There may be a question in your mind what is a small farmer. I would say a small farmer is one that does not have enough produce to pack and sell his own produce economically.

We used to think of a small farmer as one that farmed five or ten acres and had a horse or old tractor. This picture has changed and today because of the high cost of labor even the small farmer has to have tractors to prepare the land, plant, cultivate and spray.

The cost of this equipment necessitates a larger acreage than in times past and most small farmers run from 25 to 75 acres depending a lot on what crops are grown, as ten acres of beans take less labor than one acre of peppers.

ADAPTABILITY OF VEGETABLE VARIETIES TO SOUTHEAST FLORIDA

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The total acreage of principal Florida truck crops has increased steadily during the past several years. According to the Bureau of Agricultural Economics, U. S. Department of Agriculture, the 1949-50 acreage for Florida was 245,130 acres, or approximately three times as large as that of the 1925-26 acreage, just 25 seasons before. In 1949-50 Palm Beach county led all other counties by a wide margin in the total acreage of vegetables, followed in order by Dade, Broward and Hillsboro.

The breeding of vegetables for resistance to plant diseases and/or insects is one of the chief aims of plant breeders today. Resistant varieties are becoming increasingly more important as the numbers and strains of diseases and insects increase and their distribution becomes more widespread, thus, in many cases, resistance either to diseases or insects or both, appears to be the only answer to the problem. The suggestion or recommendation of newer varieties is based on evaluation of these varieties by experiment station workers or other available information. New varieties should undergo careful field trial and observation under the growers' usual cultural conditions before any major change is made from the standard variety or strain being used. Therefore a gradual change from old varieties to new varieties, in most instances, is recommended.

A brief discussion of some of the more important vegetable crops and varieties of vegetables adapted to southeastern Florida follows:

Beans, bush snap: Older bush varieties, such as, Tendergreen, Black Valentine, Bountiful, Plentiful, and Florida Belle still constitute a major portion of the bean acreage planted; however, several newer varieties are superior to the older ones in many respects.

Tendergreen, a round podded type, is probably the most widely planted variety because of its adaptability to the canning, freezing and fresh markets. It is very susceptible to common bean mosaic and several other diseases. Black Valentine, an oval podded type, continues to be one of the more popular shipping varieties. It is also very susceptible to mosaic and a number of other bean diseases and fails to set pods under adverse environmental conditions. Bountiful, Plentiful, and Florida Belle are all flat podded types and form fiber rapidly after the No. 3 sieve stage. The latter three varieties are grown primarily for the fresh market.

Logan, Topcrop, and Rival, all mosaic resistant, round podded types, recently released by the U. S. Department of Agriculture, have not been widely accepted. Logan is a high yielder but produces light colored pods that do not hold up well in marketing. Topcrop and Rival are high yielders but produce rough pods under certain growing conditions.

Contender was introduced jointly in 1950 by the Regional Vegetable Breeding Laboratory of the U. S. Department of Agriculture at Charleston, S. C., and the Florida, Mississippi and Alabama Agricultural Experiment Stations. It is a very high producer, develops marketable pods in approximately 50 days, and is adapted to a wide variety of soils and climatic conditions. It is resistant to common
bean mosaic and has considerable resistance to powdery mildew. Growers have reported some objections to Contender such as considerable pod curvature and short bushes, but, it appears at this time that a considerable acreage will be planted to Contender during the 1951-52 season.

An even newer variety, carried in Southern Cooperative trials as B 1515, and to be released to the growers in January 1952 as Wades’ Bush, is a Tendergreen type. It is resistant to common bean mosaic and carries resistance to powdery mildew. The pods are straight, somewhat longer than Tendergreen, and are deep green in color. It has high quality and is a very good bean for quick-freezing and the fresh market. Preliminary reports indicate that Wades’ Bush will be given a wide trial by growers.

