

HISTORIC NOTE

**The publications in this collection do not reflect current scientific knowledge or recommendations. These texts represent the historic publishing record of the Institute for Food and Agricultural Sciences and should be used only to trace the historic work of the Institute and its staff. Current IFAS research may be found on the Electronic Data Information Source (EDIS)
<<http://edis.ifas.ufl.edu/index.html>>
site maintained by the Florida Cooperative Extension Service.**

Copyright 2005, Board of Trustees, University of Florida

2nd Dep
June, 1937

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS
(Acts of May 8 and June 30, 1914)

Agricultural Extension Service
University of Florida, State College for Women
And United States Department of Agriculture
Cooperating
Wilmon Newell, Director

Revision of
no. 44

June, 1926

FLORIDA VEGETABLES

BY A. P. SPENCER

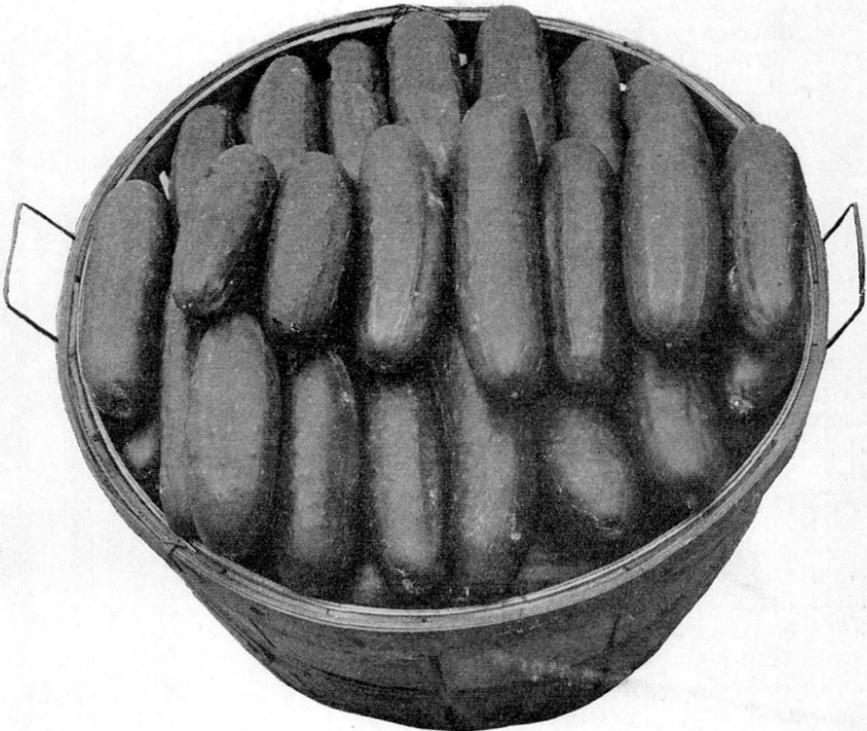


Fig. 1.—Quality vegetables in attractive containers command best prices on the market.

Bulletins will be sent free to Florida residents upon application to the
AGRICULTURAL EXTENSION SERVICE
GAINESVILLE, FLORIDA

BOARD OF CONTROL

GEO. H. BALDWIN, *Chairman*, Jacksonville
OLIVER J. SEMMES, Pensacola
HARRY C. DUNCAN, Tavares
THOMAS W. BRYANT, Lakeland
R. P. TERRY, Miami
J. T. DIAMOND, *Secretary*, Tallahassee

STAFF, AGRICULTURAL EXTENSION SERVICE

JOHN J. TIGERT, M.A., LL.D., President of the University
WILMON NEWELL, D.Sc., Director
A. P. SPENCER, M.S., Vice-Director and County Agent Leader
J. FRANCIS COOPER, M.S.A., Editor
JEFFERSON THOMAS, Assistant Editor
CLYDE BEALE, A.B., Assistant Editor
E. F. STANTON, Supervisor, Egg-Laying Contest
RUBY NEWHALL, Administrative Manager

COOPERATIVE AGRICULTURAL DEMONSTRATION WORK

W. T. NETTLES, B.S., District Agent
H. G. CLAYTON, M.S.A., District Agent, Organization and Outlook Specialist
J. LEE SMITH, District Agent and Agronomist
R. S. DENNIS, B.S.A., Assistant District Agent
A. E. DUNSCOMBE, M.S., Assistant District Agent
R. W. BLACKLOCK, A.B., Boys' Club Agent
E. F. DEBUSK, B.S., Citriculturist
A. L. SHEALY, D.V.M., Animal Industrialist²
HAMLIN L. BROWN, B.S., Dairyman
N. R. MEHRHOF, M.AGR., Poultryman²
D. F. SOWELL, M.S., Assistant Poultryman
WALTER J. SHEELY, B.S., Agent in Animal Husbandry
C. V. NOBLE, PH.D., Agricultural Economist²
FRANK W. BRUMLEY, PH.D., Agricultural Economist, Farm Management
R. H. HOWARD, M.S.A., Asst. Agr. Economist, Farm Management
GRAY MILEY, B.S.A., Asst. Agr. Economist, Farm Management
D. E. TIMMONS, M.S.A., Agricultural Economist, Marketing
R. V. ALLISON, PH.D., Soil Conservationist²
A. E. MERCKER, Field Agent, Cooperative Interstate Marketing¹

COOPERATIVE HOME DEMONSTRATION WORK

MARY E. KEOWN, M.S., State Agent
LUCY BELLE SETTLE, M.A., District Agent
RUBY McDAVID, District Agent
ANNA MAE SIKES, B.S., Nutritionist
VIRGINIA P. MOORE, Home Improvement Agent
ISABELLE S. THURSBY, Economist in Food Conservation
CLARINE BELCHER, M.S., Clothing Specialist

NEGRO EXTENSION WORK

A. A. TURNER, Local District Agent
BEULAH SHUTE, Local District Agent

¹ In cooperation with U. S. D. A.

² Part-time.

CONTENTS

	Page
Fertilization Practices	6
Cultivation	6
Cover Crops	6
Seedbed	7
Beans	9
Lima Beans	11
Beets	12
Cabbage	14
Chinese Cabbage	15
Collards	17
Carrots	17
Cauliflower	19
Broccoli	20
Celery	21
Chayote	24
Cucumbers	27
Dasheen	31
Eggplants	34
Endive	36
Lettuce	36
Romaine	38
Muskmelons and Cantaloupes	38
Okra	39
Onions	40
English Peas	43
Pepper	44
Potatoes	46
Radishes	51
Spinach	52
Squash	53
Strawberries	56
Sweet Corn	59
Tomatoes	60
Turnips and Rutabagas	64
Kohl-Rabi	65
Watermelons	65



Fig. 2.—Florida cabbage in a wirebound crate.

FLORIDA VEGETABLES

By A. P. SPENCER

Florida produces at different seasons of the year great quantities of vegetables for shipment and home consumption. Shipments begin about November 1 and continue through June; the largest shipments are made between February 1 and May 30. Some vegetables are produced during other months; these are mostly consumed locally, or within the state.

Most Florida vegetables are shipped by rail or boat or are hauled by trucks to market in Central, Northern and Eastern states, and to a lesser extent to cities in Southern states, and consumed immediately. Some, however, are placed in cold storage for a limited period when the markets are temporarily over-supplied. Vegetables produced in Florida compete on the market with produce grown in other Southern states, primarily Texas, Louisiana, and California, as well as in Cuba and Mexico.

The greater part of Florida's vegetable crop is grown during the cooler season when there are fewest diseases and insect pests. However, the grower has to combat insect pests and diseases on practically every crop. This is especially true of early fall and late spring crops. The extent of damage by pests varies from one year to another, dependent largely on weather conditions.

Vegetable growers must be prepared to control such pests whenever they occur. For most insects and diseases control methods have been worked out by entomologists and pathologists of the Florida Experiment Station and the U. S. Department of Agriculture, and the necessary information regarding such methods is available in bulletin form on application direct to the institution or to the County Agent's office.

Information contained in this bulletin represents the practices generally followed by the most successful vegetable growers of Florida, together with information secured by experiments and observations of the Horticultural Department, Florida Experiment Station, and U. S. Department of Agriculture.

ACKNOWLEDGMENTS

This is a revision of Bulletin 58, published in 1930. The author is indebted to Dr. F. S. Jamison, truck horticulturist of the Experiment Station, and to county agents for valuable suggestions and assistance.

FERTILIZATION PRACTICES

Fertilization practices recommended in this bulletin are based on information obtained from growers and from tests made by the Florida Agricultural Experiment Stations and other institutions.

Growers generally prefer that 25 to 40 percent of the nitrogen in the fertilizer come from organic sources.

The time and rate of application are dependent on the soil fertility and the needs of the crops. Moisture conditions at time of application and general growth of the plants also have a bearing on fertilizer applications.

A fertilizer formula reading 4-6-5 means 4 percent nitrogen, 6 percent phosphoric acid, and 5 percent potash.

CULTIVATION

The amount and methods of cultivation for vegetable crops must depend on the rooting system of the plants and soil conditions. Cultivation is necessary to keep weeds in check, to loosen the surface soil when it becomes compact, and to mix the fertilizer with the soil. This applies especially to the heavier types of moist lands.

Emphasis should always be placed on thorough preparation of the soil before the fertilizer is applied or the crop is planted. This is more important than is generally recognized. If this is done the amount of cultivation when the crop is growing, aside from that necessary to control weed growth, will be relatively small. As cultivation is a relatively large item in the cost of production, this is important.

COVER CROPS

Most Florida soils except muck are relatively low in humus and it is advisable to grow a green manure crop preceding each crop of vegetables. With most vegetable crops there can be a yearly rotation that will maintain the humus content if green crops are plowed under. Summer crops are also valuable in keeping down Bermuda grass and troublesome weeds.

A variety of summer crops can be used, including native grasses, cowpeas, velvet beans, beggarweed, and crotalaria. Sesbania does well on many of the poorly drained areas in the south-

ern part of the state. Whatever cover crop is selected, it should be turned under 20 days or more before the truck crop is set.

SEEDBED

The seedbed is made by selecting a favorable location in the field, close to a water supply, on well drained, comparatively rich soil, or on such soil as can be made rich by fertilization and as free as possible from root-knot nematodes and disease organisms.

