "Vegetarian", No. 2.

"From greenhouse work almost completed the mosaic disease that I reported from the Immokalee area appears to be the southern celery strain of the cucumber mosaic virus group. It is transmitted by the watermelon aphid, which is Aphis gossypii. What I consider to be the same disease appeared last year in Lake County, causing much loss to melons in several fields. One 30 acre field, and one 60 acre field were severely hit. These fields were never brought to my attention. The disease has now made its appearance in Sumter County, in an 80 acre field. At present less than 1 percent of the plants is affected, but there are plenty of aphids present, and I look for the virus to spread in the field.

From Dr. James Walter, Vegetable Crops Laboratory, Bradenton, comes a report that he found mosaic in a watermelon field near Palmetto a few weeks ago.

"Control of this disease is contingent on the control of aphids in the melon field. The virus is coming from weed hosts in and around the melon plantings; also from diseased cucumber and pepper fields. This year many of the aphids are the winged form. A grower dusts or sprays his field with parathion, isotox, or some other aphicide, and gets a good clean-up of the lice. However, the residual action of the insecticide on the melon vines is only for roughly three and a half to four and a half days (if I understand my entomological friends correctly)."
The grower does not apply additional insecticide for a week or ten days, and in the meantime the winged form of the melon aphis has entered his melon planting, and proceeded to establish new populations. In other words, this year 100% control is impossible. About all a grower can do is to keep his fields well sprayed or dusted for aphids. Roguing of diseased plants as soon as they appear may be of some value. The roguing should be done after the field has been sprayed or dusted for aphids. Plants should be removed from the field or buried. Any aphids that are on rogued plants will leave the uprooted vine and move to an established growing plant, thereby spreading the virus.

"At the present time the virus seems to be producing a type of symptom which is very much like the first stages of anthracnose. Small pimple-like areas appear on the fruits of diseased vines. However, I am not positive yet that this type of symptom is caused by the virus. Internally affected fruits show a yellowish cast to the flesh and corky areas are often associated with this discoloration.

"If the melon virus gets established in the weeds of the watermelon growing counties of Florida, and we do not have winters to kill off these weeds, we can look for trouble from this strain of the cucumber mosaic virus."

**WIREWORM CONTROL -- progress from the muck soils.**

W. H. Thames, Everglades Station, points out some interesting developments in the wireworm control problem:

"In general, parathion (1-3 pounds per acre), aldrin (1-3 pounds per acre), lindane (1-3 pounds per acre) and chlordane (4-6 pounds per acre), mixed with the fertilizer and drilled in the row, are the four most promising materials for wireworm control on muck. They are effective in approximately that order. The first three are good to excellent, while chlordane has been rated as good.

"Until factual information on residues from parathion is accumulated, it is not being recommended in wireworm control. We don't go beyond saying that all of the materials named are effective in reducing damage from wireworms when applied, as shown above, below the seed."

"On lettuce, however, when using chlordane, aldrin and parathion, either mixed with the fertilizer and drilled in the row or mixed with the fertilizer and broadcast, there was no significant difference between materials but all plots in which the fertilizer-insecticide mixture were broadcast had a better stand of lettuce than where the fertilizer was drilled in the row.

"Trends for the third consecutive season (not statistically significant but the check has been predominately lower in yield) have indicated that the fertilizer-insecticide mixtures give an increased yield over the fertilizer alone, regardless of the degree of wireworm infestation."

**COVER CROPS FOR STRAWBERRY LAND -- summer is with us.**

Dr. A. H. Brooks, Strawberry Laboratory, Plant City, says it is time to consider the summer cover crops for land to be used for strawberry production in the fall.

On pages 7 and 8 of Extension Bulletin 136, Dr. Brooks gives the current recommendations on the subject.

**SEEDBED STUDIES AND FIELD SCALE NUT GRASS CONTROL -- effective methods.**

Donald Burgis, Horticulturist at the VCL, Bradenton, gave us some eye-openers on the progress along these lines the other day.