**Sweet Corn:** The importance of sweet corn as a commercial crop in Florida can be seen from acreages as reported by the Bureau of Agricultural Economics, U. S. Department of Agriculture: 1947-48, 6,000 acres; 1948-49, 14,000 acres; 1949-50, 29,000 acres. Of the 29,000 acres grown in Florida in 1949-50, Palm Beach County led with 11,000 acres, or approximately 40 percent of the total acreage grown.

A large number of commercial varieties have been tested by the Experiment Station and a number of others have been tried by growers. There is a relatively long list of hybrids that will perform satisfactorily under average conditions. Among those hybrids that have performed satisfactorily for fall or early winter plantings are: Calumet, F-M Cross, Golden Cross Bantam, Golden Security, Illinois Golden No. 10, Iona, and Aristogold Bantam Evergreen. For early spring plantings the following can be added to the above list: Carmelcross, Golden Bounty, Golden Hybrid No. 2439, and Gold Rush. Early hybrids have not performed well in fall or early winter plantings.

All of the above listed hybrids are susceptible to the leaf blight caused by Helminthosporium turcicum, Pass. Hybrids better adapted to short days and cool nights and having resistance to helminthosporium are needed for the area. A breeding program is underway at the Everglades Experiment Station in an attempt to develop such hybrids.

**Tomatoes:** The Florida f.o.b. packed value of tomatoes for the 1949-50 season was $32,247,000. This represented 31.4 percent of the total value of the 16 most important vegetables produced in this State for that period. Leading counties in tomato acreage for 1949-50 were Dade, St. Lucie, Manatee, Hillsboro and Indian River.

The principal commercial varieties now grown in southeastern Florida are Grothen’s Globe and Rutgers with Grothen’s Globe being the most widely used. Grothen’s Globe seems to be well adapted for both fall and spring plantings on fusarium will free soils; however, where this disease is prevalent Grothen’s Globe is not satisfactory because of its susceptibility to the disease. Rutgers has not performed well in fall plantings in the Fort Pierce area, but has produced good yields of high quality fruit in the spring plantings. Both varieties are very susceptible to late blight, fusarium wilt, bacterial wilt, stemphyllium leaf spot, mosaic, early blight, and sclerotinia rot which are the diseases of major importance in this area. Fusarium wilt along with bacterial wilt has limited the use of so-called “old land” and has forced growers in some areas to go to virgin soils for each tomato crop. The foliage diseases make necessary thorough and intensive spraying with fungicides.

Stokesdale is grown to a limited extent, but it is not generally recommended. Under some conditions it produces soft, seedy, small fruits, although the total yield is usually good.

Several new disease resistant varieties have been released in recent years. Southland, a new wilt resistant variety, produces flattened fruits which are not equal in appearance to either Rutgers or Grothen’s Globe.

Manahill is resistant to fusarium wilt, early blight, and gray leaf spot. It produces a good yield of excellent quality Rutgers type fruits, but they are late in maturing and too often rough with large blossom-end scars.

Manasota is highly resistant to fusarium wilt, but is susceptible to the common leaf diseases. It produces smooth Grothen’s Globe type fruit which mature early. The vines are open and the variety appears to be better adapted to fall production. Manasota is being tried commercially by a number of growers.

Wilt Resistant Grothen’s Globe has per-
formed quite similarly to regular Grothen's and was considered equal to the wilt susceptible variety in the 1951 trials at Fort Pierce. Since it carries resistance to fusarium wilt, it is recommended for trial on previously cropped soils.

Jefferson, a vigorous wilt-resistant variety, is very susceptible to gray leaf spot. It has given good yields of nice sized fruits; however, they are slightly rough on the shoulders and rather flat. Jefferson is suggested only for limited trial on wilt infested soils.

Urbana has produced high yields of uniform, small, soft fruit. In one trial it was found susceptible to gray leaf spot. Lack of firmness and size may be limiting factors for this tomato, however, its high yielding ability might make limited trials worthwhile.