For celery, lettuce, romaine, cabbage, escarole, endive, cauliflower, and other fall-planted crops, lay out the beds three-and-a-half feet wide. Small amounts of well rotted stable manure or well decayed compost can be mixed with the soil in the seedbeds to advantage. However, large amounts have a tendency to produce a quick sappy growth and such plants wilt quickly or may die after being set in the field, requiring much resetting of plants.

Hardwood ashes applied at the rate of 1,000 to 1,500 pounds per acre, or 1,000 pounds per acre of agricultural lime thoroughly mixed with the soil tends to produce a favorable condition for plant growth. In addition 10 percent tankage or castor bean meal applied at the rate of 1,000 pounds per acre usually will produce a steady growth and a strong plant that will not wilt or die readily after being transferred to the field. The fertilizer should be thoroughly incorporated with the soil, the bed made smooth and the seeds sown. It is best to allow a few days to elapse between applying the fertilizer and sowing the seeds, in the meantime keeping the beds moist.

Seeds of lettuce, romaine, escarole, endive and other light, small seeds, should be barely covered with loose dirt and kept constantly moist until the seedlings are well rooted. This may require watering three times a day if the soil is inclined to be dry and the weather warm. They may be kept moist by having a shallow ditch close to the beds to supply water. It is a good practice to lay burlap cloth over the seedbeds and keep it moist until the seeds are well sprouted and rooted.

Seedbeds should be protected with an A-shaped cloth cover two yards wide, made of 4-ounce sheeting, over a frame of lath and wire to provide shade during hot weather and to protect the plants against beating rains, wind and possibly early frosts.

For starting a winter seedbed of eggplants, peppers, tomatoes, and other plants of like nature, the bed should be from four and a half to five feet wide.



Fig. 3—Winter and early spring seedbed cover.

It should be surrounded by a wooden wall two feet high on the north side (back) and 10 inches high on the south side (front). Wires stretched across the top to support a cloth capable of being made perfectly tight as a protection

against cold are essential. Tomatoes, eggplant and pepper require much less shading than more tender plants and should require practically no shading except during early fall. Too much shading will produce tender, spindly plants.

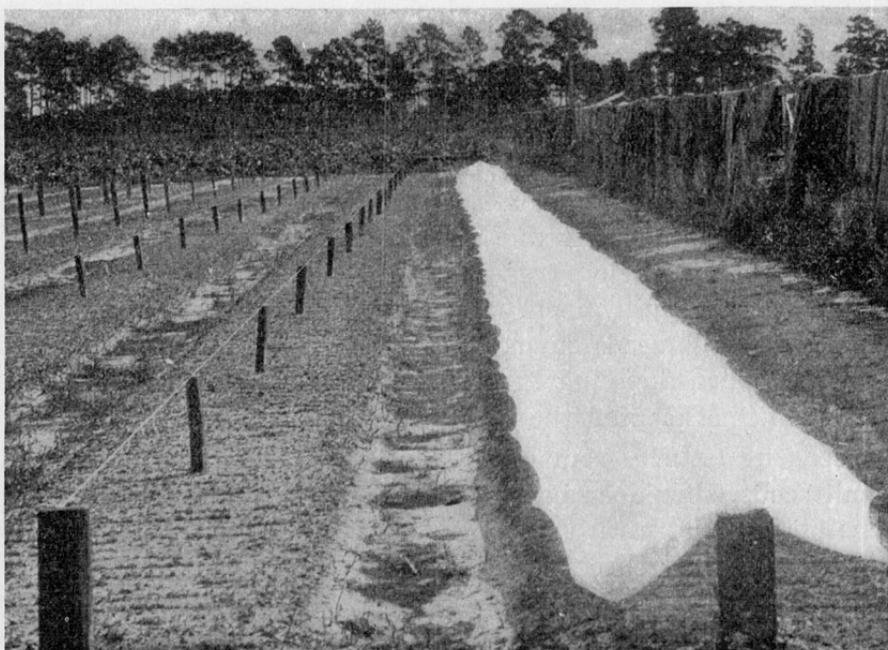


Fig. 4.—Shading seedbeds with canvas.

The seeds should be sown fairly thick in rows from four to six inches apart. When sown broadcast, the beds are difficult to cultivate, fertilize and weed. Cover the seeds lightly, not more than half an inch.

When the seeds are sprouted the bed should be watered and kept moist until the plants are well established.

A practice known as "blocking off" is advisable about 12 days before the plants are taken from the plant bed. This is done with a blade or long knife. The soil and lateral roots are cut about two inches from the row of plants by pushing the blade along the side of the plants deep enough to cut the lateral roots. This causes the plants to establish new roots before being planted in the field and makes them more easily transplanted. It is best to cut on one side of the row of plants at a time, then wait a few days and cut the roots on the opposite side.

BEANS

Bush or snap beans are grown for home use in every section of Florida and are among the most important truck crops. The largest acreage in any one section is produced on muck lands in the Everglades and on sandy soils in lower East Coast counties in areas well protected from killing frosts. Beans are shipped from this area from early fall until May. They can be grown under a variety of conditions and on different kinds of soil.

Snap beans are killed by freezing temperature. Therefore, the fall crop must be matured before danger of frost and the spring crop should not be planted until danger of frost is past.

Beans are raised as early fall and late spring crops in the southern part of Alachua and throughout Marion, Putnam and Sumter counties. In these sections the growers plan to have most of their crop out of the way by December 1. The spring crop is planted in February and March and harvested during April, May and June.

Beans make good crops on the better grades of hammock and pine lands. They also grow well on muck, if it has been planted to some other crop for two or three years previously. They will not do well on sour or poorly drained land, and should never be planted as a first crop, particularly on flatwoods pine land known to be sour. They respond readily to good cultivation and require comparatively warm weather to make them grow fast.

FERTILIZATION

Beans on sandy lands should have from 600 to 1,000 pounds of fertilizer to the acre. As the crop matures in approximately 45 days this fertilizer should be applied before the seeds are planted. A fertilizer analyzing 5-7-5 is generally used. The ammonia

element is the most important. If the crop is not making good growth, it is often advisable to apply a top-dressing of readily available nitrate fertilizer at the rate of 200 pounds per acre. However, an excessive amount applied when the bloom is first appearing may cause shedding of both bloom and leaves. Soils low in humus will require more fertilizer than where there is a better supply of humus.

On the bean lands of the lower East Coast, the fertilizer applications are practically the same as for sandy lands of other sections of Florida. However, when the marl subsoil is close to the surface it is advisable to use 200 pounds manganese sulfate in each ton of the mixed fertilizer.

BEAN VARIETIES

Two types of bush or snap beans are generally grown—green podded and wax varieties. The green podded varieties are most extensively grown as they can be planted on a greater variety of soils. Wax varieties should be planted on the better grades of hammock land.

Green podded varieties recommended are Bountiful, Refugee, Giant Stringless, Stringless Black Valentine and Kentucky Wonder. Wax podded varieties recommended are New Davis, White Wax, Wardwell Kidney Wax, Bountiful Wax, Sure Crop Stringless Wax and Hodson Wax.

PLANTING

It will require about three to four pecks of seed to the acre, with rows 3 feet apart and hills about 4 inches apart. In a few days the beans will show above ground, and will grow off rapidly, if weather conditions are favorable. No thinning will be necessary, and just enough cultivation to keep the weeds in check will be sufficient. In growing beans it is important not to cultivate while the plants are wet or immediately after a rain, as this will have a tendency to spread any fungus diseases that may be present in the field.

HARVESTING

Beans usually are picked when the pods have grown to full size. However, they must be gathered before showing ripeness. Otherwise, by the time they reach market they will be wilted. Several pickings will be necessary under average conditions. The beans are picked into bushel hampers in the field and should



Fig. 5.—Bush and snap beans in hampers.

be hand sorted in a central packing shed. On good land 100 to 200 hampers may be produced to the acre.

LIMA BEANS

Lima or butter beans, while raised for shipping, are a less important crop than bush beans. Certain varieties can be grown throughout the summer season and are excellent summer vegetables. The crop is handled in about the same way as bush beans. With the runner varieties the rows must be wider and these varieties should have a trellis or poles on which to climb. Some growers prefer the runner varieties and plant them in corn fields where the stalks act as supports.

Lima beans are more sensitive to cold than are bush beans but will make better growth during warm weather, particularly during a rainy season, as they are less subject to fungus diseases.

The bush lima bean is an excellent summer vegetable, making about the same size bush as the ordinary bush bean and growing under similar conditions. It requires, however, a longer period in which to mature.

Like green beans, they should be carefully graded for shipment. They must be kept cool and dry after crating to prevent heating and spotting from mold.

VARIETIES

For shipment to Northern markets Fordhook Lima is the best variety. For home use either the Henderson Bush, White or Mottled Florida butter bean will prove satisfactory.

Navy beans have not proven a satisfactory Florida crop.

BEETS

Beets are grown throughout Florida both for home use and as a shipping crop. Suitable soils for beets are a dark, sandy loam, well drained and supplied with organic matter, and muck soils.

CULTURAL METHODS

There are two methods used in producing the beet crop in Florida. In the first the seeds are planted in rows in the field and no seedbeds are used. The soil must be thoroughly worked to a good seedbed, the seeds are sown thick with a seed drill in rows from 12 to 14 inches apart and finally thinned by hand to a stand of plants averaging 4 to 6 inches apart in the rows. A few radish or other quickly germinating seeds should be mixed with the beet seeds; the radish seeds germinate quickly and mark the rows. This permits wheel-hoe or hand-hoe cultivation, sometimes necessary to destroy weeds before the beet seeds are up. After the beet seeds are up and the rows well defined the few radishes may be removed.

The second and better method is to sow the seeds in seedbeds and set the plants in the field when about 4 inches high; the plants require careful handling.

The field should be freshly prepared, free from grass and weeds. Cultivate the field several times before setting the young plants and kill the weed seed that may germinate, thus making subsequent cultivation easier.

The plants should be set 4 to 5 inches apart in rows 12 to 16 inches wide. A more uniform and satisfactory yield of marketable beets can be produced by this method than by seeds sown in the field. It will require approximately 100,000 plants to set an acre. Sow about 4 pounds of seed for each acre to be planted.