"Seedbed work last fall with tomatoes and peppers brought to light two effective materials, allyl alcohol and MC-2 gas (methyl bromide with 2% chloropicrin for safety). The allyl alcohol is preferable, by the way.

"Now these two materials are expensive but they have the advantage that permits planting 48 hours after treatment. It is always best to have seedbeds moist at the time of treatment, but under wet conditions you should wait a week before planting.
"Allyl alcohol - one quart per fifty gallons of water - a gallon of this sprinkled on 12 square feet of seedbed, is a weed seed toxicant but does not get nut grass corms. It reduces root knot but is not recommended as a control.

"MC-2 requires a protective cover, but 2 pounds of this material per 100 square feet of seedbed gives complete control of root-knot and weed seeds (nut grass included).

"As to a fungicide drench, copper compound A (6 pounds per 50 gallons), applied at the rate of 1 gallon per 12 square feet, is effective and safe even on seedling plants. The solution should be constantly agitated, however."

Nut Grass Control:

Keeping in mind precautions to be taken with the use of 2,4-D, Mr. Burgis tells us that evidently nut grass can be controlled by a between crop season spray schedule in the Bradenton Station trials.

One early summer spraying plus a later spraying thirty days before planting has given an 80% reduction of nut grass at the time of planting the fall crop. Amounts should be 4 to 5 pounds of actual 2,4-D, either sodium or amine salts. Volatile esters are not recommended.

"This should be applied as a high gallonage spray (80 to 100 gallons per acre), insuring that the spray gets down into the bud. Pressure should be 40 to 50 pounds to give a good coarse spray.

"Apply at the time when some seed stalks begin to appear in the field - not too young or too old -- but still growing and in the 4 to 5 rosette leaf stage."

We recommend that you contact Mr. Burgis for details before making any field scale applications, and remember that equipment for the application of 2,4-D should not be used for any other operation.

POTASH SOURCES -- effect on yield, quality and cold resistance.

If you're looking for differences readily apparent to the eye in the choice of the source of potash for certain vegetable crops -- it's a long road.

According to Dr. R. A. Dennison, Main Station, chances are yield differences from certain sources are small. Most differences have shown up in crop quality with cabbage and tomatoes -- something rather hard to measure, by the way.

"With the two crops mentioned, products from no potash plots lacked the quality of firmness, however, the 10% level of potash in general gave the best quality -- and this, depending on source, rate of application and the crop. For example, muriate of potash gave much better quality than where the sulfate of potash source was used with cabbage; but with tomatoes the sulfate source gave better quality than the muriate source.

"How about cold resistance? "Well, it's just a one year observation, but there was less freezing injury where using muriate than where no potash or sulfate of potash was added."

HELMINTHOSPORIUM -- one look on where sweet corn varieties stand.

Helminthosporium turcicum, a rust disease with a nightmarish name produced a like effect in sweet corn fields down the state this year. Numerous trials on finding a fungicide control are scheduled or have already been completed -- it remains unsolved to date. Further, W. D. Hogan, Everglades Station, plans to run tests for alternate hosts among the grasses.

Now, we'd like to present the following observations by E. H. Wolf, Everglades Station, to show you the complications and ups and downs in current approaches on varietal susceptibility -- in case you encounter same.

"Dr. J. C. Hoffman, formerly with the EES, first started his extensive sweet corn trials at Belle Glade in the spring of 1947. However, it was not until the October planting of 1948 that H. turcicum assumed the importance of a severe blight. At this time Golden Security (40% defoliation) and Calumet (20% defoliation) showed more resistance than Ioana (96% defoliation) at harvest time."
"In the spring of 1949, Helminthosporium was not severe on the plantings and no information was realized on varietal resistance. It might be added that this trial was planted early, and that some was more severely blighted in the later plantings.

"In the fall of 1949 (Wolf's trials begin) two experimental plantings were made. In the mid-September planting, FM Cross showed a very high degree of resistance. Golden Security was not as resistant as FM Cross but it did produce a significantly higher yield. Calumet was not in this planting, by the way. It was an observation at this time that less Helminthosporium occurred on the better elevated lands having a lower water table.

