Compilation of Selected Vegetable Crop Reports
Dealing with Research and Demonstration Plots
Located at the Muck Crops Branch, 1983
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This report was prepared for distribution at the Celeryville Muck Crops School, January 20-21, 1983.

All publications of the Ohio Agricultural Research and Development Center are available on a nondiscriminatory basis without regard to race, color, national origin, sex, handicap or religious affiliation.
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<td><strong>Month Total</strong></td>
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Sixteen cultivars or promising breeding lines of spinach were compared in replicated trials at the Muck Crops Branch in 1982 season. Cultural information and tabular data summary are included in this report.

Cultural Information

Eight hundred pounds of a 6-24-12 fertilizer were applied and disked in prior to planting. Seed was sown on April 21 for the spring planting, July 1 for summer planting, and early September for the fall planting, at a rate of 16 pounds of seed per acre. Plot size was three rows 18 feet long and spaced 15 inches apart, and each cultivar was replicated four times. No insecticide or fungicide was used in this plot. CIPC was the herbicide used.

Ten feet of the middle row of each plot was harvested on May 27.

Seed Sources

We would like to acknowledge that each seed company donated the seed for this trial:

- Herbst Seed Co. - America, Dixie Market
- Harris Seed Co. - Savoy Hybrid 612, Dark Green Bloomsdale, Winter Bloomsdale, Savoy Hybrid 621, Melody, Vienna
- (AGRI) Keystone Seed Co. - Avon, Jade, Skookum
- Asgrow Seed Co. - Virginia Savoy, Packer, Marathon, Grandstand, Early Hybrid 7, Kent.

Results

Spring - Table 1 lists yields, savoy, color, and bolting characteristics of the sixteen cultivars. Early Hybrid 7 and Packer were the highest yielding cultivars. Kent, Savoy Hybrid 621, Winter Bloomsdale, Dark Green Bloomsdale, Dixie Market, Virginia Savoy, and America all had well-savoyed leaves. Melody, Winter Bloomsdale, Skookum, and America stood longest without bolting.

Summer - All cultivars went to seed very quickly except Melody and Jade which produced an acceptable crop. Jade's leaves are rather flat but Melody's leaves were semi-savoyed.

Fall - Down mildew infected most of the cultivars in the fall planting. Cultivars were rated on the amount of disease on October 12 and ratings are listed in Table 2.

1. Assistant Professor of Horticulture, Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, OH 44691.
2. Manager, Muck Crops Branch, Ohio Agricultural Research and Development Center, Willard, OH 44890 and Assistant Professor of Horticulture, The Ohio State University.
TABLE 1. Spinach cultivar trials - Spring 1982

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Lbs/10' of row</th>
<th>Savoy</th>
<th>Color</th>
<th>% Seeders - June 10</th>
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</thead>
<tbody>
<tr>
<td>Early Hybrid 7</td>
<td>7.8</td>
<td>3.5</td>
<td>3.5</td>
<td>100</td>
</tr>
<tr>
<td>Packer</td>
<td>7.7</td>
<td>3.5</td>
<td>3.5</td>
<td>100</td>
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<tr>
<td>Kent</td>
<td>7.0</td>
<td>1.5</td>
<td>3.0</td>
<td>100</td>
</tr>
<tr>
<td>Grandstand</td>
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<td>4.5</td>
<td>3.5</td>
<td>100</td>
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<tr>
<td>Melody</td>
<td>6.9</td>
<td>3.2</td>
<td>3.0</td>
<td>0</td>
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<tr>
<td>Marathon</td>
<td>6.7</td>
<td>3.5</td>
<td>3.0</td>
<td>70</td>
</tr>
<tr>
<td>Savoy Hybrid 612</td>
<td>6.6</td>
<td>2.0</td>
<td>3.0</td>
<td>100</td>
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<tr>
<td>Vienna</td>
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<td>2.0</td>
<td>3.0</td>
<td>40</td>
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<tr>
<td>Savoyd Hybrid 621</td>
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<td>100</td>
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<tr>
<td>Winter Bloomsdale</td>
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<tr>
<td>Dark Green Bloomsdale</td>
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<td>1.0</td>
<td>2.2</td>
<td>10</td>
</tr>
<tr>
<td>Avon</td>
<td>6.0</td>
<td>3.5</td>
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<td>10</td>
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<td>Skookum</td>
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<td>Dixie Market</td>
<td>5.5</td>
<td>1.5</td>
<td>3.0</td>
<td>90</td>
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<tr>
<td>Virginia Savoy</td>
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<td>1.0</td>
<td>2.5</td>
<td>80</td>
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<tr>
<td>America</td>
<td>5.0</td>
<td>1.0</td>
<td>1.2</td>
<td>0</td>
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<tr>
<td>LSD 5%</td>
<td>1.4</td>
<td>1.3</td>
<td>1.1</td>
<td>18.7</td>
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Savoy: 1 = heavily savoyed; 5 = flat
Color: 1 = dark green; 5 = light green

TABLE 2. Spinach cultivar trials - Fall, 1982

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Disease rating¹</th>
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<td>Grandstand</td>
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<tr>
<td>Early Hybrid 7</td>
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<td>Marathon</td>
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<tr>
<td>Dixie Market</td>
<td>4.9</td>
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<tr>
<td>America</td>
<td>4.9</td>
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</table>

1. Downey Mildew: 1 = none; 3 = 50% dead plants; 5 = 100% dead plants.
Sixteen cultivars or promising breeding lines of celery were compared in replicated trials at the Muck Crops Branch in the 1982 season. Cultural information and tabular data summary are included in the following:

Cultural Information

Seed was sown in flats in the greenhouse in early April, seedlings were transplanted into 080A Speedling flats, and the celery was transplanted into the field on June 11, 1982.

Eight hundred pounds of a 6-24-12 fertilizer were applied and disked in prior to planting. Side-dressing of ammonium nitrate (100 lb/A) was made twice during the second and fourth week of planting.

Randomized replicated plots consisted of paired rows spaced 34 inches, with 40 inches between the paired rows for equipment clearance. Plants were spaced 6.5 inches in the row, with 110 plants per 30 foot double-row plot and replicated five times for each cultivar.

Standard insecticide and fungicide sprays were applied regularly throughout the season.

Celery was harvested on September 10, 1982. Data on total yield, stalk size, trim loss, length and number of petioles are listed in Table 1.

Seed Sources

We would like to acknowledged that each seed company donated the seed for these celery cultivar studies.

Harris Seed Co. - Clean Cut, Tall Green Light
(AGRI) Keystone Seed Co. - Grande, Earlibelle, June Bell
Ferry-Morse Seed Co. - Tall Utah 52-70 R Improved, Tall Utah 52-75, Tendercrisp, Florida 683, Surepak, Summit, FM 1213, 15C-41
Abbott & Cobb, Inc. - ACX 80281, Strain 2.13
Asgrow Seed Co. - Florigreen

Results

Florida 683, FM 1213, Tall Utah 52-70 R Improved, and Tall Green Light were the four highest yielding cultivars. Other cultivars also had excellent yields. The cultivar with the longest petiole first node length were FM 1213, Tall Green Light, Florigreen, and Clean Cut.
TABLE 1 - CELERY CULTIVARS - 1982

<table>
<thead>
<tr>
<th>Rank &amp; Variety</th>
<th>Average Yield/Plot-Marketable</th>
<th>Petiole count 4&quot; length</th>
<th>Petiole butt no. overall</th>
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<tr>
<td></td>
<td>trimmed weight (lb.)</td>
<td>untrimmed weight (lb.)</td>
<td>Avg. loss stalk (lb.)</td>
</tr>
<tr>
<td></td>
<td>overall length (in.)</td>
<td>Petiole butt no.</td>
<td>1st node length (in.)</td>
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<tr>
<td>1. Florida 683</td>
<td>204</td>
<td>296</td>
<td>31</td>
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<tr>
<td>2. FM 1213</td>
<td>202</td>
<td>318</td>
<td>36</td>
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<tr>
<td>3. Tall Utah 52-70 RImp. 190</td>
<td>321</td>
<td>41</td>
<td>2.2</td>
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<td>4. Tall Green Light</td>
<td>187</td>
<td>323</td>
<td>42</td>
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<td>5. Junebell</td>
<td>185</td>
<td>289</td>
<td>36</td>
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<tr>
<td>6. Clean Cut</td>
<td>184</td>
<td>303</td>
<td>39</td>
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<tr>
<td>7. Tendercrisp</td>
<td>184</td>
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<td>8. Earlibell</td>
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<td>9. Strain 2.13</td>
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<td>10. Grande</td>
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<td>11. 15C-41</td>
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<td>12. Summit</td>
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<td>13. ACX 80281</td>
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<td>14. Surepak</td>
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<td>15. Tall Utah 52-75</td>
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<td>245</td>
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<td>16. Florigreen</td>
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<td>273</td>
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<td>LSD 5%</td>
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Introduction

Ten entries were evaluated at the OARDC Muck Crops Branch at Celeryville in 1982. These included Katahdin as a mid-season standard.