FERTILIZATION AND CULTIVATION

Beets require liberal fertilization. One and a half tons to the acre of a complete commercial fertilizer analyzing 5-5-8 will be suitable for most sandy soils. This should be given in three applications during the growth of the plants. The first applica-



Fig. 6.—Beets require heavy fertilization, but make a satisfactory crop in Florida.

tion should be 10 days before setting the plants in the field or sowing the seed, as the case may be.

On rich muck soils 500 to 800 pounds of fertilizer usually is sufficient, and a fertilizer containing little or no nitrogen, analyzing 0-8-12, is used.

Beets should be cultivated enough to check weeds and until the plants cover and shade the middles.

HARVESTING BEETS

Beets should be pulled and carried to a packinghouse in field crates or baskets and packed in the shade to avoid wilting. One bushel and 1½ bushel crates are used in shipping Florida beets. From 400 to 450 crates make a carload. Beets are usually shipped under refrigeration.

Beets are marketed with tops attached. These are tied 6 beets to the bunch, and then tied 6 bunches to the package. When put up in this way they may be transported by truck without placing them in hampers.

VARIETIES

Eclipse, Detroit Dark Red, Crosby's Egyptian, and Early Wonder are some of the varieties most frequently planted.

CABBAGE

Cabbage is one of the easiest truck crops to grow in Florida. The soil must be naturally fertile, well drained and sufficiently retentive of moisture to carry the crop over droughty periods. Almost any good farming soil in Florida will produce satisfactory crops of cabbage, if sufficiently fertilized.

The cabbage plant is a gross feeder, one of the hardiest of Florida vegetables, and usually will withstand a temperature of 16° F. for a short period after the plants are half grown. However, when the plants are small, just transplanted from the seedbeds and are exposed to a freezing temperature, they will likely be killed. Cabbage in Florida is planted for the early winter and late spring markets. Earlier cabbage is planted in the field in September and October. The greater bulk of the crop is planted in November and December.

Good yields are produced on sandy loam, clay loam and muck soils. Thin, sandy, loose soil is not recommended for this crop, although such lands can be made to produce satisfactory crops by irrigation and liberal fertilization.

PLANTING AND CULTIVATING

The ground should be thoroughly plowed, pulverized, harrowed and made smooth. The rows should be marked off about 36 inches apart and the plants set 12 to 18 inches apart. The cabbage plants are taken from the seedbeds when from four to six inches high, and are usually planted by hand in moist soil. If irrigation can be furnished at planting time it insures a more even stand and a heavier crop.

Sow about 12 ounces of seed to each acre. As soon as the plants are large enough they should be cultivated. With the exception of hoeing around the plants, all cultivation may be done with horse cultivators. Shallow cultivation with light sweep is advisable.

FERTILIZATION

Cabbage requires from a half ton to a ton per acre of a balanced fertilizer, analyzing 5-6-7. On the lighter soils half of this amount should be drilled into the rows before the crop is planted and the remainder worked into the soil when the crop is about half grown.

When the crop is about half grown, or even earlier, if it tends to grow slowly, an additional application of 150 to 200 pounds sulfate of ammonia or nitrate of soda or nitrate of potash to the

acre is advisable for steady growth and to produce firm heads. This, however, must not be overdone, as it is liable to delay maturity and produce loose-headed cabbages.

IRRIGATION

With cabbage, irrigation can be easily overdone. It requires a reasonable amount of moisture to keep up steady growth; but, if cabbages are forced too much and given continual irrigation and heavy fertilization, the heads are liable to burst, making the crop unmarketable. This bursting is caused by the heart of the cabbage growing faster than the outer leaves. When there is a tendency toward bursting it is a good practice to run a furrow between each two rows and cut off some of the roots.

VARIETIES

Principal varieties grown for market are Copenhagen Market, Golden Acre, Charleston Wakefield, Jersey Wakefield, Premium Flat Dutch, and Hollander. The fall crop is usually planted in October and is ready to ship in January. Charleston Wakefield and Jersey Wakefield are planted in December and January and shipped in the spring.

MARKETING

The chief limitations to cabbage growing in Florida are the markets, as a large part of the crop is shipped to Northern markets in competition with crops grown in other Southern States.

The crop is packed in one-and-a-half bushel hampers and in the standard cabbage crate (12x18x33 inches); also in more open crates as shown in Figure 2. There is also a ready market for Florida cabbage in many areas that can be supplied by truck delivery. These are hauled in bulk without packaging.

CHINESE CABBAGE (Pe-tsai)

Chinese cabbage, although not of major importance, is rapidly becoming more generally grown in Florida. It grows well on land suited to cabbage or lettuce. The growth should be rapid so that the vegetable will be crisp. It requires about the same fertilization as lettuce.

The plants are started in the seedbed and transplanted into the field when three or four inches high. The rows should be about 30 inches apart and the plants set about 15 inches in the row.

Shallow cultivation combined with liberal amounts of nitrate fertilizer will produce large heads. When preparing for the table the outer leaves are stripped off, leaving a whitish crisp center that is used in salad or eaten as lettuce. Unless the plant makes a quick, succulent growth it is practically worthless.

When shipped it is packed in celery crates.

From 6 to 10 ounces of seed should supply sufficient plants to set one acre.

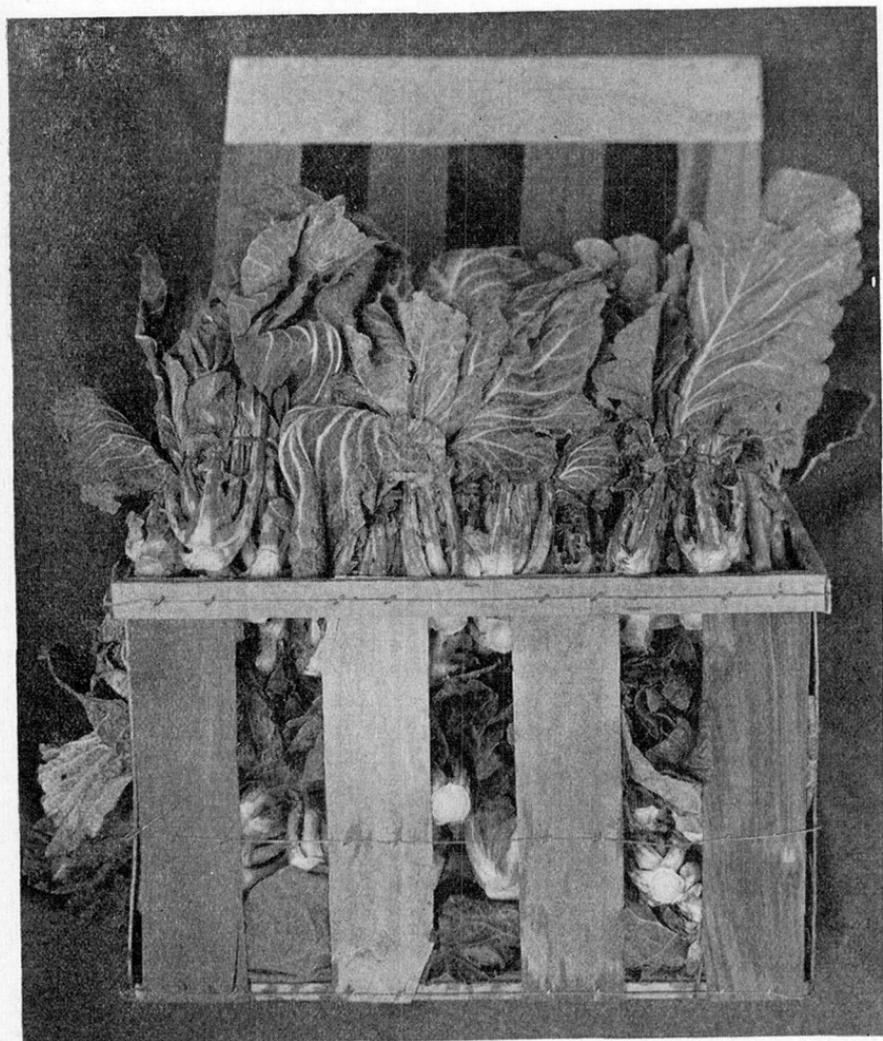


Fig. 7.—Entire plants of young collards have been harvested and placed in a wirebound crate.

COLLARDS

Collards are grown in Florida during practically every month. On account of their hardiness they can be carried through the winter months without protection in northern Florida.

The cultivation of collards is similar to that of cabbage.

In order to market collards successfully, the leaves must be tender and crisp and hence must make quick growth.

If the plants are old, the leaves must be stripped off the stems, but if the plants are young and tender and the growth from 12 to 15 inches high, the plants may be cut off just above the crown, these tied in bunches, then packed in a large crate and transported by truck or railroad mainly to Southern markets.

CARROTS

Carrots grow well during the cool months under a variety of conditions. On average garden soil fairly moist and well fertilized the crop can be made especially profitable as a market garden crop or can be shipped to distant markets.

Carrots are also an excellent garden crop for home use as their food value is relatively high. On rich land they produce a heavy yield.

The seed should be sown during the fall, as the crop requires three or four months to mature. One can have marketable carrots from January to June with a reasonable amount of care.

SOIL AND PLANTING

Muck or sandy loam garden soil thoroughly pulverized is desirable for carrots. The seeds should be sown in drills about 18 inches apart and covered about an inch deep. Carrot seeds are slow to germinate and uncertain in germination. Liberal seeding is advisable, at the rate of 4 to 5 pounds per acre. In case of too thick a stand they should be thinned to about 2 inches in the rows.

FERTILIZATION

From 600 to 900 pounds of fertilizer per acre should be applied to average soils, although smaller quantities may be used on well decayed and moist muck soil. The fertilizer should analyze 4-6-7. It is usually best to apply one-half the fertilizer before sowing the seed and work the remainder in between the rows when the plants are half grown. An additional application of

some readily available nitrate fertilizer such as sulfate of ammonia or nitrate of soda is advisable if the plants are growing slowly.