STEP 89 from the Southern Tomato Exchange Program has performed well at Homestead, Fort Pierce and other locations. It is resistant to fusarium wilt, and has given good yields of nice sized, slightly flattened fruits.

The Gulf Coast Experiment Station at Bradenton has several promising breeding lines that show multiple disease resistance.

Cabbage: Of the 17,000 acres of cabbage grown in Florida in 1949-50 approximately one-fourth was on the organic soils of the Everglades area. During 1950-51 the proportion was greater because of cold damage in other cabbage producing sections in the state. Approximately 50 percent of this acreage was planted in Copenhagen Market No. 86, an early strain of the regular Copenhagen Market. An additional 15 to 20 percent of the acreage was planted to each of the varieties, Bonanza and Golden Acre. The remainder of the acreage was divided between Round Dutch, other miscellaneous green varieties, red and savoy types.

Copenhagen Market No. 86 is a popular shipping variety and does especially well on the compact Okeechobee mucks; however, the heads become only fairly solid and are larger than desired when grown on the fibrous Okeechobee peaty muck soils. Bonanza, a recent introduction tested as Ferry Morse "B" strain, is outstanding for its ability to produce extremely solid heads with small cores on the more fibrous soils. This variety matures about a month later than Copenhagen Market No. 86 and has been quite variable in maturity. It produces grayish-green, slightly flat heads of poor eating quality. Heads of this variety will stand in the field for long periods of time without bursting. When packing the Copenhagen Market variety, grown on muck soils, it is often difficult to get sufficient heads into the standard wire-bound boxes to meet the 50 pound minimum requirement. Whereas, a packed crate of the Bonanza variety frequently weighs up to 60 pounds net.

The Wakefield group perform satisfactorily but pointed heads are no longer in demand on the markets. Flat Dutch, Hollander, All Seasons and Danish types have performed well in this area in the past, but, because of their late maturity, are more expensive and hazardous to produce than the early maturing varieties.

In view of market preference for small round heads averaging 2 to 2.5 pounds, Golden Acre and Round Dutch are two varieties that could be more extensively grown in the future. Some strains of these varieties have done well in trials at the Everglades Station.

Celery: About one-third of the celery produced in Florida is grown on the Everglades peat and muck soils of Palm Beach county. Golden self-blanching and green pascal types are grown with the latter type becoming increasingly popular during the past few years. Pascal types now account for approximately one-half of the total acreage grown in the county. A number of varieties and strains of pascal and self-blanching types have been found to be adapted to the area. However, no one variety possesses all of the desirable horticultural characteristics.

Green Florida Pascal and the Waltham and Pete P. Volante strains of Summer Pascal are probably the most popular pascal varieties grown. Emerson Pascal, a recent joint release by Cornell University and the Florida Agricultural Experiment Station, has resistance to early blight. However, considerable bolting was noted during the 1950-51 season as a result of the unusually low temperatures encountered during the growing season. Plantings of this variety that matured late in the spring had a tendency to develop a large percent of stalks with blackheart, therefore, it is recommended that only small scale plantings of this variety be made.
Among the most widely grown golden self-blanching varieties are Supreme Golden, Tall Non-bolting Golden Plume, Florida Golden No. 15, and Special No. 763. All four of the varieties are susceptible to attack by the early blight producing fungus.

**Potatoes:** The American Potato Yearbook for 1950 lists Sebago, Bliss Triumph and Katahdin as the leading varieties grown in Florida. Bliss Triumph and Pontiac are the leading red varieties grown in the Everglades area. Dakota Chief, a mutant variety of Pontiac, is a late, high-yielding variety and has done well in Dade County. Progress, a red variety, released in 1948 by the Nebraska Agricultural Experiment Station, produced many small, rough unattractive tubers when grown on the muck soils at Belle Glade.

Sebago has been the leading white-skinned variety for several years. Kennebec, a new white variety is highly resistant to late blight. It is widely adapted and has produced excellent yields of large potatoes on the organic soils of the Everglades area.