Procedure

Plots were planted on May 13. The spacing in the plots was a double row 32 inches apart, skip 40 inches to the next double row, and seedpieces were spaced 11 inches apart in the row. Plots were a double row 25 feet long. Fertilizer was broadcast before planting at a rate of 850 pounds per acre of 6-24-12. Temik was the systemic insecticide used at planting.

Plots were harvested on September 22. The tubers were graded for B's and culls. Five tubers from each replicate were cut to evaluate hollow heart and internal necrosis.

Results

NY 59, Belchip, Neb. A129.69-1, and W 718 produced the highest yields in that order. NY 59 did not show any internal necrosis in the tubers. 1982 was the first year it was in the trial on muck. Belchip had good shape and few culls on the muck. Neb. A129.69-1 has generally had low yields in this trial. W 718 had led in yield for 6 years in this trial and had an excellent yield this year. Denali has generally produced low yields on muck soils. The cultivars with the most hollow heart were Russette, 56%; W 718, 52%; Jemseg, 32%; and Neb. A129.69-1, 30%.

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1. Assistant Professor of Horticulture, Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, Ohio 44691.
TABLE. Yield and grade characteristics of entries in Celeryville Muck Trials.

<table>
<thead>
<tr>
<th>Entry</th>
<th>Total</th>
<th>U.S. No. 1</th>
<th>U.S. No. 1</th>
<th>B-Size</th>
<th>Cull</th>
<th>H.H.</th>
<th>Nec.</th>
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<td>NY 59</td>
<td>563</td>
<td>530</td>
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<td>4.0</td>
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<td>Belchip</td>
<td>505</td>
<td>475</td>
<td>94.1</td>
<td>2.3</td>
<td>3.6</td>
<td>0</td>
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<tr>
<td>Neb. A129.69-1</td>
<td>493</td>
<td>468</td>
<td>94.8</td>
<td>3.2</td>
<td>2.0</td>
<td>30.0</td>
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<tr>
<td>W 718</td>
<td>469</td>
<td>444</td>
<td>94.7</td>
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<td>2.5</td>
<td>52.0</td>
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<td>AK 114</td>
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<td>Katahdin</td>
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<td>1.4</td>
<td>20.0</td>
<td>0</td>
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<td>Denali</td>
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<td>388</td>
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<td>6.3</td>
<td>4.8</td>
<td>20.0</td>
<td>0</td>
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<tr>
<td>Russette</td>
<td>334</td>
<td>251</td>
<td>75.2</td>
<td>7.6</td>
<td>17.2</td>
<td>56.0</td>
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</table>
Six different types and size trays were compared to the standard bare-root celery transplant. Three varieties were used to provide a broader inference.

Cultural Information

Eight hundred sixty pounds of a 6-24-24 fertilizer was applied and disced in prior to planting. Seeds were presprouted in a pan and later transplanted into the various treatments.

All trays were fed liquid fertilizer once weekly with Peter's 15-16-17 fertilizer. Soil media was Redi-Earth provided by W. R. Grace Company.

All transplanting into the field was accomplished by using the standard bare-root planter. Standard cultural practices were applied to the plots as needed. Side dressing of ammonium nitrate (100 lb/acre) was made twice during the growing season, four and six weeks after field transplanting.

Treatment evaluations were conducted in the field as celery was cut.

Results

Transplanting into the flats versus transplanting into muck beds is much slower. However, as time went on the difference was greatly reduced.

Growing time was cut by as much as two weeks, depending on fertilizer practices, with the soilless mix over the muck beds.

Direct seeding in the various trays were tried and found to produce eighty percent germination. Transplanting into the field could be done with the standard bare-root planter except for the jiffy pots, which were set by hand. However, a slight adjustment is needed to support the root system on the various trays, so speed can be maintained with that of the bare-root.

Harvest time was not reduced using the transplant over bare-root. However, uniformity was greater in all the various tray sizes over the bare-root. This was the reason for the difference in the weight per stalk as found in the table.

1. Assistant Professor of Horticulture, The Ohio State University, Muck Crops Branch, Willard, OH 44890.
The difference between the various trays were not felt to be significant. Because of size of the tray and the number of cells per tray the Todd Planter flat 080A would be the most economical.

The soiless mix used should contain a wetting agent along with vermiculite for easy handling in the trays. Sand should not be a part of the mix. It makes the plants hard to remove from the tray.

<table>
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<th>TRAY SIZES</th>
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<td>Todd Flat 100A:  1&quot; X 1&quot; X 3&quot;</td>
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<td>Plastermore:     1&quot; X 1&quot; X 3&quot;</td>
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<tr>
<td>Jiffy Grays:     1&quot; X 1&quot; X 3&quot;</td>
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<tr>
<td>Jiffy Pots:      1-1/4&quot; X 1-1/4&quot; X 2&quot;</td>
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## CELERY TRANSPLANT STUDY 1982

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<th>UTAH 52-70R (untrimmed wt. (lb.)/stalk)</th>
<th>FLORIDA 683 (untrimmed wt. (lb.)/stalk)</th>
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Harvest dates represent:
- July 8 = Paper Celery
- August 1 = Transplanted the day Paper ended
- August 10 = Transplanted two weeks after Paper ended
Twenty-one cultivars of parsley varieties were compared in a replicated trial at the Muck Crops Branch in the 1982 season. Cultural information and tabular data summary are included in this report.

Cultural Information

Eight hundred sixty pounds of a 6-24-24 fertilizer was applied and disced in prior to planting. Seed was premeasured at the rate of sixteen pounds per acre and sown with a cone planter on June 3. Plots size consisted of three rows, eighteen feet long, spaced fifteen inches apart. Each cultivar was replicated four times. Standard cultural practices were applied to this plot as needed. Variety evaluations were conducted August 8, with the help of Holthouse Farms. Plots (10 feet of middle row) were harvested August 9.

Results

Moss Curl, Banquet and Deep Green were the best overall performing varieties. It was also important to note that varieties with the same name, but various sources performed differently. There was only one cut made on these varieties, therefore, their future grow back and harvests are not known.

1. Assistant Professor of Horticulture, The Ohio State University, Muck Crops Branch, Willard, OH 44890.
<table>
<thead>
<tr>
<th>Variety Name</th>
<th>Variety Source</th>
<th>Leaf Color</th>
<th>Variety Uniformity</th>
<th>Plant Size</th>
<th>Leaf Curl</th>
<th>Crates/acre (40 lb./crate)</th>
<th>Comments</th>
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Date Seeded: June 3, 1982  
Seed Rate: 16 lb. Acre  
Row Spacing: 15 inches between Rows  
Plot Length: 18 Feet/3 rows per plot  
No. of Replication: 4  
Date Harvested: August 9
### PARSLEY 1982 VARIETY TRIAL

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<th>Leaf Curl</th>
<th>Crates/acre (40 lb./crate)</th>
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Date Seeded: June 3, 1982  
Seed Rate: 16 lb. Acre  
Row Spacing: 15 inches between Rows  
Plot Length: 18 Feet/3 rows per plot  
No. of Replication: 4  
Date Harvested: August 9
Ninety-nine cultivars or promising breeding lines of onions were compared in replicated trials at the Muck Crops Branch in the 1982 growing season. Cultural information and tabular data summary are included in this report.

Cultural Information

Eight hundred sixty pounds of a 6-24-24 fertilizer was applied and disced in prior to planting. Seed was premeasured at the rate of three and one-half pounds per acre and sown with a cone planter on April 26 and 27. Plot size consisted of three rows, eighteen feet long, spaced fifteen inches apart. Each cultivar was replicated three times. Standard cultural practices were applied to this plot as needed. Variety evaluations were conducted throughout the growing season. Onions were harvested mid-September, graded and then placed in storage.

Results

Onion evaluations were conducted with the help of Wiers Farm, Inc., Buurma Farms, and Stambaugh Company. This was done in order to achieve a more uniform and useful evaluation. Yields were as high as 1,540 bags per acre (CKR N11) and as low as 260 bags per acre. The desired skin color was a medium color. The top 32 storage onions and the top 7 spanish onions are listed in order.

Two varieties that continue to rank in the top ten are Tecumseh and Russett. Spartan Banner 80 and Sweet Sandwich show a lot of promise due to the uniformity of both shape and size.

The spanish onions showed the greatest size and greatest percent of jumbos with Cima leading with the highest overall percentage. However, it was seeded at a lesser rate, requested by seed source. If jumbo onions are desired, seeding at the rate of two to two and one-half pounds per acre are recommended. It was also noted that a great percentage of the spanish varieties showed a high number of doubles.

For early harvests, Pronto S and Progress are the first to fall over and make size with Pronto S showing the highest yields.

