Vegetarian 84-5

May 08, 1984

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NOTE:

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The use of trade names in this publication is solely for the purpose of providing information and does not necessarily constitute a recommendation of the product.
I. NOTES OF INTEREST

A. New Publications

1. Temperature and Rainfall Report for 1983, GCREC Research Report 84-1 by C. D. Stanley is available from Gulf Coast Research and Education Center, 5007 60th St. E., Bradenton, Florida 34203.


3. List of Publications from GCREC - Bradenton, AREC Dover and AREC Immokalee for 1983, GCREC 84-5 by W. E. Waters is available from Gulf Coast Research and Education Center 5007 60th St. E., Bradenton, Florida 34203.

B. Vegetable Crops Calendar

1. May 25 - Vegetable Gardening Field Day. FAMU, Tallahassee Fl.


3. June 1 - Urban Gardening Harvest Fair - Jacksonville

4. June 6 - Watermelon Field Day, 1:30-5:00 pm, AREC, Leesburg, Fl.

5. June 18-22 - 4-H Horticultural Institute, Cloverleaf, Fl.


7. July 24 - State 4-H Horticultural Judging and Demonstration Contests. 4-H Congress.


9. Sept. 6 - Florida Tomato Institute - Marco
II. Commercial Vegetable Production

A. Partial Listing of Commercial Vegetable Seedling Growers, Southwest Florida

The following list of commercial vegetable transplant growers was prepared to assist vegetable growers in the location and procurement of high quality seedlings for their vegetable farming operations. Serious attempts were made to list all area seedling growers, but if some plant growers have been omitted the specialist is deeply sorry and will be happy to amend this list as more names are presented.

1.) Collier-Gro Plant Farm  
   Route 2 Box 33-K  
   Immokalee, FL 33934  
   (813) 657-6141  
   person to contact: Steve Wiseman

2.) J. Johnson Farms, Inc.  
    P.O.Box Drawer D  
    Immokalee, FL 33934  
    (813) 657-3405  
    person to contact: Johnny Johnson

3.) LaBelle Plant World  
    Hwy. 80 West - P. O. Box 398  
    LaBelle, FL 33935  
    (813) 675-2020

4.) Palmetto Plant Co., Inc.  
    10308 US 301 North  
    Parrish, FL 33564

5.) Plants of Ruskin, Inc.  
    P.O. Box 994  
    Ruskin, FL 33570  
    (813) 645-2869  
    person to contact: Dick Barrett

6.) Plants of Sarasota, Inc.  
    Plants Inc. of Sarasota  
    Route 2 Box 334H  
    Sarasota, FL 33582  
    (813) 371-8998  
    person to contact: Dave Schwartz or Steve Moroski

7.) Redi-Plant Corp.  
    No. 21 - 6 L's Farm Road  
    Naples, FL 33962  
    (813) 774-6030  
    person to contact: Bob Pokleba

8.) Speedling, Inc.  
    P. O. Box 98  
    Sun City, FL 33586  
    (813) 645-3284  
    person to contact: George Todd Sr. & Jr.

9.) The Plant Farm, Inc.  
    P. O. Box 10163  
    Sarasota, FL 33578  
    (813) 371-1179  
    person to contact: Max Cohen, David Rees or Jack Shane

( Marlowe - Vegetarian 84-5 )
B. Selecting an Irrigation System for a Vegetable Crop in Florida: Part II. Soil and Climatic Factors.

This is the second of a three-part series of articles dealing with the factors involved in the planning and selection of an appropriate irrigation system for a vegetable operation.

Soil Factors

1. Texture

The proportion of the different sizes of particles (gravel, sand, silt, and clay) making up a soil determines its texture. Texture is important to the selection process by its influence on the water intake characteristics of the soil. Also, soil texture influences the traction ability of heavy irrigation systems such as center pivot sprinkler systems.

The water holding capacity of a soil does not have a direct effect on the selection of an irrigation system, but does affect the frequency of irrigation and the amount of water applied per irrigation. The irrigation system selected must be able to irrigate the entire unit before soil moisture depletes to a level that can lower crop production.