Pungo and Cherokee, two new white-skinned varieties, released in 1950 are recommended for limited trial. Pungo was tested at Belle Glade under the pedigree number B 76-43. It carries high resistance to late blight, but is not resistant to scab. It is a high yielder with tubers somewhat similar to Sebago.

Cherokee was tested under the pedigree number B 61-3. Its tubers are generally irregular in shape but are predominantly short elliptical, frequently having a distinct flattened area on one side. The tubers are slightly rough, but not as rough as Irish Cobbler. Cherokee is highly resistant to scab and carries some resistance to late blight. In a variety trial at Belle Glade in 1950 it was the high yielder with 494 bushels per acre. It merits a limited trial by growers especially where scab is a factor in production.

**Pepper:** Several varieties and strains of sweet peppers are adapted to commercial production along the southeast coast. California Wonder, Florida Giant, Oakview Wonder, and Early Calwonder produce fruits with thick walls which are mild in flavor. If planted to harvest over a relatively short period of time Early Calwonder is desirable as it matures a week to ten days earlier than most other strains of California Wonder; and, produces a fairly concentrated crop of uniform fruits.

World Beater, World Beater New Jersey No. 13 or Ruby Giant are very productive varieties with medium thick walls. Illinois F6, a World Beater type, has given good yields and appears to be a desirable commercial variety. Burlington a World Beater type has not been superior to World Beater in experimental plantings.

**Eggplant:** Fort Myers Market, the standard variety grown, performs well except where the disease known as phomopsis or tipover is present. The new varieties, Florida Market and Florida Beauty recently introduced by Dr. Phares Decker of the Florida Agricultural Experiment Station, Gainesville, are resistant to tipover, leaf blight and fruit rot disease, all caused by the phomopsis fungus. The fruits of Florida Market are cylindrical in shape, black in color, and develop to a large size. The fruits of Florida Beauty are more oval in shape and not as long as Florida Market, and are deep purple or black in color. Although still segregating for fruit color and type these varieties are recommended for commercial plantings on soils where tipover has been a limiting factor in eggplant production.

**Broccoli:** Several varieties of broccoli have produced good yields of high quality broccoli in south east Florida during the winter months. The varieties Texas 107 and Freezers' were developed for quick-freezing. Both varieties produce high yields with a large percent of the total yield coming from side sprouts which are desirable for the frozen food pack. Two new varieties, Waltham No. 11 and Waltham No. 29, have performed well in experimental trials and warrant limited trials on a commercial scale. Waltham No. 29 appears to be slightly better adapted to the growing conditions of this area than does No. 11. Other varieties recommended for planting are: Early Green Sprouting, DeCicco, and Early One.

**Squash:** Cocozelle, Caserta, and Black Zucchini are high-yielding varieties that usually have a limited market demand. Early Prolific Straight-neck is also a high-yielder, but does not have the market demand of Early Yellow Summer Crookneck. The Yellow Crook-
neck strains are generally yielders when compared with the other varieties mentioned.

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TWO VEGETABLES FOR SOUTH FLORIDA

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University of Miami
Coral Gables

Both vegetables have been under observation for some time at the botany department of the University of Miami.

Ipomoea reptans is well known all over the tropics. It is a creeping herb, with elliptical-oblong leaves and pale pink flowers. It can be easily reproduced by cuttings and demands a very moist soil. For this reason pools, watersides and forelands are the most fit places (Everglades) The young stems and leaves are eaten either raw or steamed. The percentage of protein in the leaves is rather high (2.5) as well as the vitamins (I.U.A. per 100 gr about 4000, B1 about 10-20 gr and ascorbic acid about 40 gr). Grows as well in winter as in summer.

CITED LITERATURE

Cyclanthera pedata is a native of South America, and found on many markets, mainly in Peru. The fruits are hollow, which is not common for a Cucurbite. They are used to stuff up, like in the case of large green peppers. Grows excellent in South Florida and will find a market when introduced in the right way. Grows as well in winter as in summer.

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