"Weather conditions play a definite part in the incidence of the disease. Temperatures decreased in October plantings and there was much less Helminthosporium damage, for example, in the September plantings where the disease was severe, did not even give a marketable yield as compared to the October planting where only 40% defoliation occurred along with good yields. In a November 10th planting Golden Security showed the heaviest infection that had been observed.

"In the February 1950 replicated trials (and note that these were planted about the same time as last year when Helminthosporium was not severe) the disease reached definitely severe proportions and moved in earlier. As to resistance readings, KVF 47-10 and Aristogold Bantam Evergreen No. 2, both with 40% defoliation, had the greatest resistance at the time of the most severe infection in these trials. At this same time, Ioana was 70% defoliated while 80% defoliation occurred with Calumet. It appeared that a prolonged cool spell of two weeks apparently checked the spread of Helminthosporium in this trial."

Dr. J. M. Walter, Bradenton Station, further maintains that the incidence of the disease has been directly associated with the occurrence of weather in his area.

CELEY USES -- need a few?
If you have surplus celery for utilization, you may want to drop a line to R. A. Dennison and H. W. Roed, Main Station.

Among many uses being investigated at the Vegetable Products Laboratory, the reactions of a discriminating taste panel have rated celery pickles as very good. Stalk parts or portions cut from graded-out and normally unused celery may be cut into 1 to 2 inch lengths, blanched, and packed in jars with a spice syrup -- then used like a sweet cucumber pickle.

Canning, too, comes into the picture, with basal portions and hearts being preferable. Celery grown on muck soils offers a washing problem for this use. The canned product may be used as is -- as a salad and as a source for celery soup.

Then, celery may be cut up in 15-20% brine and held over for a year (plus) for pickling the year around. Soups may be made from the brined product and canned cuts have compared favorably with commercially canned soups.

You say they use all but the tops? Compressed, the juice therefrom combines nicely with tomato juice for an acceptable beverage and may be frozen or canned for later use as celery flavoring.

VEGETABLE CROPS FIELD DAYS:
Increased interest in vegetables is being shown by excellent turn-outs to the various field days of the Florida Agricultural Experiment Stations over the state.

Recent stations to arrange these days for the growers have been the Central Florida Station, Sanford, the Potato Investigations Laboratory, Hastings, the Vegetable Crops Laboratory, Bradenton, and the Main Station, Gainesville.

Needless to say, the wide range of subjects presented by the men actually conducting the work has been of tremendous value to the Florida vegetable industry.
BROCCOLI — been tried in your area?

E. N. McCubbin, Potato Investigations Laboratory, D. G. A. Kelbert, Vegetable Crops Laboratory, and W. A. Hills, Everglades Experiment Station, cooperated with V. F. Nettles, Main Station, in combining the data on broccoli varieties over the state from the Southern Cooperative Trials, 1949-50:

"The leading six varieties in total production are as follows:

<table>
<thead>
<tr>
<th></th>
<th>First</th>
<th>Second</th>
<th>Third</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradenton</td>
<td>'TAES 107'</td>
<td>'DeCicco'</td>
<td>'Ea. Gr. Sprout. (A)</td>
</tr>
<tr>
<td>Hastings</td>
<td>'Ea. Gr. Sprout. (A)'</td>
<td>'TAES 107'</td>
<td>'Freezers (A)'</td>
</tr>
<tr>
<td>Belle Glade</td>
<td>'Ea. Gr. Sprout. (FM)'</td>
<td>'TAES 107'</td>
<td>'Ea. Gr. Sprout. (C)'</td>
</tr>
</tbody>
</table>

"TAES 107 appears to have led the field in production, but both Bradenton and Hastings report in some cases a poor color of heads. Early Green Sprouting (A) was among the earliest varieties and gave high total yields in the majority of locations. In general, all sources of Early Green Sprouting appeared to be better than the DeCicco strains. The late maturing varieties appear to be unsuited —