MARKETING

Carrots grown in Florida are marketed locally or can be shipped in trucks or by car-lots. They should be washed clean, then tied in medium sized bunches of 6 to 10. Any dead leaves are removed and the green tops left attached. With a good crop and a strong local demand at fair prices, the gross return per acre is usually high and the crop very profitable.

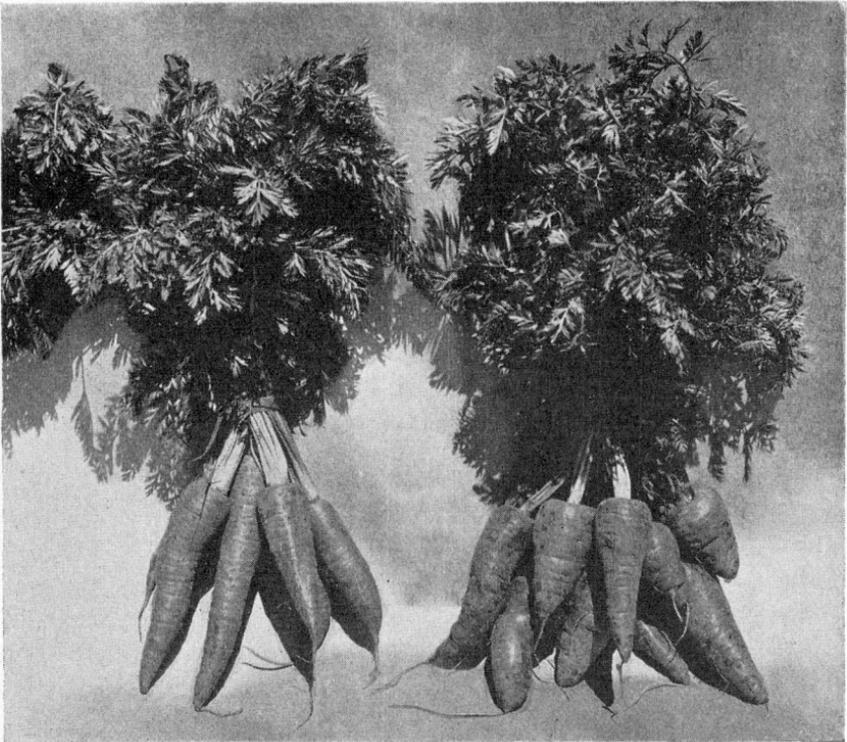


Fig. 8.—Two kinds of carrots tied in attractive bunches for marketing.

Carrots can be packed in hampers with tops removed. Carrots are also shipped to distant markets packed in crates or boxes.

Imperator, Red Cored Chantenay, Morse Bunching, Bagley, Nantes, and Danvers Half-long are satisfactory varieties.

CAULIFLOWER

Cauliflower is planted and handled under conditions similar to cabbage, but is more difficult to raise and place on the market in the best condition. It grows best during the cooler months and should be ready for market during January, February and March. To mature, it requires about four months from the time the plants are set, so that the seeds must be sown in the seedbed early in the fall.

Early Snowball is the leading variety in Florida; Erfurt is second.

SOIL

The soil best suited to cauliflower is a compact, sandy loam well supplied with organic matter. Wet land should be avoided, although the crop needs a constant supply of moisture. Irrigation is more necessary than with cabbage, although good crops are grown without irrigation on certain soil types. Surface or sub-irrigation is preferable to an overhead system, to avoid discoloration of the heads when about mature. The soil should be thoroughly plowed and harrowed, and all vegetation covered well.

Cauliflower should be ready for market between January 1 and April 15, depending on the location in the state. It is, therefore, necessary to set the plants in the field between October 1 and January 1.

PLANTING

When ready to plant the rows should be laid off 36 inches apart and the plants set 20 inches apart in the rows. The plants are set in about the same manner as cabbage, but with a little more care, as they are less hardy. It will require about 9,000 plants to set an acre, which may be secured from about 16 ounces of seed.

Cultivation should be continued until the crop is harvested.

FERTILIZATION

Cauliflower requires liberal fertilization, from 1,500 to 2,000 pounds of commercial fertilizer to the acre being needed on average soils. Half of this fertilizer should be worked into the rows 10 days before the plants are set, and the remainder applied when the crop is about half grown. Almost any well balanced fertilizer, containing 5 percent ammonia, 6 percent phosphoric acid and 4 to 6 percent potash, will answer. An application of

150 pounds to the acre of readily available nitrogenous fertilizer will give good results if made just before curd formation.

When mature the leaves should be tied or pinned over the curd to blanch it and prevent discoloration.

HARVESTING AND PACKING

The 1½ bushel hamper is used for packing cauliflower. The standard crate (24x18x9) is the best container.

In harvesting, the leaves surrounding the head should be

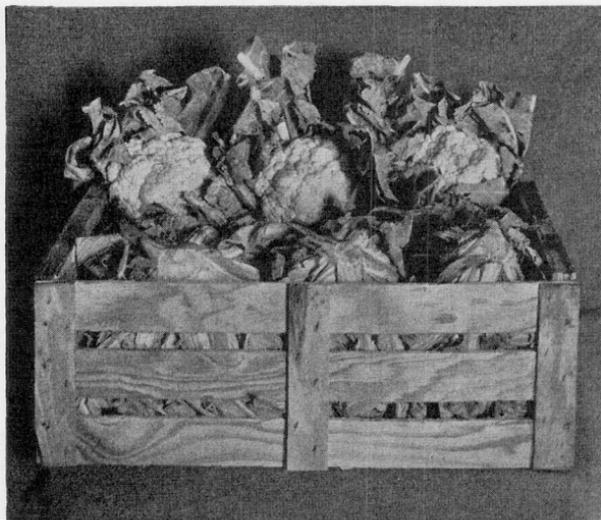


Fig. 9.—Cauliflower in the standard crate.

cut so that they extend 5 to 6 inches above the head. The head is then packed upright in the crate and the projecting leaves serve as a protection to the curd against bruising. Special care is necessary in crating to prevent bruising or discoloration of the head.

BROCCOLI

Broccoli is a hardy, cold resistant vegetable resembling cauliflower. It is grown only to a very limited extent and, up to the present time, has not become of much commercial importance. It is more hardy than cauliflower and can be grown when cauliflower would be destroyed by frosts.

The favorite type produces a loose head consisting of unopened bloom. This head is green and is harvested with 6 to 8 inches of the stem.

One should select a sandy loam or muck soil and have it well prepared, using about the same fertilizer and cultivation as for cauliflower.

The seed should be sown in a seedbed during September and October. The plants may be transferred to the field when they

are about 4 inches high. Care should be taken to see that the seedlings are not too thick in the seedbed. The plants will be stronger if they are first transferred into rows, setting them 3 or 4 inches apart and later transferring to the field. This, however, involves extra labor and is not necessary if the plants in the seedbed are not too thick and spindling.

The heads should be cut with a few leaves to protect them, and marketed in flat packages. The heads are subject to discoloration unless kept cool by icing or refrigeration during shipment.

VARIETIES

Italian Green Sprouting is the favorite variety.

One-fourth pound of seed should produce sufficient plants to set an acre. In field planting, the rows should be about 3 feet apart and the plants set 15 to 20 inches in the row.

Plants set in the field during November should have mature heads in February and March.

CELERY

Celery in Florida is generally planted on level, well irrigated land. The soil should be sandy loam, fairly compact, with a good supply of humus thoroughly drained. A low, sandy hammock, or a high quality flatwoods soil produces good crops. Celery may also be planted on muck soils which are well adapted to the spring crop.

The soil should be thoroughly prepared and treated with lime or ashes if the reaction is excessively acid. Unless it is rich



Fig. 10.—Papering celery.

in organic matter, it should have a heavy crop of vegetation plowed under two or three weeks before planting. Ten to 20 tons of stable manure per acre is recommended if available and of good quality. However, leached or poor quality manure is usually not worth the price paid for it.



Fig. 11.—Celery papered for blanching.

In planting celery the rows are laid off 30 inches apart and the plants are set $3\frac{1}{2}$ inches in the row. In some cases the plants are set 6 inches apart in double rows, but the single-row system is most frequently used. On flat land, where lack of

drainage may endanger the crops, celery is planted on raised beds and in double rows.

Plants for transplanting should be about 4 inches high. It will require approximately 60,000 plants to set an acre. About 8 ounces of seed should be sown to produce this number of plants.

When the plants are set the ground must be made thoroughly moist, almost wet, until growth starts, after which the soil needs just enough moisture to induce growth.

The varieties of celery grown in Florida are Golden Self-Blanching for early crops, and Green Top and Easy Blanching for late crops.

FERTILIZATION

From two to four tons of commercial fertilizer (according to the natural richness of the soil) analyzing 5-5-5 is required to grow an acre of celery in the principal celery districts of Florida. In different soil types, other formulas are used. Many prefer a high potash analysis, sometimes increasing the potash analysis to 10 or 15 percent.

The fertilizer should be applied in three or four applications, the first of around 1,000 pounds mixed well into the rows 10 days before the plants are set. This usually should be supplemented with several light applications of nitrate of soda, from 100 to 200 pounds to the acre each, while the crop is growing.

BLANCHING AND SHIPPING

When the celery is mature, heavy reinforced paper, cut in 10 or 12 inch strips and held close to the plants by wire wickets, is used to blanch the celery. This operation should be done 10 days to three weeks before cutting begins.

The standard container for shipping Florida celery is the 10-inch celery crate, measuring 10x20x22 inches. From 336 to 350 of these make a carload. All car-lots of celery from Florida are shipped in refrigerator cars, well iced.

Celery is also marketed with a part of the tops cut off as shown in Figure 13.



Fig. 12.—Cutter used in harvesting celery.