1. Assistant Professor of Horticulture, The Ohio State University, Muck Crops Branch, Willard, OH 44890.
## STORAGE ONIONS 1982 VARIETY TRIALS

<table>
<thead>
<tr>
<th>Variety Source</th>
<th>Variety Source</th>
<th>Overall Appearance</th>
<th>Skin Color</th>
<th>Scale Retention</th>
<th>Bulb Size</th>
<th>Uniformity Shape</th>
<th>Firmness Size</th>
<th>Marketable per acre 50 lbs. per bag</th>
<th>&quot;B&quot; (Small) 50 lbs. per bag</th>
<th>Jumbo's (Greater than 3&quot;) % of Marketables</th>
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Date Seeded: April 26 and 27, 1982
Seed Rate: 3.5 lb. acre
Row Spacing: 15 inches between rows
Plot Length: 18 feet/3 rows per plot
No. of Replication: 3
### STORAGE ONIONS 1982 VARIETY TRIALS

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<th>Variety Source</th>
<th>External Characteristics</th>
<th>Firmness</th>
<th>Marketable</th>
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<th>Jumbo's (Greater than 3&quot;)</th>
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Date Seeded: April 26 and 27, 1982  
Seed Rate: 3.5 lb. acre  
Row Spacing: 15 inches between rows  
Plot Length: 18 feet/3 rows per plot  
No. of Replication: 3
## STORAGE ONIONS 1982 VARIETY TRIALS

<table>
<thead>
<tr>
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<th>Variety Source</th>
<th>Overall Appearance</th>
<th>Skin Color 1=poor, 5=good</th>
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<th>Bulb Size 1=poor, 5=lg.</th>
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<th>50 lbs. per bag</th>
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**Date Seeded:** April 26 and 27, 1982  
**Seed Rate:** 3.5 lb. acre  
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**Plot Length:** 18 feet/3 rows per plot  
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<th>Variety Source</th>
<th>Variety Source</th>
<th>Overall Appearance</th>
<th>Skin Color</th>
<th>Scale Retention</th>
<th>Bulb Size</th>
<th>Uniformity Size</th>
<th>Firmness</th>
<th>Marketable per acre</th>
<th>&quot;B&quot; (Small) per bag</th>
<th>Jumbo's (Greater than 3&quot;)</th>
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Date Seeded: April 26 and 27, 1982
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Plot Length: 18 feet/3 rows per plot
No. of Replication: 3
### STORAGE ONIONS 1982 VARIETY TRIALS

<table>
<thead>
<tr>
<th>Variety Source</th>
<th>Variety Source</th>
<th>Overall Appearance</th>
<th>Skin Color</th>
<th>Scale Retention</th>
<th>Bulb Size</th>
<th>Uniformity Shape</th>
<th>Firmness</th>
<th>Marketable per acre 50 lbs. per bag</th>
<th>&quot;B&quot; (Small) per acre 50 lbs. per bag</th>
<th>Jumbo's (Greater than 3&quot;) % of Marketable</th>
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<th>Uniformity Size</th>
<th>Firmness</th>
<th>Marketable</th>
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<td>4.33</td>
<td>4.00</td>
<td>3.83</td>
<td>3.33</td>
<td>592</td>
<td>108</td>
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</tr>
<tr>
<td>ORO</td>
<td>Dessert</td>
<td>3.50</td>
<td>3.33</td>
<td>3.33</td>
<td>4.33</td>
<td>4.00</td>
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<tr>
<td>Keepsweet</td>
<td>A &amp; C</td>
<td>1.83</td>
<td>2.17</td>
<td>2.00</td>
<td>4.00</td>
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<td>3.33</td>
<td>3.33</td>
<td>1,157</td>
<td>53</td>
<td>22</td>
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</tbody>
</table>

Date Seeded: April 26 and 27, 1982
Seed Rate: 3.5 lb. acre
Row Spacing: 15 inches between rows
Plot Length: 18 feet/3 rows per plot
No. of Replication: 3
August 15 - Varieties down
100 percent - 611 Progress
50 percent - 121-81
613 Mustang

August 23 - Varieties down
100 percent - 121-81
FPOCH 38433 92000
Tavrus
614 Nutmeg
ABCO
611 Progress
615 Early Yellow Globe
XPH 194N
Topas
Mucker
DEXP 79-293-3
613 Mustang
75 percent - 115-82
CRK H405
XPH 688
XPH 23
D 5542
Apollo
210A Tecumseh
Spartan Banner 1
50 percent - Better Banner

September 8 - Still standing
134-81
A & C #195
Gringo 222B
Keepsweet
EXP MCX 1008
AV 3365
141-81
628 Surecrop

Poor stand -
SPARTAN
Better Banner
DEYG 156
DEXP 81-479-4
A & C #195

Variety defects at grading -
613 Mustang - doubles
AV 3365 - growth and doubles
H81 ACX 555 - rotten and doubles
DVG 156 - doubles
614 Nutmeg - doubles
Gringo 222B - growth and doubles
Bronze Age - doubles
H81 ACX 58-6 - rotten
## SPANISH CROSSED ONIONS 1982 VARIETY TRIALS

<table>
<thead>
<tr>
<th>Variety Source</th>
<th>Overall Appearance</th>
<th>Skin Color</th>
<th>Scale Retention</th>
<th>Bulb Size</th>
<th>Uniformity Shape</th>
<th>Firmness</th>
<th>Marketable per acre</th>
<th>&quot;B&quot; (Small)</th>
<th>Jumbo's (Greater than 3&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XPH 419 (Vega)</td>
<td>3.33</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>2.67</td>
<td>3.33</td>
<td>1,410</td>
<td>58</td>
<td>24</td>
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<tr>
<td>XPH 537</td>
<td>3.33</td>
<td>3.00</td>
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<td>3.33</td>
<td>3.67</td>
<td>3.33</td>
<td>1,287</td>
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<td>AV 1241</td>
<td>3.33</td>
<td>2.92</td>
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<td>3.83</td>
<td>3.67</td>
<td>4.33</td>
<td>1,106</td>
<td>18</td>
<td>37</td>
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<td>CIMA*</td>
<td>3.33</td>
<td>3.50</td>
<td>3.33</td>
<td>4.17</td>
<td>3.67</td>
<td>3.17</td>
<td>1,361</td>
<td>0</td>
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<td>DEXP G2</td>
<td>3.17</td>
<td>3.50</td>
<td>3.67</td>
<td>2.83</td>
<td>2.67</td>
<td>3.75</td>
<td>1,090</td>
<td>77</td>
<td>5</td>
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<td>DEXP G1</td>
<td>3.17</td>
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<td>1,396</td>
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<tr>
<td>XPH 553</td>
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<td>3.33</td>
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<td>1,152</td>
<td>35</td>
<td>17</td>
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<tr>
<td>Pronto S</td>
<td>2.67</td>
<td>3.00</td>
<td>2.33</td>
<td>2.67</td>
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<td>RIALTO</td>
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<td>2.67</td>
<td>2.67</td>
<td>2.33</td>
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<td>3.00</td>
<td>1,043</td>
<td>93</td>
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<td>XPH 673 (Yula)</td>
<td>1.83</td>
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<td>2.00</td>
<td>2.33</td>
<td>3.00</td>
<td>3.67</td>
<td>1,431</td>
<td>100</td>
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<tr>
<td>XPH 428 (Armada)</td>
<td>2.50</td>
<td>3.00</td>
<td>2.67</td>
<td>3.00</td>
<td>3.33</td>
<td>3.00</td>
<td>1,515</td>
<td>42</td>
<td>26</td>
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<td>XPH 25</td>
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<td>3.50</td>
<td>3.00</td>
<td>2.83</td>
<td>3.00</td>
<td>2.67</td>
<td>1,117</td>
<td>95</td>
<td>10</td>
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<td>Granada</td>
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<td>3.00</td>
<td>2.00</td>
<td>2.33</td>
<td>3.00</td>
<td>1,561</td>
<td>65</td>
<td>2</td>
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<td>XPH 691</td>
<td>2.67</td>
<td>4.17</td>
<td>4.00</td>
<td>2.33</td>
<td>3.00</td>
<td>4.00</td>
<td>1,055</td>
<td>97</td>
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</table>

Date Seeded: April 26 and 27, 1982
Seed Rate: 3.5 lb. acre *2.5 lb. acre
Row Spacing: 15 inches between rows
Plot Length: 18 feet/3 rows per plot
No. of Replication: 3
## SPANISH CROSSED ONIONS 1982 VARIETY TRIALS

<table>
<thead>
<tr>
<th>Variety Source</th>
<th>Variety Source</th>
<th>Overall Appear. 1=poor 1=good</th>
<th>Skin Color 1=1t. 5=dk.</th>
<th>Scale Retention 1=poor 5=good</th>
<th>Bulb Size 1=soft 5=firm</th>
<th>Uniformity 1=poor 5=good</th>
<th>Firmness 1=soft 5=firm</th>
<th>Marketable per acre 50 lbs. per bag</th>
<th>&quot;B&quot; (Small) per acre 50 lbs. per bag</th>
<th>Jumbo's (Greater than 3&quot;) % of Marketables</th>
</tr>
</thead>
<tbody>
<tr>
<td>XPH 739</td>
<td>Asgrow</td>
<td>2.67</td>
<td>3.00</td>
<td>2.67</td>
<td>2.50</td>
<td>3.33</td>
<td>2.67</td>
<td>3.33</td>
<td>1,529</td>
<td>53</td>
</tr>
<tr>
<td>Reliance</td>
<td>Dessert</td>
<td>2.33</td>
<td>3.33</td>
<td>2.67</td>
<td>3.33</td>
<td>2.67</td>
<td>3.83</td>
<td>1,078</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Ultimate</td>
<td>Dessert</td>
<td>2.67</td>
<td>3.00</td>
<td>2.67</td>
<td>2.83</td>
<td>2.33</td>
<td>3.33</td>
<td>1,159</td>
<td>30</td>
<td>33</td>
</tr>
<tr>
<td>Magnum</td>
<td>Dessert</td>
<td>2.83</td>
<td>3.00</td>
<td>2.50</td>
<td>4.17</td>
<td>2.67</td>
<td>3.33</td>
<td>1,579</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td>Golden Cascade</td>
<td>Dessert</td>
<td>2.67</td>
<td>3.00</td>
<td>2.00</td>
<td>3.83</td>
<td>3.00</td>
<td>3.00</td>
<td>1,375</td>
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<td>38</td>
</tr>
</tbody>
</table>