2. Structure

Soil structure pertains to the degree which individual soil particles aggregate into groups. Soil structure tends to influence the ease of root penetration, the water infiltration rate, aeration, and the movement of water in the soil. All of these are important to good crop production.

3. Water Intake Rate

Sprinkler and drip systems can be used on low intake rates (0.5 inches/hour or less), moderate intake rates (0.5 inches/hour to 3.0 inches/hour), or high intake rates (3.0 inches/hour or greater). For subsurface irrigation systems, the water intake rate in the topsoil should be 0.5 inches/hour or greater and the soil layer below the topsoil should have a water intake rate of at least 5 inches/hour.

4. Profiles and Depth

The profile and depth of the soil can affect the rooting depth of the crop and the amount of moisture which can be stored. Shallow soils require more frequent irrigation than deep soils.
5. Salinity

This factor is important for soils with high levels of soluble salts where an irrigation system must provide water for both leaching and the production of any salt tolerant crops.

6. Drainage

Adequate subsurface drainage is necessary to prevent an undesirable rise of the water table and increasing levels of soil salinity. The requirement for drainage facilities may be decreased with irrigation systems with an adequate capability to accurately control water applications.

7. Topography

If the land is level or can be made level without much expense, then topography will have little affect on the method of irrigation selected. If the land is sloping, only sprinkler or drip irrigation may be used. With sprinkler irrigation the sprinkler application rate must be slow enough to prevent runoff and possible erosion. With permanent and solid-set, and hose-drag sprinkler systems there is no limit on the amount of slope allowable. With cable-tow and center pivot the maximum slope allowable is 15 and 20%, respectively. On land with shallow soil depths the irrigation system selected will be one requiring minimal land grading.

8. Erodibility Factors

Sandy soils may be highly susceptible to wind erosion due to its limited structural development during periods when they are without a crop cover. Maintaining a high moisture content in the surface soils will assist in reducing wind erosion.

Climate and Cropping System Interactions

Wind may affect the water application efficiency of sprinkler systems and lateral spacing. With no wind the sprinkler spacing may be 65% of design diameter (wetted diameter from the sprinkler) and when the wind speed is over 10 mph the lateral spacing is 22-30% of design diameter, (Sprinkler Irrigation). With drip and subsurface irrigation systems wind does not affect their water application efficiencies. For sprinkler systems, strong winds will increase the direct evaporation losses to the atmosphere. The direct evaporation losses increase as temperature and wind velocities increase and as humidity, drop size, and application rates decrease. In regards to the maximum height of the crop, drip, subsurface, permanent and solid-set, manual move, cable-tow, and hose-drag irrigation systems are not influenced by crop height. For center pivot systems, crop height is limited to 8-10 feet.
Crop Wetting Tolerance

In selecting an irrigation system the water tolerance of the crop must be considered. With sprinkler irrigation, by wetting the foliage and fruit there may be a greater problem with diseases. With subsurface and drip irrigation there should be a lower incidence of disease. With gun-type and single-sprinkler systems, sufficient pressure must be maintained to keep the droplet size small to prevent damage to tender crops. Subsurface irrigation systems are adaptable to most all crops but the use of these types of systems may retard germination of shallow planted seed on non-plastic mulched plant beds.

(Kovach - Vegetarian 84-5)

III. HOME GARDENING

A. Collard Varieties for North Florida

Collard is a favorite vegetable grown throughout Florida. It is particularly popular in north Florida due to the closeness of families to rural ties and the ever-present collard in the farm garden. Collards rival both turnips and mustard as the king of the cooking greens.

There is no accurate statistical data kept on the total production of collards in Florida, either in terms of acreage or volume. It is grown in practically every home garden, as well as market gardens and small fields for roadside, local retail, and such farmers markets as exist here and there across the the state. Since there are over 1,000,000 vegetable gardens in Florida, worth $400,000,000 the value of collards in dollars would surpass $10,000,000, based on their being about 40 kinds of vegetables commonly grown. Add to this the unknown amount generated by actual sales and the monetary value becomes quite substantial.