CHAYOTE*

The chayote (*Chayota edulis*) is a perennial-rooted cucurbit,

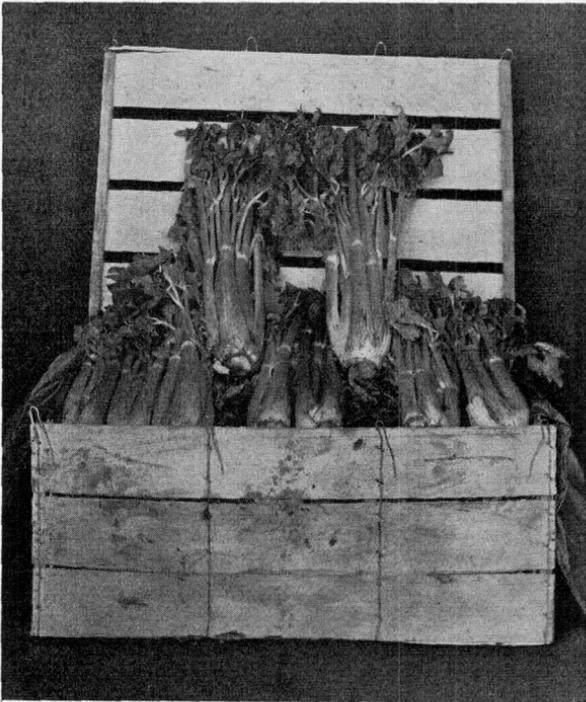


Fig. 13.—Celery in a wirebound crate.

belonging to the same family as the cucumber, squash, and melon. It is a native of tropical America. The vine is a climber and the fruit is more or less pear-shaped—variable with different varieties—and somewhat flattened. The crop has not yet attained commercial importance, though it has appeared on various markets in the South and in some Northern cities for many

years. Numerous varieties of chayotes exist: dark and light green and ivory white; shapes varying from distinctly pear-shaped to nearly round; weights from two to three ounces to as many pounds each; and from perfectly smooth and even to very spiny or corrugated or both. The non-spiny and non-corrugated types are much preferred because of their better appearance and the greater ease of handling.

COOKING AND SERVING

The cooked chayote has a delicate squash-like flavor and, when not too old, an excellent texture which makes it distinctive and very pleasing when served without mashing. The single large seed is edible and is commonly cooked and served with the rest of

*Information on the chayote supplied by Office of Plant Introduction, Bureau of Plant Industry, U.S.D.A.

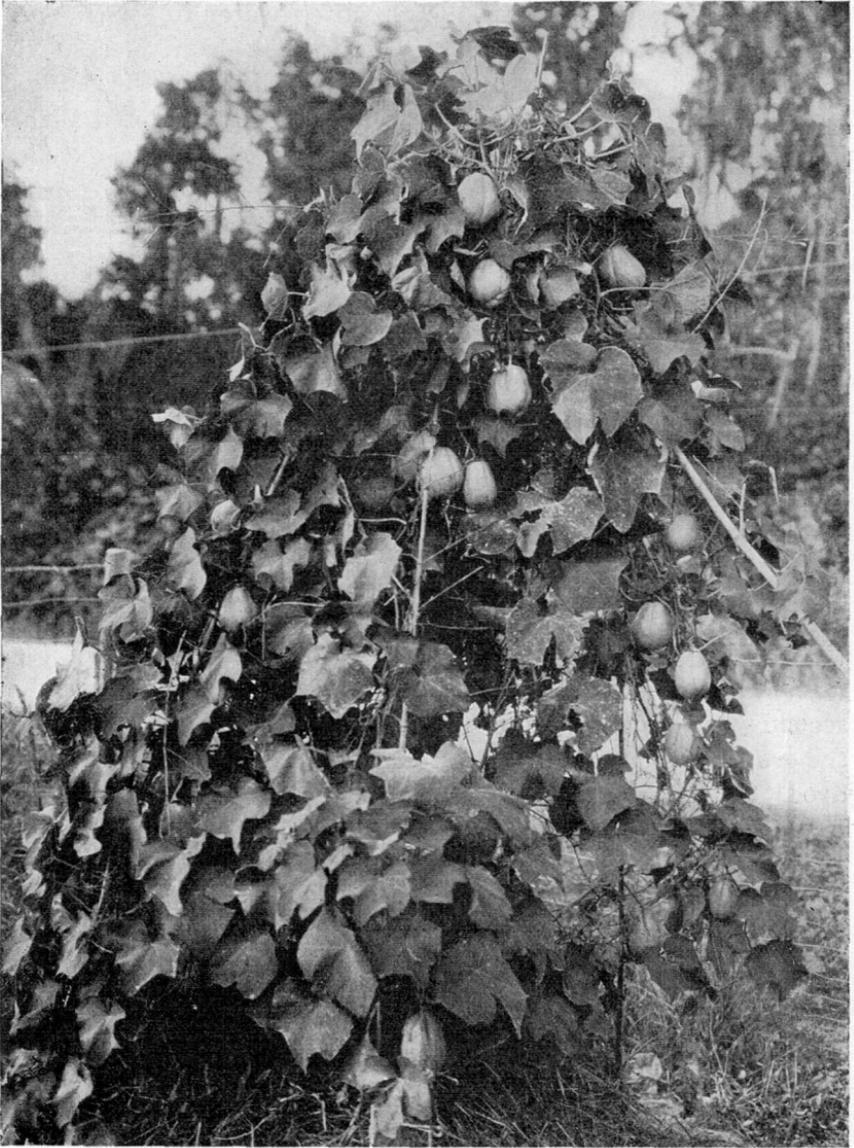


Fig. 14.—White-fruited variety of chayote grown on a bamboo trellis in central Florida. This variety is practically free from spines and but slightly corrugated. (Courtesy U. S. D. A.)

the vegetable. The chayote may be prepared in different ways. A convenient method is to cut slices about $\frac{3}{4}$ inch thick, cross-wise through the seed, pare the slices, and boil until tender

(15 to 20 minutes) in just enough salted water to cook. These slices may then be served hot, either whole or in pieces, with butter melted over them, or they may be diced and served with a cream sauce. The boiled chayote is especially adapted for use in salads. Sliced chayote, either raw or cooked, is excellent fried. The vegetable is also used in stews and may be baked and stuffed. Immature chayotes are used for pickles.

CULTURE

The whole chayote fruit is planted, with the broad (sprouting) end slanting downward. A part of the smaller end is left exposed above the soil surface. The distance between plants should be at least 12 feet, as the vine is a rampant grower. Planting is usually done in the early spring, or even in the fall in southern Florida.

A rich sandy loam is desirable for chayotes.

The vines should be provided with a trellis or allowed to grow over a fence, porch or tree that does not give too dense shade.

The first year, the vines usually will not flower until early fall. The fruit matures in about 25 days from setting. The second year, a late spring crop may be obtained. The size of the crop from one vine varies from a few fruits to several hundred. Fruit seldom sets during the summer.

FERTILIZING CHAYOTE

Stable manure should be used for chayotes when available. This may be supplemented by a complete fertilizer carrying 6 to 8 percent of potash. Moderate applications three or four times during the season are better than fewer in larger quantities. Nitrate of soda may be applied lightly when vine growth lags, and especially when flowering begins.

INSECT PESTS AND DISEASES

Chayotes are attacked by the same enemies as other cucurbits, and methods of control are the same. For leaf-eating insects, such as the cucumber beetle and the squash lady-bug, arsenate of lead is used. Soft-bodied insects, like the melon and pickle worms and the aphids, may be destroyed by a nicotine spray. Root-knot is one of the more serious diseases to which the chayote is subject.

MARKETING

Chayotes for market should reach practically full size, as the skin otherwise will be too tender and the fruit more likely to be bruised and become shriveled. They must be handled carefully to avoid bruising. Sprouting of mature fruits on the vine may occur. While this does not affect edibility, except to toughen the seed coat, it is not advisable to send sprouted chayotes to market. For distant markets, chayotes should be wrapped and shipped in vegetable crates.



Fig. 15.—Chayotes are marketed largely in 50 pound potato crates, particularly around Miami.

STORAGE

In storing for seed purposes, chayotes may be kept in clean dry sand in a cool place. When kept for table use, they can be wrapped in porous paper and packed in crates.

CUCUMBERS

Cucumbers are grown as a market crop in many sections of the vegetable growing area of northern, central and southern Florida. Most of the early crop is planted in August, September and October on a limited acreage in South Florida. These cucumbers are usually marketed between Thanksgiving and Christmas. In past years a limited acreage was grown as a fall crop in northern Florida counties. This, however, has been almost

discontinued. The largest acreage is grown in central Florida, and the cucumbers are marketed during March and April. A late spring crop is grown in Lake, Marion, Levy, and Alachua counties; these are marketed between April 15 and June 10 in normal seasons.

SOILS

For cucumbers select a fine, well drained, sandy loam with preferably a southern slope. Flat land with an adequate supply of moisture is favorable, providing it has sufficient drainage. Flat pinewoods land with a hardpan soil and subject to overflows is usually not suitable for cucumbers. Such soils may be improved by draining, liming and plowing under considerable quantities of vegetation. The better grades of pine land are considered satisfactory for cucumbers.

SOIL PREPARATION

To prepare soil for cucumbers, plow it 5 to 6 inches deep and pulverize the surface. All vegetation should be turned under one month before planting time.

PLANTING CUCUMBERS

When ready to plant, plow the land, preferably in 5 foot beds, and plant the seeds 2 feet apart on the beds, or plants may be left 2 feet apart and 2 plants to the hill. It is best to check off the field and work a part of the fertilizer into the hills 10 days before planting. To fertilize one day and plant the next will probably injure the small plants, unless the fertilizer is thoroughly incorporated in the soil.

The time for planting will depend on the locality and market intended. Spring planting should be done just as early as danger of frost is over. It requires from 45 to 60 days from the time the seeds are planted until the first cucumbers are picked.

Successive plantings should be made; if one crop is killed by frost, other plants will be coming on. Spraying with bordeaux mixture should begin when three or four leaves are showing and continue at weekly or 10 day intervals until the crop is harvested.

Cucumber plants may be started in pots in the seedbed and later transplanted to the field. This requires much labor and is not recommended where the acreage is large. When planted directly in the field 8 or 10 seeds should be dropped in each hill. This will insure sufficient plants for a good stand. After the plants are well established thin to 3 or 4 to the hill.

It will require about two pounds of seed to plant one acre. Some growers prefer to sow more seed, drilling them almost solid and then thinning the plants to a stand. This will require about 5 or 6 pounds per acre.

Either of these methods will supply sufficient plants for the entire field, and should there be missing hills these can be filled in by transplanting from thick places, using a spade so that plenty of earth can be carried with the roots.