**Date Seeded:** April 26 and 27, 1982  
**Seed Rate:** 3.5 lb. acre *2.5 lb. acre  
**Row Spacing:** 15 inches between rows  
**Plot Length:** 18 feet/3 rows per plot  
**No. of Replication:** 3
SPANISH CROSSED ONIONS 1982
COMMENTS ON FIELD OBSERVATIONS

August 15 - Varieties down
100 percent - Pronto S
75 percent - XPH 25
50 percent - XPH 691
XPH 673 (Yula)

August 23 - Varieties down
100 percent - XPH 537
75 percent - RIALTO
50 percent - Golden Cascade

September 8 - Still standing
XPH 428 (Armada)
XPH 419 (Vega)
Reliance
AV 1241
C1MA

Varieties with "NO" doubles -
DEXP G2
Magnum
Golden Cascade
DEXP G1
XPH 691
BROCCOLI VARIETY TRIALS - 1982

Muck Crops Branch, Celeryville, Ohio
Richard L. Hassell

Fifty-five cultivars or promising breeding lines of broccoli were compared on three different planting dates in replicated trials at the Muck Crops Branch in the 1982 growing season. Cultural information and tabular data summaries are included in this report.

Cultural Information

Eight hundred sixty pounds of 6-24-24 fertilizer was applied and disced in prior to planting.

Transplants were grown in Todd Planter Flats 125. Soilless media was Redi Earth provided by W. R. Grace Company. Liquid fertilizer was applied weekly (15-16-17). Greenhouse temperatures were maintained at 75°F. - 65°F. Transplanting was accomplished with a standard bare-root planter.

Direct seeding in the field was done with a cone planter. Seed was premeasured in advance. Summer planting was done on raised beds while the fall sowing was not.

Side dressing of ammonium nitrate (100 lb/acre) was made twice during the growing season on each of the three plantings. The second was made just prior to head formation.

Standard cultural practices were applied to each plot as needed. All harvesting was done by hand and each head was handled separately.

Results

Green Surf was the earliest spring maturing variety with good uniformity in both head size and number harvested. However, the quality was not there in the summer and fall trials. Prominence, Green Hornet, Excalibur, and Premium Crop shows a great deal of promise in all three plantings with tight heads and uniform harvests.

The tables indicate only those varieties that show promise with exceptible yields.

1. Assistant Professor of Horticulture, The Ohio State University, Muck Crops Branch, Willard, OH 44890.
## BROCCOLI VARIETY TRIALS - 1982
### (Spring Transplant)

<table>
<thead>
<tr>
<th>Variety Name</th>
<th>Harvest Period</th>
<th>Head Color</th>
<th>Head Size</th>
<th>Head Dia. (in.)</th>
<th>Stem Length (in.)</th>
<th>Average Weight per Head (lbs.)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Comet</td>
<td>6/21</td>
<td>Blue-green</td>
<td>Medium</td>
<td>5</td>
<td>5</td>
<td>1/2</td>
<td>Tight head, very uniform and attractive.</td>
</tr>
<tr>
<td>Premium Crop</td>
<td>6/28-7/1</td>
<td>Blue-green</td>
<td>Medium</td>
<td>6</td>
<td>6</td>
<td>1/2 - 3/4</td>
<td>Tight head and attractive.</td>
</tr>
<tr>
<td>Green Hornet</td>
<td>6/21-24</td>
<td>Blue-green</td>
<td>Small</td>
<td>5</td>
<td>5</td>
<td>1/2</td>
<td>Tight head, uniform and attractive.</td>
</tr>
<tr>
<td>Green Duke</td>
<td>6/24-7/1</td>
<td>Green</td>
<td>Small</td>
<td>5</td>
<td>6</td>
<td>3/4</td>
<td>Tight head and very attractive.</td>
</tr>
<tr>
<td>Emperor</td>
<td>6/24-7/1</td>
<td>Blue-green</td>
<td>Medium-Medium</td>
<td>5</td>
<td>5</td>
<td>1/2</td>
<td>Tight head, fairly uniform and attractive.</td>
</tr>
<tr>
<td>Excalibèr</td>
<td>6/17-21</td>
<td>Blue-green</td>
<td>Large</td>
<td>6</td>
<td>3 - 4</td>
<td>3/4</td>
<td>Tight, leafy head, fairly uniform.</td>
</tr>
<tr>
<td>(XP 1287 (Pc 81466)</td>
<td>6/21-24</td>
<td>Blue-green</td>
<td>Medium</td>
<td>5</td>
<td>5</td>
<td>1/2</td>
<td>Leafy head, fairly uniform.</td>
</tr>
<tr>
<td>Apollo</td>
<td>6/21-24</td>
<td>Green</td>
<td>Small</td>
<td>6</td>
<td>6</td>
<td>1/2</td>
<td>Leafy head.</td>
</tr>
<tr>
<td>AP 931 (Pc 81460)</td>
<td>6/17-24</td>
<td>Blue-green</td>
<td>Medium</td>
<td>5 - 6</td>
<td>6½</td>
<td>3/4</td>
<td>Loose, leafy head.</td>
</tr>
<tr>
<td>Futura</td>
<td>6/17-7/1</td>
<td>Blue-green</td>
<td>Medium</td>
<td>5</td>
<td>7</td>
<td>1/2</td>
<td>Tight, leafy head and not uniform.</td>
</tr>
<tr>
<td>VGV 3362</td>
<td>6/17-7/5</td>
<td>Blue-green</td>
<td>Medium</td>
<td>6</td>
<td>6</td>
<td>1/2</td>
<td>Loose head and not very attractive.</td>
</tr>
</tbody>
</table>

Greenhouse seeded: March 3, 1982
Field transplanted: April 23, 1982
Row spacing: 32 inches between rows
12 inches between plants
Plot Length: 20 feet long
No. of replication: 4
<table>
<thead>
<tr>
<th>Variety Name</th>
<th>Harvest Period</th>
<th>Head Color</th>
<th>Head Size</th>
<th>Stem Length (in.)</th>
<th>Average Weight per Head (lbs.)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGV 349</td>
<td>6/17-24</td>
<td>Blue-green</td>
<td>Medium</td>
<td>5</td>
<td>6</td>
<td>1/4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Loose head, not very uniform.</td>
</tr>
<tr>
<td>Cursair</td>
<td>6/17-7/1</td>
<td>Blue</td>
<td>Large</td>
<td>5</td>
<td>5</td>
<td>1/2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Loose head, not uniform.</td>
</tr>
<tr>
<td>No. 2</td>
<td>6/21-24</td>
<td>Blue-green</td>
<td>Small</td>
<td>5</td>
<td>6</td>
<td>1/2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very tight head, not uniform.</td>
</tr>
</tbody>
</table>

Greenhouse seeded: March 3, 1982
Field transplanted: April 23, 1982
Row spacing: 32 inches between rows
12 inches between plants
Plot Length: 20 feet long
No. of replication: 4
<table>
<thead>
<tr>
<th>Variety Name</th>
<th>Head Color</th>
<th>Bead Size</th>
<th>Head Dia. (in.)</th>
<th>Stem Length (in.)</th>
<th>Average Weight per Head (lbs.)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prominence</td>
<td>Green-blue</td>
<td>Medium</td>
<td>5</td>
<td>6</td>
<td>1/2</td>
<td>Very tight head, very uniform size and attractive.</td>
</tr>
<tr>
<td>Green Hornet</td>
<td>Blue-green</td>
<td>Medium</td>
<td>5</td>
<td>6 1/2</td>
<td>1/2</td>
<td>Tight head, very uniform size and attractive.</td>
</tr>
<tr>
<td>Green Comet</td>
<td>Blue</td>
<td>Large</td>
<td>6</td>
<td>7 1/2</td>
<td>1/2</td>
<td>Tight head, uniform size, saleable.</td>
</tr>
<tr>
<td>Excalibur</td>
<td>Blue-green</td>
<td>Large</td>
<td>5</td>
<td>8</td>
<td>1/2</td>
<td>Average tightness, uniform size and attractive.</td>
</tr>
<tr>
<td>Emperor</td>
<td>Blue-green</td>
<td>Medium</td>
<td>4</td>
<td>5</td>
<td>1/4</td>
<td>Average tightness, uniform size and saleable.</td>
</tr>
<tr>
<td>Green Umbrella</td>
<td>Blue-green</td>
<td>Medium</td>
<td>5</td>
<td>7</td>
<td>1/2</td>
<td>Loose head, very uniform and saleable.</td>
</tr>
<tr>
<td>Premium Crop</td>
<td>Blue-green</td>
<td>Medium</td>
<td>6</td>
<td>6</td>
<td>1/2</td>
<td>Average tightness, uniform size and saleable.</td>
</tr>
</tbody>
</table>