"The following table shows yield differences in detail, some of which may be attributed to differing harvesting methods and seasonal variations by area:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Hastings</th>
<th>Gainesville</th>
<th>Bradenton</th>
<th>Belle Glade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DeCicco (A)</td>
<td>9,038</td>
<td>5,907</td>
<td>3,622</td>
<td>2,483</td>
</tr>
<tr>
<td>2. DeCicco (FM)</td>
<td>9,214</td>
<td>5,924</td>
<td>3,478</td>
<td>2,551</td>
</tr>
<tr>
<td>3. DeCicco (W)</td>
<td>8,797</td>
<td>5,819</td>
<td>3,923</td>
<td>2,483</td>
</tr>
<tr>
<td>4. Ea. Gr. Sprout. (A)</td>
<td>11,033</td>
<td>5,538</td>
<td>3,858</td>
<td>2,718</td>
</tr>
<tr>
<td>5. Ea. Gr. Sprout. (C)</td>
<td>9,745</td>
<td>5,797</td>
<td>2,982</td>
<td>2,926</td>
</tr>
<tr>
<td>7. Med. Gr. Sprout. (A)</td>
<td>8,507</td>
<td>4,635</td>
<td>2,288</td>
<td>1,855</td>
</tr>
<tr>
<td>8. Med. Gr. Sprout. (C)</td>
<td>9,698</td>
<td>4,089</td>
<td>1,255</td>
<td>1,275</td>
</tr>
<tr>
<td>9. Med. Gr. Sprout. (FM)</td>
<td>9,221</td>
<td>5,081</td>
<td>1,504</td>
<td>1,669</td>
</tr>
<tr>
<td>10. Ex. Ea. Gr. Sprout. (C)</td>
<td>9,679</td>
<td>6,183</td>
<td>3,832</td>
<td>2,404</td>
</tr>
<tr>
<td>11. Early Propageno (W)</td>
<td>8,580</td>
<td>5,525</td>
<td>2,589</td>
<td>2,739</td>
</tr>
<tr>
<td>12. Midway (A)</td>
<td>10,006</td>
<td>6,132</td>
<td>3,583</td>
<td>2,176</td>
</tr>
<tr>
<td>13. Freezers (A)</td>
<td>10,412</td>
<td>6,104</td>
<td>3,192</td>
<td>2,692</td>
</tr>
<tr>
<td>14. Br. 46 (A)</td>
<td>8,266</td>
<td>5,396</td>
<td>2,315</td>
<td>2,006</td>
</tr>
<tr>
<td>15. Late Gr. Sprout. (A)</td>
<td>4,912</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>16. Late Gr. Sprout. (FM)</td>
<td>4,924</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>17. Late Calabrese (W)</td>
<td>8,907</td>
<td>5,362</td>
<td>2,393</td>
<td>-</td>
</tr>
<tr>
<td>18. TAES 107</td>
<td>10,660</td>
<td>7,818</td>
<td>4,943</td>
<td>2,951</td>
</tr>
</tbody>
</table>

*DeCicco (Burpee)
*Green Italian-Calabrese (A&O)
*Calabrese - Gr. Sprouting (A. R. Zwaan & Son)

LSD at .05 level

| Variety   | 1,392 | 300 | 1,181 | 412 |

*Substituted for 15, 16 and 17 of Southern Cooperative Broccoli Trials

CODE NAMES AGAIN — From the USDA Extension Service, Washington, comes this:

"Our attention has been called to the misinterpretation or misuse of the names recently adopted for five of the newer fungicidal chemicals. According to the official notices these names are common names for the chemicals themselves and not for trade-marked compounds of which the chemicals are active ingredients. Thus, "ferbam" is the common name for ferric dimethyl dithiocarbamate. It is not another name for the proprietary compound, Fermate, which contains 76% ferbam, or for a Karbam Black dust containing 15% ferbam."