PROTECTION AGAINST COLD

Cold protection is often provided by making V-shaped troughs of 12-inch boards. The rows are set east and west in the field and the troughs are laid immediately to the north of the plants with one side up. This gives protection from cold and winds and hastens germination of the seeds through reflection of sun rays from the back boards. In case of high wind or frost, these troughs can be turned over the plants.

FERTILIZATION AND CULTIVATION

Cucumbers require liberal fertilization. About 1,600 to 2,000 pounds to the acre of a 5-7-5 commercial fertilizer should be sufficient. Half of this should be applied 10 days before the seeds are sown and the remainder 10 days before the first blooms are likely to appear. Fertilizer applied as a side-dressing should not come in contact with the plants. It may be worked well into the soil with a sweep. Unless the fertilizer is incorporated in the soil, it will usually be slow in providing plant food to the vines if the soil is loose and dry.

Should the crop indicate lack of growth, 50 pounds of readily available nitrogenous fertilizer to the acre may be applied as top-dressings two or three times at intervals of 10 to 12 days. A heavier application at one time is likely to cause shedding of the bloom and young fruit. Care should be used not to let the fertilizer fall on the plants, as it will burn the leaves. The purpose of this application of nitrogen is to stimulate growth and produce more bearing surface.

As soon as the plants are large enough they should be given shallow cultivation, principally to control weeds. Cultivation should be continued as long as possible without injuring the tender growing vine tops. It should be as shallow as possible, as cucumbers are very shallow rooted and the roots are as long as the vines.



Fig. 16.—Cucumbers with overhead irrigation.

IRRIGATION

It is often profitable to provide irrigation for cucumbers. While cucumbers will withstand considerable drought, the yield will be light unless they have sufficient moisture. Overhead irrigation is generally used, although it may stimulate vine diseases. Cucumber growers usually prefer surface sub-irrigation systems. Irrigation should be used only when needed to keep the plants growing and producing.

HARVESTING

Cucumbers are ready to pick when the fruit has grown to about full length for the variety and the blossom end is rounded out well, but before the sides lose their corrugations and become full and smooth. If allowed to become ripe, they are not salable. They should be picked before the seeds harden. They are gathered in field baskets, taken to a packing shed, and placed in standard cucumber crates or tubs for shipment (Fig. 1). In the early part of the season it will be necessary generally to pick over the field at least twice a week; but after the season advances and the fruit matures more rapidly, three pickings a week may be necessary to prevent some fruit becoming too mature. All ill-shaped, wormy and unmarketable fruits should be pulled from the vines, as these draw on soil fertility and moisture and are usually worthless for marketing.

VARIETIES

Some important commercial varieties raised under field conditions are Improved Clark's Special, Straight-8, Improved Long Green, Klondike, Early Fortune and Kirby Staygreen. These varieties are good shippers and produce well under average conditions.

THE DASHEEN*

The dasheen (*Colocasia esculenta* (L.) Schott), while not a major crop, is of importance in a few localities in the South. It is a Chinese variety of the taro—an important root crop of warm countries—first introduced from the island of Trinidad about 1905, though not grown here commercially until 1913.

The dasheen is similar to the potato in composition but is much less watery. It contains about 50 percent more protein and starch than the potato and is higher in food value. The flavor is suggestive of chestnuts.

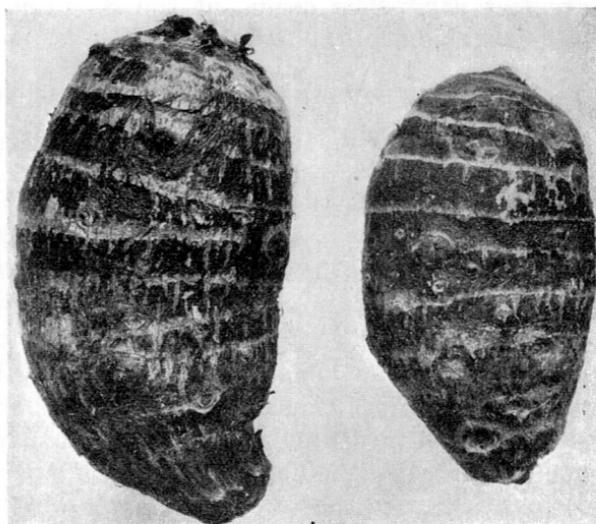


Fig. 17.—First grade dasheen tubers, cleaned for market. (Reduced.)

Dasheens are baked and otherwise cooked (but not boiled and mashed) much like potatoes. They cook in somewhat less time than potatoes.

The dasheen plant resembles the elephant-ear, to which it is related. Each hill produces one or more large central corms (solid bulbs) and a number of lateral "tubers". Both corms and tubers are edible, though if grown in poorly drained soil the corms are not of suitable quality for the table. There is a prejudice against the corms because of their large size (up to several pounds each) and for this reason as well as because

*Secure Farmers' Bulletin 1396, U.S.D.A., for fuller treatment on the subject, including detailed cooking directions.

corms of poor quality have at times been shipped, the market much prefers the tubers.

The present market demand, mainly among the oriental populations of large cities, is supplied by the acreage of dasheens regularly grown.

VARIETIES

The Trinidad dasheen is the variety generally grown. When well grown, it yields heavily—up to 350 bushels an acre—and is of excellent quality. The Sacramento variety produces fewer lateral tubers, but they tend to become larger and usually are of more uniform shape than those of the Trinidad; and they are less dry. The corms of the Sacramento usually are not of good table quality.

PLANTING AND CULTIVATION

For best development, the dasheen requires a rich sandy loam soil, moist but well drained. An abundance of humus is essential. Good hammock lands are especially suited to the crop. The plants will endure occasional flooding for short periods. Dasheens do well in drained muck soils.

Planting may be done as early as weather conditions permit, during February or March; the farther south, the earlier. Large pieces of corms or whole tubers weighing 2 to 5 ounces each are best for planting, though smaller tubers may be used. Plant singly two to three inches deep, in flat ground or slightly raised beds. The rows should be 4 to 5 feet apart and the hills 2 to 2½ feet apart in the row. Ridge the rows gradually in cultivation during the summer.

Cultivation should be shallow after the plants are well started.

Use rotted stable manure when available and supplement with a potato fertilizer, high in potash, in late spring at the rate of 800 pounds per acre. A second application may be given in July or August. The dasheen is one of the heaviest feeders among all crops. The crop matures in October or November, depending upon time of planting and season.

HARVESTING

Dasheens are harvested the same as potatoes. The use of potato forks in harvesting may injure the best tubers. The tubers will be better matured if not harvested for some time after the tops are dead.

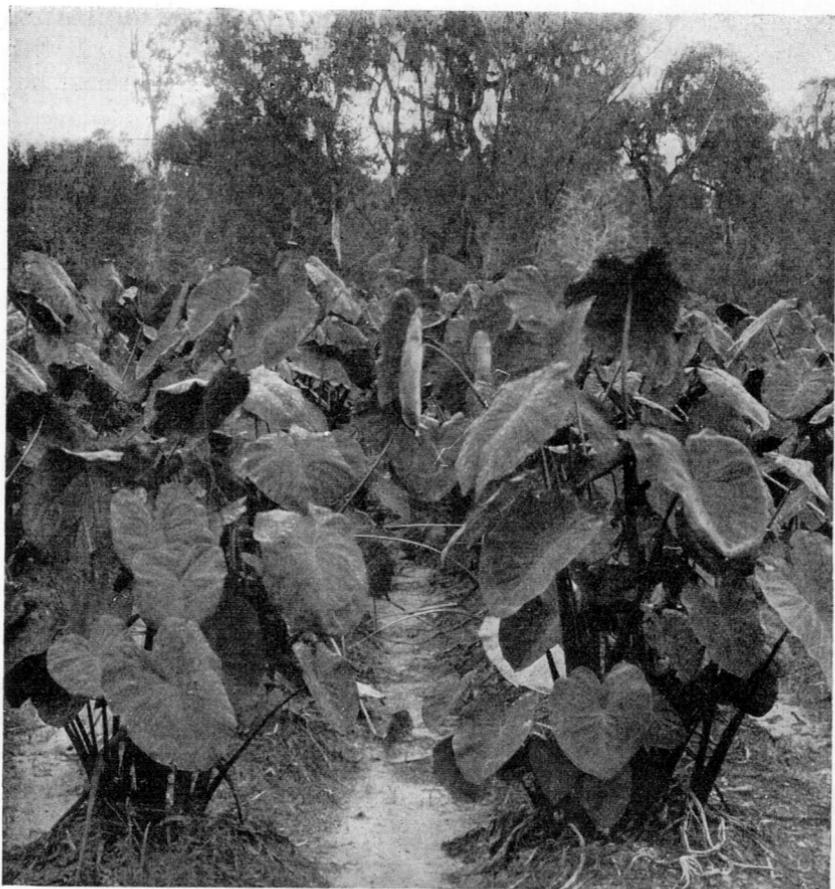


Fig. 18.—View in Florida dasheen field near the end of October. The rows were ridged by drawing soil toward them during the late summer. (Courtesy U.S.D.A.)

MARKETING

Dasheens for market should be well cleaned, have the fibre removed, and be graded. Only tubers of good shape and from the size of a large egg upward should go to market. Corms will sometimes be taken but are less marketable. Corms and cull tubers may be used for stock feed or seed. Dasheens for market are usually shipped in sacks of 100 to 125 pounds each or in hampers.

STORAGE

Dasheen corms do not keep so well as the tubers and it is advisable to dispose of them as early as practicable after harvest. The tubers will keep for many months at a temperature of 50

degrees F. Usually they can be kept under a house until April or May. They have also been kept in "banks" until April with little sprouting when covered with hay or similar material but no earth.

EGGPLANTS

Eggplants are usually grown as late fall and early spring crops in the northern counties. South Florida, however, raises them as a winter crop. While eggplants are produced under conditions similar to those of tomatoes, they are not as easily grown and require more intensive cultivation. The plants are delicate when raised in the seedbed and have to be transplanted with care. They are more subject to disease than tomatoes, so that seedbed management is important in getting the crop started right.

Eggplants require careful attention and should be planted on soil fertilized well. The plant is a deep feeder with an extensive root system, so that it is capable of using liberal amounts of fertilizer.