Field seeded: May 4, 1982  
Seed rate: 1 lb. per acre  
Row spacing: 13 inches between rows  
8 inches between plants  
Plot length: 18 feet/2 rows per plot  
No. of replication: 3
# BROCCOLI VARIETY TRIALS - 1982
## (Fall Trials)
## (Direct Seeded)

## Variety Name | Harvest Period | Head Color | Head Size | Head Dia. (in.) | Stem Length (in.) | Average Weight per Head (lbs.) | Comments
---|---|---|---|---|---|---|---
Corsair | 10/5-12 | Green | Small | 4\(\frac{1}{2}\) | 6 | 1/2 | Loose head, not saleable.
Green Surf | 10/5-12 | Green | Small | 6 | 6 | 3/4 | Loose head, very uniform, saleable.
235 Prominence | 10/5-12 | Blue | Small | 6\(\frac{1}{2}\) | 6 | 1/2 | Tight head, very uniform and attractive.
Premium Crop | 10/12-15 | Blue-green | Medium | 6 | 5\(\frac{1}{2}\) | 3/4 | Tight head, very uniform and very attractive.
Excalibur | 10/5-15 | Blue-green | Large | 6 | 5 | 1/2 | Leafy head, fairly uniform and saleable.
Bravo 51D | 10/5-8 | Blue-green | Medium | 5 | 6 | 1/2 | Uniform and attractive.
Green Hornet (51E) | 10/5-15 | Blue-green | Medium | 7 | 5 | 1/2 | Tight head and very attractive.
Experimenta YHYB No. 7631 | 10/8-15 | Blue-green | Small-Medium | 5 | 6 | 1/2 | Leafy head and very attractive.
Citation | 10/12-15 | Blue-green | Small | 6 | 5 | 1/2 | Uniform and attractive.
Hyb. No. 7631 | 10/12-15 | Blue-green | Small | 6 | 6 | 3/4 | Tight head, uniform and saleable.
Dandy Early | 10/5-15 | Blue-green | Small-Medium | 7 | 5\(\frac{1}{2}\) | 1/2 | Attractive and fairly uniform.
Surfer Fl RS | 10/12-15 | Blue-green | Medium | 5 | 5 | 3/4 | Tight head and very attractive.

**Field seeded:** July 21, 1982  
**Seed rate:** 1 lb. per acre  
**Row spacing:** 13 inches between rows  
8 inches between plants  
**Plot length:** 18 feet 13 rows per plot  
**No. of replication:** 3
<table>
<thead>
<tr>
<th>Variety</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No. 1</td>
<td>Stokes</td>
</tr>
<tr>
<td>2. No. 2</td>
<td>&quot;</td>
</tr>
<tr>
<td>3. No. 66S</td>
<td>&quot;</td>
</tr>
<tr>
<td>4. Corsair</td>
<td>Harris</td>
</tr>
<tr>
<td>5. Green Surf.</td>
<td>&quot;</td>
</tr>
<tr>
<td>6. 235 Prominence.</td>
<td>&quot;</td>
</tr>
<tr>
<td>7. Green Comet</td>
<td>&quot;</td>
</tr>
<tr>
<td>8. Premium Crop.</td>
<td>&quot;</td>
</tr>
<tr>
<td>9. Excaliber</td>
<td>&quot;</td>
</tr>
<tr>
<td>10. (X P1287) (Pc 81466)</td>
<td>Asgrow</td>
</tr>
<tr>
<td>11. Gem VG-) 3492) (5.5)</td>
<td>&quot;</td>
</tr>
<tr>
<td>12. XP1127) (Pc 81464)</td>
<td>&quot;</td>
</tr>
<tr>
<td>13. Apollo) VGV244-2 (6.5)</td>
<td>&quot;</td>
</tr>
<tr>
<td>14. XP 931) (Pc81460)</td>
<td>&quot;</td>
</tr>
<tr>
<td>15. Orlon (VGY 336.2 (6.5)</td>
<td>&quot;</td>
</tr>
<tr>
<td>16. XP1117) (Pc80 344)</td>
<td>&quot;</td>
</tr>
<tr>
<td>17. (Futura) (VGV 2272) (6.5)</td>
<td>&quot;</td>
</tr>
<tr>
<td>18. Cleopatra 51A</td>
<td>Stokes</td>
</tr>
<tr>
<td>19. Bravo 51D</td>
<td>&quot;</td>
</tr>
<tr>
<td>20. Green Hornet (51E)</td>
<td>&quot;</td>
</tr>
<tr>
<td>21. Premium Crop (51C)</td>
<td>&quot;</td>
</tr>
<tr>
<td>22. Em Peror) 40028-8A03</td>
<td>Northrup King Company</td>
</tr>
<tr>
<td>23. Shogun) 88201) 400Z2</td>
<td>&quot;</td>
</tr>
<tr>
<td>24. NK X 501) 40025-8-7902)</td>
<td>&quot;</td>
</tr>
<tr>
<td>25. NK X 502) 40025-90200</td>
<td>&quot;</td>
</tr>
<tr>
<td>27. Green Comet</td>
<td>&quot;</td>
</tr>
<tr>
<td>28. Green Valiant Xize 5.5</td>
<td>&quot;</td>
</tr>
<tr>
<td>29. Green Duke.</td>
<td>&quot;</td>
</tr>
<tr>
<td>30. VGV3362 (5.5)</td>
<td>Asgrow</td>
</tr>
<tr>
<td>31. VGV 2201.</td>
<td>&quot;</td>
</tr>
<tr>
<td>32. VGV 349 Size 6.5.</td>
<td>&quot;</td>
</tr>
<tr>
<td>33. VGV 4093 Size 5.5</td>
<td>&quot;</td>
</tr>
<tr>
<td>34. Experimenta YHYB No. 7631</td>
<td>Keystone</td>
</tr>
<tr>
<td>35. Emperor 40028-87903</td>
<td>&quot;</td>
</tr>
<tr>
<td>36. Green Valiant</td>
<td>&quot;</td>
</tr>
<tr>
<td>37. Green Duke.</td>
<td>&quot;</td>
</tr>
<tr>
<td>38. Shogun Exp.</td>
<td>&quot;</td>
</tr>
<tr>
<td>39. Excalibur</td>
<td>Moran</td>
</tr>
<tr>
<td>40. Cursair</td>
<td>&quot;</td>
</tr>
<tr>
<td>41. Citation</td>
<td>&quot;</td>
</tr>
<tr>
<td>42. Bravo</td>
<td>Northrup King Company</td>
</tr>
<tr>
<td>43. Artic</td>
<td>Dessert</td>
</tr>
<tr>
<td>44. Green Umbrella.</td>
<td>&quot;</td>
</tr>
<tr>
<td>45. Prominence.</td>
<td>Takii</td>
</tr>
<tr>
<td>46. Hyb. No. 7631</td>
<td>Keystone</td>
</tr>
<tr>
<td>47. Rex</td>
<td>Ferry Morse</td>
</tr>
<tr>
<td>48. Dandy Early</td>
<td>Keystone</td>
</tr>
<tr>
<td>49. Buncher</td>
<td>&quot;</td>
</tr>
<tr>
<td>50. Parasol</td>
<td>Stokes</td>
</tr>
<tr>
<td>51. Irish Head.</td>
<td>&quot;</td>
</tr>
<tr>
<td>52. Surfer F1 RS.</td>
<td>Liberty</td>
</tr>
<tr>
<td>53. Laser F1 RS</td>
<td>&quot;</td>
</tr>
<tr>
<td>54. Kayak F1 RS</td>
<td>&quot;</td>
</tr>
<tr>
<td>55. Cruiser F1 RS</td>
<td>&quot;</td>
</tr>
</tbody>
</table>
CARROT VARIETY TEST 1982

Muck Crops Branch, Celeryville, Ohio
R. Mack Riedel¹ and Richard C. Henne²

Results

The yields were very good this year from this site, and we were
comparable to carrot yields in other parts of the state. The stands
were good to high (actual stand counts were not made but several plots
checked gave approximately 16 roots/ft. of row). There were no growth
cracks or rot so all culls were due to forking. In general, I did not
observe the severe gauling we have observed at this site in past years.
It may be that the nematode population was low in 1982, and the main
effect was induction of forking and some stubby roots.

No variety or line had significantly fewer forks than the standards,
Danvers or Camden; Imperator had significantly more forks.