But perhaps the greatest value of this crop lies not in its lining of the pocketbooks, but in the nutrition of its dark green mineral rich leaves. With its distinctive flavor enhanced by proper seasoning, it offers a tasty treat worth repeated sampling. And it is easy to grow, due primarily to its wide adaptation to Florida's varying climatic and cultural patterns.

A cool season crop, it tolerates heavy frosts and is injured or killed by only the severest of winter cold-frosts. Yet, surprisingly, it makes satisfactory yields without an undue amount of toughness or seedstalk formation even in the late spring and early
summer. Caterpillars, usually loopers and cabbage worms, bring on its demise in the summer about as frequently as any factor. And occasionally, diseases such as black-rot, a bacterial malady, and leaf spotting caused by fungi, produce losses for the grower. Whether in buckets, tubs, baskets, or even old discarded boats, it produces well in container culture. Many ancient dwellings, looking otherwise abandoned, sport a solitary row of closely cropped collard stems twisting and stretching toward the sagging eaves, providing mute testimony to the existence of life within the dilapidated walls.

Gardeners plant collards directly from seeds, but prefer well-grown, disease-free transplants. From fall through spring, bunches of bare-root transplants disappear from store shelves like hot yams at a backwoods picnic. Response to nitrogen fertilization is quick and continuous, whether the plant food is supplied in a few handfuls of inorganic fertilizer or from a few shovels of well-rotted chicken manure.

Two old-timey varieties are still in vogue with collard growers. The strains called 'Georgia' are the most popular, followed by 'Vates'. But a few new varieties have appeared as offerings by seedsmen recently, and these were tested in a trial on the experimental farm of the Florida A & M University. In all, seven varieties were obtained for the trial. Some were new hybrids, whose seeds are quite expensive compared with the open-pollinated types. Since few such collard variety trials have been conducted in Florida, a report on the 1983 FAMU trial is included here.

Methods used in the trial

1. Seven collard varieties were planted in a 1600 square feet area, one variety per row. Each row (bed) was 40 ft. long, 38 in. wide, and 8 in. high.  

2. Collards were seeded in peat pots, then on March 23rd the entire pots and seedlings were set 12 inches apart and watered thoroughly.  

3. One day prior to planting, each bed was fertilized with 5 pounds of 10-10-10 (incorporated) and 2 pounds of ammonium nitrate (sidedressed).  

4. Four weeks after planting and every two weeks until maturity, each row was sidedressed with a mixture of ammonium nitrate and 10-10-10 fertilizer.
Results are summarized in the following table

Table 1. Collard variety trial, 1983 - Tallahassee, Florida

<table>
<thead>
<tr>
<th>Variety</th>
<th>Row Length</th>
<th>Plants Surviving</th>
<th>Harvest Dates</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Feet)</td>
<td>(No.)</td>
<td>5/31 6/10 6/17</td>
<td></td>
</tr>
<tr>
<td>Hi crop</td>
<td>40</td>
<td>30</td>
<td>54 28 30</td>
<td>112</td>
</tr>
<tr>
<td>Hevicrop</td>
<td>40</td>
<td>27</td>
<td>57 26 28</td>
<td>111</td>
</tr>
<tr>
<td>Georgia</td>
<td>40</td>
<td>27</td>
<td>50 27 30</td>
<td>107</td>
</tr>
<tr>
<td>Blue Max</td>
<td>40</td>
<td>29</td>
<td>50 24 24</td>
<td>98</td>
</tr>
<tr>
<td>Vates</td>
<td>40</td>
<td>30</td>
<td>49 23 25</td>
<td>97</td>
</tr>
<tr>
<td>Champion</td>
<td>40</td>
<td>28</td>
<td>35 21 21</td>
<td>77</td>
</tr>
<tr>
<td>Cabbage</td>
<td>40</td>
<td>28</td>
<td>19 8 9</td>
<td>36</td>
</tr>
</tbody>
</table>

Conclusions

While the highest yields were obtained from 'Hi crop', 'Hevicrop', and 'Georgia', good yields were also obtained from 'Vates' and 'Blue Max'. Only fair results were found with 'Champion', and cabbage collards gave poor yields. Most of these varieties were very uniform, especially the hybrids, which were extremely dark green in color.

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