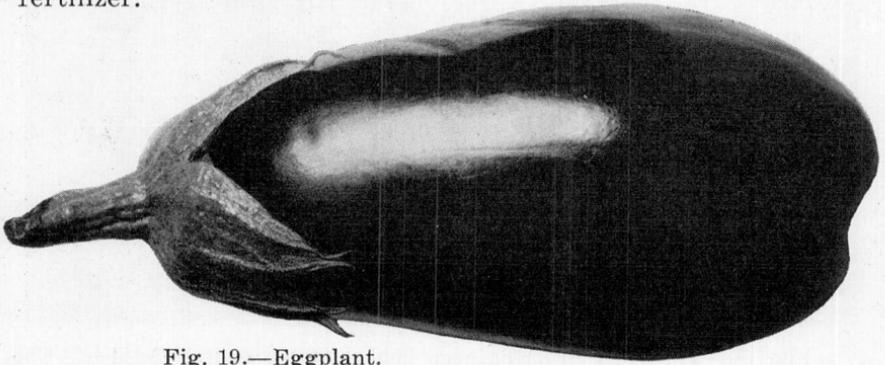


Fig. 19.—Eggplant.

SOILS

The most suitable soil for eggplants is a sandy loam, having a fair supply of organic matter. A constant supply of moisture is required, especially until the plants become firmly rooted. They will not thrive on loose, coarse sand where the soil is dry and thirsty; nor will they do well on poorly drained, flat land, but they make good crops on well drained hammock lands and good pineland.

PLANTING

Eggplants will mature in about 90 to 120 days after the plants are set in the field. The seedbeds should be sown early in July, about four weeks in advance of transplanting so as to have good, strong plants for the fall crop.

Approximately 10 ounces of seed will produce sufficient plants for one acre. However, it is preferable to sow one pound of seed for each acre in order to select strong plants; about 3,000 plants will set an acre.

Eggplants are usually set in 4 to 5 foot rows, one plant to every 36 inches. In setting them more care must be exercised than with tomatoes. They are easily wilted and, if set during hot weather, should be shaded for a few days. This is particularly true with fall plantings. Large palmetto leaves are often used to shade young plants.

VARIETIES

The most suitable varieties for Florida are Florida Highbush, New Orleans Market, New York Improved Purple Spineless and Black Beauty. The latter variety, while it makes the most attractive fruit, is more subject to disease.

FERTILIZATION AND CULTIVATION

From one to two tons per acre of commercial fertilizer, analyzing 5-7-5, should be applied. Fertilize at least twice, applying half the given amount two weeks before setting the plants and the remainder three or four weeks later. Some growers make a third application when the blooms start opening. The nitrogen in the third application should be from an inorganic source.

Shallow cultivation to keep weeds in check is sufficient.

HARVESTING EGGPLANTS

Eggplants are usually ready to pick when the fruits become deep purple in color and firm in texture.

The fruit of the eggplant is easily bruised and must be handled with exceptional care. It should not be pulled off, but the stem should be cut very close to the fruit. It should be cut also when dry and be handled just as little as possible.

PACKING

Florida eggplants are packed in the standard pepper and eggplant crate, 11¼x14x22 inches. In packing wrap each fruit in paper. From 400 to 450 crates make a carload. They are also shipped in bushel hampers.

ENDIVE

Endive (*Cichorium endivia*) is grown as a market-garden or truck crop and is used as a salad and to a lesser extent as a pot herb.

Field culture, fertilization and packing of endive are the same as for lettuce, but the plants are somewhat slower growing. In the Sanford area endive is not always grown in rows like lettuce, but the land is leveled and the plants are set 12 inches apart each way. The green leaves are more bitter than are the blanched; therefore, the inner leaves are blanched by tying up the outer leaves or by covering when they are to be used as salad.

There are two types of endive, the curled and the broad-leaved varieties. The broad-leaf type is commonly called Escarole by the producers. White Curled and Moss Curled are examples of the curly-leaf type, while Broad-leaved Batavian is an example of the Escarole type.

Three pounds of seed will sow one acre.

LETTUCE

The soil best suited to lettuce growing is a moist, rich, compact, sandy loam that can be irrigated and thoroughly drained. As lettuce must be grown in Florida during the cool months to prevent seeding and to produce solid heads the soil must be well supplied with decayed vegetable matter and be sufficiently drained that the water will run off quickly after heavy rains. If the drainage is at all uncertain, the crop should be set on beds with water furrows leading into an open ditch.

The soil must be thoroughly pulverized, made sweet and put in good physical condition.

After the soil has been well prepared, the rows should be checked off in squares of from 12 to 15 inches, according to the variety.

When four leaves have formed plants are taken from the seedbed and set in the checks. The soil should be moist. Normally it takes three to four weeks after sowing seed in bed to get good plants; the main thing is a good root system. The soil must be settled firmly around the roots by hand and a small amount of water applied if the soil is dry.



Fig. 20.—A field of lettuce.

CULTIVATION

Shallow cultivation should begin as soon as the plants start growing. As the plants are set close together all cultivation must be done by hand weeders and cultivators. Cultivation should be practiced mainly to keep down weed growth, but in case the soil becomes water-soaked by heavy rains, more frequent cultivation may be advisable.

IRRIGATION

Lettuce does not require as much soil moisture as celery but the soil must be kept constantly moist. Care should be exercised in irrigating lettuce, for the crop is easily ruined by over-watering.

LETTUCE VARIETIES

The chief shipping variety of lettuce for Florida is White Boston but Paris White Cos, Romaine, New York Number 12, and New York Number 515 are grown for shipment. The last two varieties are the Iceberg type.

FERTILIZATION OF LETTUCE

A liberal supply of plant food must be provided. One and a half tons commercial fertilizer to the acre, analyzing 5-5-5, is used in two applications. Half the fertilizer should be thoroughly worked into the soil two weeks before the plants are set and the remainder two to three weeks after the plants are set. On lands that are flat with a tendency to sourness, an application of 700 to 1,200 pounds per acre of hardwood ashes two weeks before the first application of fertilizer or 1,500 pounds of agricultural lime applied four weeks before planting will be beneficial.

CUTTING AND PACKING

Lettuce should be cut for shipping as soon as it becomes well headed, and packed in the standard lettuce crate $7\frac{1}{2} \times 18 \times 22$ inches, or in the standard bushel hamper.

From 400 to 450 packages of lettuce make a carload and all car-lots for Eastern markets should be shipped under refrigeration. If shipped by trucks, they must be carefully handled and placed in hampers and the load top-iced.

ROMAINE

Romaine is a variety of lettuce and requires similar cultivation and fertilization as other varieties. It grows successfully where other varieties of lettuce are grown. There is a limited demand for it and acreage is much less than with other varieties.

MUSKMELONS AND CANTALOUPE

Muskmelons, often called cantaloupes, should be planted on the better grades of sandy loam soils. They also grow well on clay land. They are planted and cultivated very much as cucumbers and handled on about the same soil conditions.

PLANTING AND FERTILIZATION

Muskmelons are produced as a spring crop, and usually ripen in May and June. The seeds are planted as soon as danger from cold injury is past, usually about March 1 in northern Florida and earlier in central and southern Florida.

In planting, the rows are laid off about 6 feet apart and hills are planted about every 3 feet. Some prefer to check the land 4x6 feet and plant in the checks.

About six seeds are planted in each check, requiring about two pounds of seed per acre. When the plants begin to run they should be thinned to one or two plants to the hill. Cultivation should be shallow.

Fertilization should be at the rate of about 1,500 pounds of a 4-8-6 mixture per acre.

VARIETIES

Imperfecto and Honey Rock varieties are usually planted when growing for shipment. For local markets the Georgia Muskmelon and Gem are good varieties.

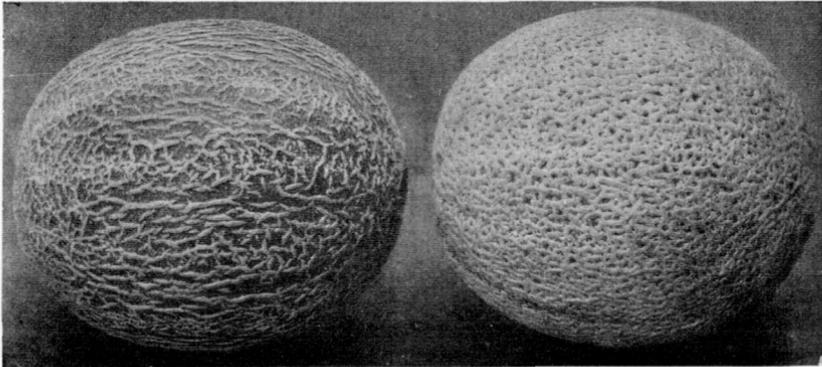


Fig. 21.—Well netted Rocky Ford cantaloupes.

Cantaloupes are ready to pick when the stem will separate from the melon under moderate pressure of the thumb and the stalks begin to crack. If pulled when green, the fruit does not ripen and is of poor quality. When the Rocky Ford variety is ripe the netting is fully developed while on immature melons the netting is flat.

Muskmelons shipped to Northern markets should be packed in standard crates 12x12x22 inches.

OKRA

Okra is planted quite generally throughout Florida. In some sections it is an important commercial crop. Okra is a warm weather plant and is generally grown as a summer crop. However, it is grown in a limited way as a fall crop, and if no killing frosts occur may be carried through the winter. Plant between February and September, and during October and November for the fall and winter crops. It will not do well unless the ground is fairly warm. It can be planted on a variety of soils

but does best on a sandy loam containing fair amounts of fertility and moisture.

PLANTING

The rows should be about three feet apart. The seeds are small and, therefore, must be covered lightly. It requires 6 to 8 pounds of seed per acre. When the plants are well established thin to one every 12 inches. However, on exceptionally moist and rich soils the plants may be thicker. Okra requires about the same cultivation as corn. It is one of the easiest crops to grow, and bears for several months.

HARVESTING AND MARKETING

Okra should be cut every two or three days. If this is not done, the pods become hard, unsuitable for table use. Then, too, if not cut regularly, the plants stop bearing.

When okra is shipped to market it is packed in six-basket tomato carriers or in the standard bushel hamper. There is usually a fair demand for it and generally at prices which warrant shipping by express.