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OH 43210
². Director, Pest Management Research, Campbell Institute for Research
and Technology, Napoleon, OH 43545
Table 1. Evaluation of Several Carrot Varieties Grown in Nematode-infested Soil at Celeryville, Ohio -- 1982.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Yield, Tons/Acre</th>
<th>No. of Bolters per 20' plot</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Marketable</td>
<td>% Forks</td>
</tr>
<tr>
<td>SDC 843</td>
<td>65</td>
<td>39</td>
</tr>
<tr>
<td>SDC 955</td>
<td>47</td>
<td>30</td>
</tr>
<tr>
<td>SDC 971</td>
<td>39</td>
<td>21</td>
</tr>
<tr>
<td>SDC 972</td>
<td>36</td>
<td>20</td>
</tr>
<tr>
<td>SDC 973</td>
<td>48</td>
<td>29</td>
</tr>
<tr>
<td>SDC 974</td>
<td>51</td>
<td>31</td>
</tr>
<tr>
<td>SDC 975</td>
<td>54</td>
<td>32</td>
</tr>
<tr>
<td>SDC 977</td>
<td>48</td>
<td>33</td>
</tr>
<tr>
<td>Camden (Key '81)</td>
<td>46</td>
<td>27</td>
</tr>
<tr>
<td>Imperator B11B (81-26)</td>
<td>43</td>
<td>23</td>
</tr>
<tr>
<td>Danvers 126</td>
<td>49</td>
<td>33</td>
</tr>
<tr>
<td>Bayes LSD 5%</td>
<td>11.2</td>
<td>8.9</td>
</tr>
<tr>
<td>C.V.</td>
<td>9.8%</td>
<td>12.8%</td>
</tr>
</tbody>
</table>

Note: This trial was a cooperative study with Dr. M. Riedel, The Ohio State University, and Mr. R. Hassell, Station Manager at Celeryville, Ohio. This area is a muck soil that has been set aside as a nematode nursery and has a history of high nematode populations.

The trial was harvested by hand and roots were graded as marketable (over 1\frac{1}{2}" diameter), small (under 1\frac{1}{2}" diameter), and culls. There were virtually no growth cracks or rot, so culls represent forked roots only. There was not a great deal of root gauling in this test.
CONTROL OF EARLY BLIGHT OF CELERY WITH FUNGICIDES, 1982: A plot was established on organic "muck" soil (Rifle Peat) at Celeryville, Ohio to test several fungicides for early blight control. A completely randomized design with four replications was used. Each replicate consisted of two rows 50 ft long and 32 inches apart separated by two unsprayed rows. Eight-week-old transplants were set 6 inches apart on May 17. Standard commercial fertility, weed and insect control procedures were used throughout the test. Fungicides were applied weekly beginning on Jul 1 with a tractor-mounted, 2-row, boom sprayer with two Tee Jet disc-core D4-25 nozzles per row. Sprays were applied at 70 psi at a rate of 50 gal/A. Rainfall was near normal in June (5.34 inches) but quite low in Jul (2.37 inches) and Aug (2.38 inches). Supplementary irrigation was applied during dry periods. Temperatures were near normal for this location. Cercospora lesions were first observed in the plot on Jul 6 and all treatments were evaluated on Aug 23.

Early blight development in the plot was severe. The best control occurred with Benlate plus Bravo. Other combinations of Benlate or Topsin M with Bravo or Dithane M-45 were also effective. Interestingly, increasing the spray interval to 14 days greatly decreased control with the Benlate/Bravo combination but not with Topsin M/Bravo. Dyrene gave poor control in the wettable formulation but reasonably good control as a flowable.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate/A</th>
<th>Spray interval (days)</th>
<th>Disease index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tilt 3.6EC</td>
<td>4 oz</td>
<td>7</td>
<td>2.4 ABC²</td>
</tr>
<tr>
<td>Tilt 3.6EC</td>
<td>8 oz</td>
<td>7</td>
<td>1.4 AB</td>
</tr>
<tr>
<td>Dyrene 4F</td>
<td>6 pt</td>
<td>7</td>
<td>1.4 AB</td>
</tr>
<tr>
<td>Dyrene 50W</td>
<td>3 lb</td>
<td>7</td>
<td>2.8 BC</td>
</tr>
<tr>
<td>Super - Tin 4F</td>
<td>4.7 oz</td>
<td>7</td>
<td>2.3 ABC</td>
</tr>
<tr>
<td>Bravo 500F</td>
<td>2.5 pt</td>
<td>7</td>
<td>2.0 ABC</td>
</tr>
<tr>
<td>Dithane M-45 80W</td>
<td>2.0 lb</td>
<td>7</td>
<td>3.7 C</td>
</tr>
<tr>
<td>Benlate 50W</td>
<td>8 oz</td>
<td>7</td>
<td>1.8 AB</td>
</tr>
<tr>
<td>Benlate 50W + Dithane M-45 80W</td>
<td>8 oz</td>
<td>7</td>
<td>1.3 AB</td>
</tr>
<tr>
<td>Benlate 50W + Bravo 500F</td>
<td>8 oz</td>
<td>7</td>
<td>0.6 A</td>
</tr>
<tr>
<td>Benlate 50W + Bravo 500F</td>
<td>8 oz</td>
<td>14</td>
<td>2.8 BC</td>
</tr>
<tr>
<td>Topsis M 70W</td>
<td>8 oz</td>
<td>7</td>
<td>1.4 AB</td>
</tr>
<tr>
<td>Topsis M 4F</td>
<td>11.2 oz</td>
<td>7</td>
<td>2.1 ABC</td>
</tr>
<tr>
<td>Topsis M 4F + Bravo 500F</td>
<td>11.2 oz</td>
<td>7</td>
<td>1.3 AB</td>
</tr>
<tr>
<td>Topsis M 4F + Bravo 500F</td>
<td>11.2 oz</td>
<td>14</td>
<td>1.0 AB</td>
</tr>
<tr>
<td>Untreated check</td>
<td>-</td>
<td>-</td>
<td>6.0 D</td>
</tr>
</tbody>
</table>

1 Each figure represents the average of four 2-row plots rated: 0=(no visible infection); 1=(<5% leaves with lesions); 2=(5 to 20%); 3=(20 to 40%); 4=(40 to 60%); 5=(60 to 80%); and 6=(>80%).

²Letters indicate Duncan's multiple range groupings of treatments which do not differ significantly at P=0.05.
CONTROL OF CRUCIFER DOWNY MILDEW WITH FUNGICIDE SPRAYS, 1992: A plot was established on organic "muck" soil (Rifle Peat) at Celeryville, Ohio to test several fungicides for control of Downy Mildew on broccoli and turnips. A completely randomized design with four replications was used. Each replicate consisted of three rows 20 ft long and 15 inches apart with data taken from the center row. Broccoli was direct seeded on May 4 and turnips on June 3. Standard commercial fertility, weed and insect control procedures were used throughout the test. Drench treatments were applied with a watering can immediately following seeding. Foliar sprays were applied at 70 psi and 50 gal/A with a tractor-mounted, 3-row, boom sprayer containing four Tee jet disc-core D4-25 nozzles. A total of seven weekly and four biweekly sprays were applied beginning on June 8. Rainfall was near normal in Jun (5.34 inches) but quite low in Jul (2.37 inches) and Aug (2.38 inches). Supplementary irrigation was applied during dry periods. Temperatures were near normal for this location. Downy mildew was not seen in the plot until mid-July and disease sufficient to evaluate did not occur until early August when plants were over-mature. Disease ratings were taken on Aug 6.

Downy mildew development in the plot was very light. All treatments had a little effect on disease development, but differences were too small to make confident evaluations. Super-Tin 4L caused a necrotic flecking of lower leaves on broccoli which could be seen by late June, but had no effect on the head or on turnip greens.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate/A</th>
<th>Spray interval (days)</th>
<th>Disease Index</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Broccoli</td>
<td>Turnips</td>
<td></td>
</tr>
<tr>
<td>Ridomil 2E</td>
<td>1 pt</td>
<td>Drench$^1$</td>
<td>1.5 a</td>
<td>0.5 a</td>
<td></td>
</tr>
<tr>
<td>Ridomil 2E</td>
<td>4 pt</td>
<td>Drench$^1$</td>
<td>0.8 a</td>
<td>1.2 a</td>
<td></td>
</tr>
<tr>
<td>Ridomil 2E</td>
<td>1 pt</td>
<td>Drench$^2$</td>
<td>1.1 a</td>
<td>0 a</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 pt</td>
<td>14</td>
<td>0.6 a</td>
<td>1.0 a</td>
<td></td>
</tr>
<tr>
<td>Ridomil 2E</td>
<td>2 pt</td>
<td>14</td>
<td>0.8 a</td>
<td>1.0 a</td>
<td></td>
</tr>
<tr>
<td>Ridomil MZ-58</td>
<td>2 lb</td>
<td>14</td>
<td>1.0 a</td>
<td>0.8 a</td>
<td></td>
</tr>
<tr>
<td>Dithane Z-78 75W</td>
<td>4 lb</td>
<td>7</td>
<td>1.2 a</td>
<td>1.0 a</td>
<td></td>
</tr>
<tr>
<td>Dithane Z-78 75W</td>
<td>6 lb</td>
<td>7</td>
<td>0.6 a</td>
<td>1.5 a</td>
<td></td>
</tr>
<tr>
<td>Bravo 500F</td>
<td>2.25 pt</td>
<td>7</td>
<td>1.0 a</td>
<td>1.5 a</td>
<td></td>
</tr>
<tr>
<td>Super-Tin 4L</td>
<td>4.7 oz</td>
<td>7</td>
<td>0.8 a</td>
<td>1.0 a</td>
<td></td>
</tr>
<tr>
<td>Unsprayed check</td>
<td>-</td>
<td>-</td>
<td>1.9 a</td>
<td>1.8 a</td>
<td></td>
</tr>
</tbody>
</table>

1 Drenched over row at planting.

2 Drenched over row at planting followed by 14-day spray at same rate.

3 Each figure represents the average of four, 3-row plots rated on Aug 6 as: 0=no disease; 1=slight chlorotic flecks, (no sporulation); 2=a few lesions with sporulation; 3=up to 10% of leaf surface with sporulating lesions; 4=11 to 49% of leaf surface with sporulating lesions; and 5= >50% of leaf surface with sporulating lesions.

4 Numbers within a column followed by the same letter are not significantly different according to the Duncan's New Multiple Range Test ($p=0.05$).
Tests in microplots for synergistic interactions between three species of lesion nematodes (Pratylenchus penetrans, P. scribneri and P. crenatus) and Verticillium dahliae were conducted at Celeryville in 1982. Preliminary data are given in Table 1 for P. penetrans and in Table 2 for the other species. As in previous years, the combination of P. penetrans and Verticillium decreased tuber yields and caused Early Dying Disease symptoms. Neither organism alone caused significant yield loss or symptoms of Early Dying. Other nematode-fungus combinations did not cause yield loss on Early Dying Symptoms. This year's data at Celeryville indicate that the synergistic interaction between lesion nematodes and Verticillium dahliae is dependent on species of nematodes.
<table>
<thead>
<tr>
<th>Treatments</th>
<th>Initial V microsclerotia (per 10/g soil)</th>
<th>Populations of Pratylenchus (per 100 cm³ soil)</th>
<th>Final (per 100 cm³ soil) (per g root)</th>
<th>Final disease severity</th>
<th>Effects on plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uninoculated control</td>
<td>0.5</td>
<td>659</td>
<td>7.4</td>
<td>821</td>
<td></td>
</tr>
<tr>
<td>Low P</td>
<td>0.6</td>
<td>664</td>
<td>9.7</td>
<td>878</td>
<td></td>
</tr>
<tr>
<td>Medium P</td>
<td>0.5</td>
<td>646</td>
<td>8.6</td>
<td>871</td>
<td></td>
</tr>
<tr>
<td>High P</td>
<td>0.7</td>
<td>703</td>
<td>9.8</td>
<td>919</td>
<td></td>
</tr>
<tr>
<td>Low V</td>
<td>0.7</td>
<td>626</td>
<td>941</td>
<td>941</td>
<td></td>
</tr>
<tr>
<td>High V</td>
<td>1.1</td>
<td>464</td>
<td>978</td>
<td>978</td>
<td></td>
</tr>
<tr>
<td>Low P/low V</td>
<td>1.4</td>
<td>503</td>
<td>7.8</td>
<td>767</td>
<td></td>
</tr>
<tr>
<td>Low P/high V</td>
<td>1.8</td>
<td>386</td>
<td>7.7</td>
<td>714</td>
<td></td>
</tr>
<tr>
<td>Medium P/low V</td>
<td>1.9</td>
<td>337</td>
<td>7.0</td>
<td>550</td>
<td></td>
</tr>
<tr>
<td>Medium P/high V</td>
<td>1.7</td>
<td>417</td>
<td>8.5</td>
<td>697</td>
<td></td>
</tr>
<tr>
<td>High P/low V</td>
<td>2.4</td>
<td>276</td>
<td>7.2</td>
<td>659</td>
<td></td>
</tr>
<tr>
<td>High P/high P</td>
<td>10</td>
<td>229</td>
<td>229</td>
<td>229</td>
<td></td>
</tr>
</tbody>
</table>

V Plants were rated on a scale of 0 (no disease) to 3 (complete necrosis) based on a combination of wilting, chlorosis, and necrosis.

W Values are the means of 40, 10-g soil replicates (10, 10-g soil replicates from each of four high-V or four low-V treatments).

X Values in columns two to eight are the means of 15 samples.

Y Values followed by the same letter are not significantly different (DMRT, P = 0.05).

z Statistical analysis of 1982 data not yet available.
Table 2. Initial and final populations of Pratylenchus scribneri (S), P. crenatus (C) and Verticillium dahliae (V) and their effects on plant shoot, root, and tuber weight and disease severity at harvest of potatoes grown in microplots on Rifle peat in Ohio in 1982.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Initial V microsclerotia (per 10/g soil)</th>
<th>Populations of Pratylenchus</th>
<th>Final disease severity</th>
<th>Fresh wt (g) per plant:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial (per 100 cm³ soil)</td>
<td>Final (per 100 cm³ soil)</td>
<td>Final (per g root)</td>
<td>Shoot</td>
</tr>
<tr>
<td>P. scribneri</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uninoculated control</td>
<td>30</td>
<td>DATA NOT AVAILABLE</td>
<td>0.7</td>
<td>520</td>
</tr>
<tr>
<td>Low S</td>
<td>22</td>
<td>DATA NOT AVAILABLE</td>
<td>0.7</td>
<td>611</td>
</tr>
<tr>
<td>Medium S</td>
<td>42</td>
<td></td>
<td>0.9</td>
<td>487</td>
</tr>
<tr>
<td>High S</td>
<td>124</td>
<td></td>
<td>0.9</td>
<td>589</td>
</tr>
<tr>
<td>Low V</td>
<td>10</td>
<td></td>
<td>0.7</td>
<td>907</td>
</tr>
<tr>
<td>High V</td>
<td>100</td>
<td></td>
<td>0.7</td>
<td>741</td>
</tr>
<tr>
<td>Low S/low V</td>
<td>10</td>
<td></td>
<td>0.5</td>
<td>739</td>
</tr>
<tr>
<td>Low S/high V</td>
<td>100</td>
<td></td>
<td>0.2</td>
<td>975</td>
</tr>
<tr>
<td>Medium S/low V</td>
<td>10</td>
<td></td>
<td>0.5</td>
<td>792</td>
</tr>
<tr>
<td>Medium S/high V</td>
<td>100</td>
<td></td>
<td>0.5</td>
<td>797</td>
</tr>
<tr>
<td>High S/low V</td>
<td>10</td>
<td></td>
<td>0.5</td>
<td>725</td>
</tr>
<tr>
<td>High S/high V</td>
<td>100</td>
<td></td>
<td>0.6</td>
<td>720</td>
</tr>
<tr>
<td>P. crenatus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uninoculated control</td>
<td>9</td>
<td>DATA NOT AVAILABLE</td>
<td>0.5</td>
<td>698</td>
</tr>
<tr>
<td>Low C</td>
<td>9</td>
<td>DATA NOT AVAILABLE</td>
<td>0.6</td>
<td>543</td>
</tr>
<tr>
<td>Medium C</td>
<td>27</td>
<td></td>
<td>0.5</td>
<td>640</td>
</tr>
<tr>
<td>High C</td>
<td>65</td>
<td></td>
<td>0.3</td>
<td>742</td>
</tr>
<tr>
<td>Low V</td>
<td>10</td>
<td></td>
<td>0.8</td>
<td>621</td>
</tr>
<tr>
<td>High V</td>
<td>100</td>
<td></td>
<td>0.6</td>
<td>701</td>
</tr>
<tr>
<td>Low C/low V</td>
<td>10</td>
<td></td>
<td>0.9</td>
<td>631</td>
</tr>
<tr>
<td>Low C/high V</td>
<td>100</td>
<td></td>
<td>0.7</td>
<td>632</td>
</tr>
<tr>
<td>Medium C/low V</td>
<td>10</td>
<td></td>
<td>0.7</td>
<td>651</td>
</tr>
<tr>
<td>Medium C/high V</td>
<td>100</td>
<td></td>
<td>0.7</td>
<td>704</td>
</tr>
<tr>
<td>High C/low V</td>
<td>10</td>
<td></td>
<td>0.9</td>
<td>645</td>
</tr>
<tr>
<td>High C/high V</td>
<td>100</td>
<td></td>
<td>0.9</td>
<td>497</td>
</tr>
</tbody>
</table>
Plants were rated on a scale of 0 (no disease) to 3 (complete necrosis) based on a combination of wilting, chlorosis, and necrosis.

Values are the means of 40, 10-g soil replicates (ten 10-g soil replicates from each of four high-V or four low-V treatments).

Values in remaining columns are the means of 15 samples.

Statistical analysis of 1982 data not yet available.
TRANSPLANTS vs. BARE-ROOT IN CONTROLLING ROOT-KNOT NEMATODE

Root-knot nematode traditionally causes most serious damage when high populations attack young plants with restricted root systems. A test was made to determine if the increased size of the root ball of "Speedling" celery transplants compared to that of greenhouse (bare root) transplants proved to be a benefit when plants were transplanted into root knot infested soil. Three foliar sprays of oxamyl (2 lb ai/20 gal water/A) applied at transplant, and thereafter at monthly intervals, were applied to half of each plot as a check on nematode losses. Initial nematode populations were 125 larvae/500 cc soil. No increase in yield was correlated with any treatment. This may have resulted from the low nematode populations in the test plot.
### CELERYVILLE

### CELERY

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Row #</th>
<th>Weight (lbs.)</th>
<th>Count</th>
<th>Total Weight</th>
<th>Average Weight</th>
<th>Total Count</th>
<th>Average Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vydate (bare root)</td>
<td>1</td>
<td>70.3</td>
<td>17</td>
<td></td>
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<tr>
<td></td>
<td>2</td>
<td>68.2</td>
<td>16</td>
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<td></td>
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<td></td>
<td>3</td>
<td>68.4</td>
<td>17</td>
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<tr>
<td></td>
<td>4</td>
<td>74.6</td>
<td>17</td>
<td>281.5</td>
<td>70.4</td>
<td>67</td>
<td>16.8</td>
</tr>
<tr>
<td>Check (bare root)</td>
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<td>68.4</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>63.3</td>
<td>16</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>71.3</td>
<td>17</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>4</td>
<td>72.6</td>
<td>17</td>
<td>275.6</td>
<td>68.9</td>
<td>67</td>
<td>16.8</td>
</tr>
<tr>
<td>Check (Speedling)</td>
<td>1</td>
<td>69.3</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>70.6</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>3</td>
<td>73.0</td>
<td>18</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>4</td>
<td>88.0</td>
<td>23</td>
<td>300.9</td>
<td>75.2</td>
<td>76</td>
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<tr>
<td>Vydate (Speedling)</td>
<td>1</td>
<td>79.4</td>
<td>21</td>
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<tr>
<td></td>
<td>2</td>
<td>68.5</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>3</td>
<td>71.2</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>58.7</td>
<td>16</td>
<td>277.8</td>
<td>69.5</td>
<td>76</td>
<td>19</td>
</tr>
</tbody>
</table>
Meloidogyne hapla can be controlled by including non-host plants in the rotation. Any crop in the grass family is a non-host for this nematode. Control of root-knot nematode in the Celeryville mucks by rotation was tested by growing radishes (susceptible crop) after sweet corn. Sweet corn produced 1200 marketable ears/A on August 6, 1982. Sale value on that date was $600/A. Radishes seeded 3 days after corn harvest were produced without nematode damage. Initial root knot populations (before seeding corn) were 98 larvae/500 cc soil. Final nematode populations (after radish harvest, September 17, 1982) were 2 larvae/500 cc soil. Final populations under a continuous host crop (carrots) was 52/500 cc. Average yield was 19.4 lbs/80' row (=8.4 T/A). Average saleable weight was 14.4 lbs/80' row (=6.3 T/A). Weight included fresh tops.

Weed control is vital to successful control of nematodes since many weeds in the Celeryville area are hosts of root knot.
Table 1. Radishes produced on root-knot infested soil following one crop of sweet corn.

<table>
<thead>
<tr>
<th>Rep</th>
<th># Saleable</th>
<th>Wt (lbs) Saleable</th>
<th>Total #</th>
<th>Total Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>449</td>
<td>17.0</td>
<td>600</td>
<td>21.8</td>
</tr>
<tr>
<td>II</td>
<td>360</td>
<td>10.5</td>
<td>531</td>
<td>14.1</td>
</tr>
<tr>
<td>III</td>
<td>321</td>
<td>11.1</td>
<td>484</td>
<td>15.7</td>
</tr>
<tr>
<td>IV</td>
<td>413</td>
<td>19.1</td>
<td>682</td>
<td>26.1</td>
</tr>
</tbody>
</table>

a) each rep is total of radishes harvested from 80' of row.
COMMON MEASUREMENTS

Number of Feet of Row Per Acre at various Row Spacings

<table>
<thead>
<tr>
<th>Distance between Rows in inches</th>
<th>Feet of Row Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>43,560</td>
</tr>
<tr>
<td>15</td>
<td>34,848</td>
</tr>
<tr>
<td>18</td>
<td>29,040</td>
</tr>
<tr>
<td>20</td>
<td>26,136</td>
</tr>
<tr>
<td>21</td>
<td>24,891</td>
</tr>
<tr>
<td>24</td>
<td>21,780</td>
</tr>
<tr>
<td>30</td>
<td>17,424</td>
</tr>
<tr>
<td>36</td>
<td>14,520</td>
</tr>
<tr>
<td>40</td>
<td>13,068</td>
</tr>
<tr>
<td>42</td>
<td>12,445</td>
</tr>
<tr>
<td>48</td>
<td>10,890</td>
</tr>
<tr>
<td>60</td>
<td>8,712</td>
</tr>
<tr>
<td>72</td>
<td>7,260</td>
</tr>
<tr>
<td>84</td>
<td>6,223</td>
</tr>
<tr>
<td>96</td>
<td>5,445</td>
</tr>
</tbody>
</table>

Length

- 1 centimeter = 10 millimeters
- 1 centimeter = 0.4 inch (0.394)
- 1 inch = 25.4 millimeters or 2.54 centimeters
- 1 foot = 30.48 centimeter
- 1 yard = 91.44 centimeters
- 1 yard = 0.914 meters
- 1 meter = 100 centimeters
- 1 kilometer = 1000 meters
- 1 kilometer = 0.621 mile

Area

- 1 square meter = 10.8 square feet (10.76)
- 1 square meter = 1.2 square yards (1.196)
- 1 square meter = 0.0001 hectare
- 1 hectare = 10000 square meters
- 1 hectare = 2.47 acres
- 1 hectare = 395 square rods (395.4)
- 1 acre = 0.405 hectare (0.4047)
- 1 square mile = 2.59 square kilometers
- 1 square kilometer = 0.39 square mile (0.386)

Weight

- 1 gram = 1000 milligrams
- 1 ounce = 28 grams (28.35)
- 1 pound = 454 grams (453.6)
- 1 kilogram = 1000 grams
- 1 kilogram = 2.2 pounds (2.205)
- 1 metric ton = 2205 pounds (2204.6)
- 1 metric ton = 1.1 short tons (1.102)
- 1 metric ton = 0.98 long ton (0.9842)
- 1 short ton = 2000 pounds
- 1 long ton = 2240 pounds

Volume (liquid)

- 1 teaspoon = 5 milliliters (approx)
- 1 tablespoon = 15 milliliters (approx)
- 1 ounce = 30 milliliters (approx)
- 1 pint or 2 cups = 473 milliliters (473.2)
- 1 quart = 946 milliliters (946.3)
- 1 gallon = 3785 milliliters (3785.3)
- 1 liter = 1000 milliliters
- 1 pint = 0.47 liter (0.473)
- 1 quart = 0.95 liter (0.946)
- 1 gallon = 3.8 liters (3.785)
FERTILIZER GUIDELINES FOR VEGETABLE CROPS GROWN ON MUCK SOILS IN OHIO

William M. Brooks, E. C. Wittmeyer and Richard Hassell
Extension Horticulturists
Cooperative Extension Service
The Ohio State University
Columbus, Ohio

<table>
<thead>
<tr>
<th>Crop</th>
<th>Available Phosphorus**</th>
<th>Available Potassium**</th>
<th>Nitrogen*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below 75</td>
<td>75-120</td>
<td>Over 120</td>
</tr>
<tr>
<td></td>
<td>lbs/A</td>
<td>lbs/A</td>
<td>lbs/A</td>
</tr>
<tr>
<td>1. Beets, Red</td>
<td>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</td>
<td>150-200</td>
<td>100-150</td>
</tr>
<tr>
<td>2. Carrots</td>
<td>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</td>
<td>150-175</td>
<td>125-150</td>
</tr>
<tr>
<td>4. Celery Cabbage</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>150-200</td>
<td>100-150</td>
</tr>
<tr>
<td>5. Dill</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>175-200</td>
<td>150-175</td>
</tr>
<tr>
<td>6. Endive</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>125-175</td>
<td>100-125</td>
</tr>
<tr>
<td>7. Escarole</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>125-175</td>
<td>100-125</td>
</tr>
<tr>
<td>8. Greens</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>125-150</td>
<td>100-125</td>
</tr>
<tr>
<td>9. Lettuce</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>125-175</td>
<td>100-125</td>
</tr>
<tr>
<td>10. Onions (Dry)</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>150-200</td>
<td>100-150</td>
</tr>
<tr>
<td>11. Green Onions</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>100-150</td>
<td>75-100</td>
</tr>
<tr>
<td>12. Parsley</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>125-175</td>
<td>100-125</td>
</tr>
<tr>
<td>13. Potatoes</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>150-175</td>
<td>125-175</td>
</tr>
<tr>
<td>14. Radishes</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>125-150</td>
<td>100-125</td>
</tr>
<tr>
<td>15. Spinach</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>150-175</td>
<td>125-150</td>
</tr>
<tr>
<td>16. Sweet Corn</td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>125-175</td>
<td>100-125</td>
</tr>
</tbody>
</table>

*Amount of nitrogen to apply will vary with crop, time of year, soil temperature, water applied, type of muck, residue being incorporated into soil and related factors.

**REAL Lab Soil Test Values

December 1982
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