FERTILIZATION

Fertilize for okra about the same as for sweet corn, applying from 600 to 800 pounds to the acre on thin land. If stable manure is abundantly available okra may be grown without commercial fertilizer.

OKRA VARIETIES

The best varieties for Florida are Perkins Mammoth Podded, Long Green and White Velvet. Perkins Mammoth Podded is especially recommended for shipping. This variety has deep green, long pods. Long Green and White Velvet are particularly good for home use, as well as being good shippers.

ONIONS

Onions are generally grown as a garden crop, but not extensively as a market crop. Under favorable conditions they are one of the easiest vegetable crops to produce. However, the soil must be rich, moist, and in good cultural condition to produce a satisfactory crop.

SOIL

Onions grow best on a dark, sandy loam soil well filled with organic matter and having a clay or compact subsoil to insure a constant supply of moisture; also on muck soil. Onions are

shallow rooted, and are affected quickly by excessive drought or rain. This requires good cultural conditions and ample drainage, especially on flat land. Pine flatwoods with a comparatively heavy sandy loam, a good grade of muck soil with some sand in it, and hammock lands of good quality are quite suitable for this crop. They must have a plentiful supply of nitrogen, readily available to the plants.

PLANTING

After the soil has been thoroughly plowed and pulverized and put in shape for planting, the rows are laid off from 12 to 14 inches apart and the plants set by hand 2 inches deep and from 4 to 6 inches apart in the rows. While the onion will withstand considerable drought on account of its large bulb, it will not grow off readily without plenty of moisture.

It will require about 90,000 onion plants to set an acre.

Plants are produced in Texas and may be purchased from dealers. It requires 8 to 12 bushels of sets to plant one acre. These sets are planted from 4 to 6 inches apart in 12 to 15-inch rows, but better crops are usually produced from plants.

During dry weather the sets will be slow to sprout, unless the plot can be irrigated. Therefore, irrigation is usually necessary to insure a good stand and a uniform crop.

CULTIVATION

Onions require constant care and cultivation during the growing period. This cultivation must be shallow. The roots do not penetrate deeply into the soil and must not be disturbed in cultivating.

FERTILIZATION

Onions require liberal fertilization. From 1,800 to 2,000 pounds of fertilizer per acre is not excessive. In addition to this, unless a heavy cover crop has been plowed under, it will be advisable to apply from 4 to 10 two-horse loads of well rotted stable manure to the acre. This should be thoroughly worked into the soil before the seeds or plants are set.

Commercial fertilizer should be given in two or three applications, the first a few days before setting and later applications before the crop is half mature. This fertilizer should analyze high in nitrogen, a 6-5-5 formula being good. The source of nitrogen should be principally cottonseed meal, tankage or fish scrap. Later, when the crop is half grown, an additional application of 200 pounds to the acre of nitrate of soda or sulfate

of ammonia, scattered broadcast between the rows and worked in with hand tools, will increase the size of the onions.

Poultry manure in limited amounts is especially valuable and can be worked in between the rows after the plants are well started.

WHEN TO HARVEST ONIONS

When onions are to be shipped they must be harvested during dry weather and handled carefully. Slight bruises, especially during moist weather, will cause rotting. After being pulled, onions should not be subjected to even heavy dews. If to remain in the open over night, they should be covered with sacks to keep off the moisture. In twisting off the tops care must be taken that the tops are not broken too close to the bulbs. This, too, will cause the onion to rot. On account of the moist climate of Florida and the difficulty of getting the product to market in as good condition as those grown in drier climates, onions have not become an important commercial crop here.

Onions may be cured in a drying shed or if there is sufficient quantity to justify, it may be advisable to install a dry kiln. The local market is best for Florida onions as they can be supplied fresh.

VARIETIES AND YIELDS

The principal varieties recommended for Florida are Crystal Wax, Red Bermuda, Australian Brown, and Riverside Sweet Spanish. Care should be exercised in procuring pure seed.

The yield of onions in this state ranges from 400 to 500 bushels to the acre. On some of the richer soils, even a larger yield may be produced.

CURING, PACKING, AND SHIPPING

The Australian Brown and Riverside Sweet Spanish are the varieties suitable for curing. After the crop is pulled and allowed to dry in the field, the bulbs should be spread in a curing shed. After the onions have dried, the tops are removed and the outer leaves stripped off. As soon as sufficiently cured they are placed in crates for marketing.

The bermuda type will not keep in storage except for a short time.

Florida onions are usually packed in bushel hampers.

The crop is usually harvested during April and May.

ENGLISH PEAS

English peas require a richer soil than beans. If the soil is poor and lacks humus, the plants will be weak and the crop light. It is necessary to have vigorous vines and leaves to get a good yield of peas.

English peas need a fairly moist soil. But they will not make satisfactory growth on wet, sandy, or sour muck land. The pea is a legume and requires nitrogen-fixing bacteria in order to produce a good yield. The best pea soils are the better grades of hammock where drainage is good; also on muck glade soils that are not acid.

PLANTING

They should be sown fairly thick in rows 3 to 4 feet apart. There should be one seed to the inch in the drill.

English peas are planted in both single and double rows. If sown in double rows, the rows should be four feet apart. This is a good practice as the vines will support each other. It requires six pecks of seed for double-row planting.

If planted in single rows, they should be three feet apart and will require four pecks of seed per acre.

If the soil is dry, the seed should be planted deep. Cultivation should be done with horse cultivators, just as long as it is possible to pass between the rows. It requires 60 to 70 days to produce a crop.

FERTILIZATION

English peas should receive from 800 to 1,200 pounds to the acre of a commercial fertilizer analyzing 4-8-3. Where the growth shows a lack of ammonia, 100 pounds per acre of some readily available nitrogenous fertilizer may be added as a top-dressing when the crop is beginning to show the first fruit. This will prolong the bearing period.

IRRIGATION

Irrigation will not be necessary if the land is naturally moist. But on high, thirsty land it will be profitable to apply moisture when the crop shows need of it.

PICKING AND MARKETING PEAS

Under favorable conditions, there should be some peas sufficiently mature to pick in 60 days after planting. The bearing period is likely to be distributed over 30 or 40 days. Therefore, several pickings are necessary. Peas should be picked

when the pods are filled; if they remain on the vines longer the sugar content will decrease, causing a low quality product. They should be cooled immediately after picking.

Under favorable conditions, English peas are one of the easiest crops to grow but they are light yielders unless careful attention is given to details of production.

The crop is shipped in bushel hampers.

VARIETIES

The best varieties for Florida for shipment are Little Marvel, Laxtonian, Gradus, Hundredfold, and Thomas Laxton.

PEPPER

Pepper is widely grown in Florida. It is one of the longest-lived vegetables of this state, sometimes bearing more than six or eight months. In some sections, it is one of the most profitable crops. This is particularly true in southern Florida, where it is less subjected to freezing temperatures. Varieties principally grown are California Wonder, Ruby King, Ruby Giant and World Beater.



Fig. 22.—Pepper, protected by troughs.

SOIL

Peppers require a moist, fairly compact, sandy loam soil. A good type of flatwoods is superior to rolling pine, hammock or muck land; although the plant can be grown on any of these soils if properly fertilized and managed.

PLANTING PEPPERS

After the soil has been plowed from five to seven inches deep and pulverized thoroughly, single plants are set 12 to 20 inches apart in 36-inch rows. As pepper plants are less hardy than tomatoes, more care must be exercised in setting them. Weak, spindling plants are difficult to transplant.

It will require about 9,000 plants to set an acre. Cultivation should be shallow not to destroy roots. For the early crop the seedbed should be sown in July and August and shaded by slats or cloth.

FERTILIZATION

From one to two and a half tons of commercial fertilizer, analyzing 4-7-5, should be used to the acre, according to the length of the crop season. In addition, light applications of a nitrate fertilizer (100 pounds to the acre) may be profitably made each month during the bearing period.



Fig. 23.—An attractive crate of peppers.

PACKING

Peppers are graded and packed in the standard pepper crate, 11 $\frac{1}{4}$ x14x22 inches. From 400 to 450 crates make a carload. They are also packed in standard bushel hampers and should be shipped under refrigeration.

POTATOES

Potatoes are generally grown throughout Florida counties, but commercial production is limited; counties producing the



Fig. 24.—Peppers are marketed in hampers and crates.

commercial crop are: Alachua, Dade, Flagler, Palm Beach, Putnam, St. Johns, Escambia, Lee, Hillsborough, and Clay. Many other counties grow white potatoes, but principally for home use or for local consumption.

Potatoes grown in commercial sections are harvested between January 1 and June 1, and compete for markets with those grown in other early shipping states, including Texas, Alabama, Louisiana, Mississippi, and South Carolina.

There is also foreign competition from Mexico and Cuba; this fluctuates from year to year, but is considered an important factor in marketing the Florida crop.

SOILS

White potatoes do best on fairly heavy moist soils with sufficient drainage. The moisture content of the soil when the crop is growing will, to a large extent, determine yields, provided the crop is well fertilized and otherwise properly handled. They do well on a variety of soils, but on types of high, thin sandy

soils they are seldom successfully grown as a marketing crop. The types predominating in and around the Hastings section are Bladen fine sand and Bladen fine sandy loam. These types are found in many flatwoods areas in Florida, and when properly drained and provided with sufficient moisture are well adapted to the production of white potatoes.



Fig. 25.—A potato harvest scene in the Hastings area.

In Dade County potatoes are produced on a calcareous marl soil. During the summer months much of this land has a high water table. In that area there are a variety of conditions not suitable for growing Irish potatoes because of poor drainage; or, because the underground rock lies too close to the surface, which dries out readily unless rains are frequent.

Under any circumstances potatoes do best where there is a liberal supply of organic matter in the soil. This may be added by plowing under summer legumes or weed vegetation just before the planting season. They must be liberally fertilized and produced during the cooler months of the year in Florida.

POTATO VARIETIES

Although several varieties may be used, two varieties are most generally recommended. Spaulding Rose No. 4 is the leading variety in Alachua, St. Johns, Flagler and adjoining counties, and is used very generally for garden crops in many sections of eastern and northern Florida. Bliss Triumph is the main commercial variety in southern Florida counties, particularly

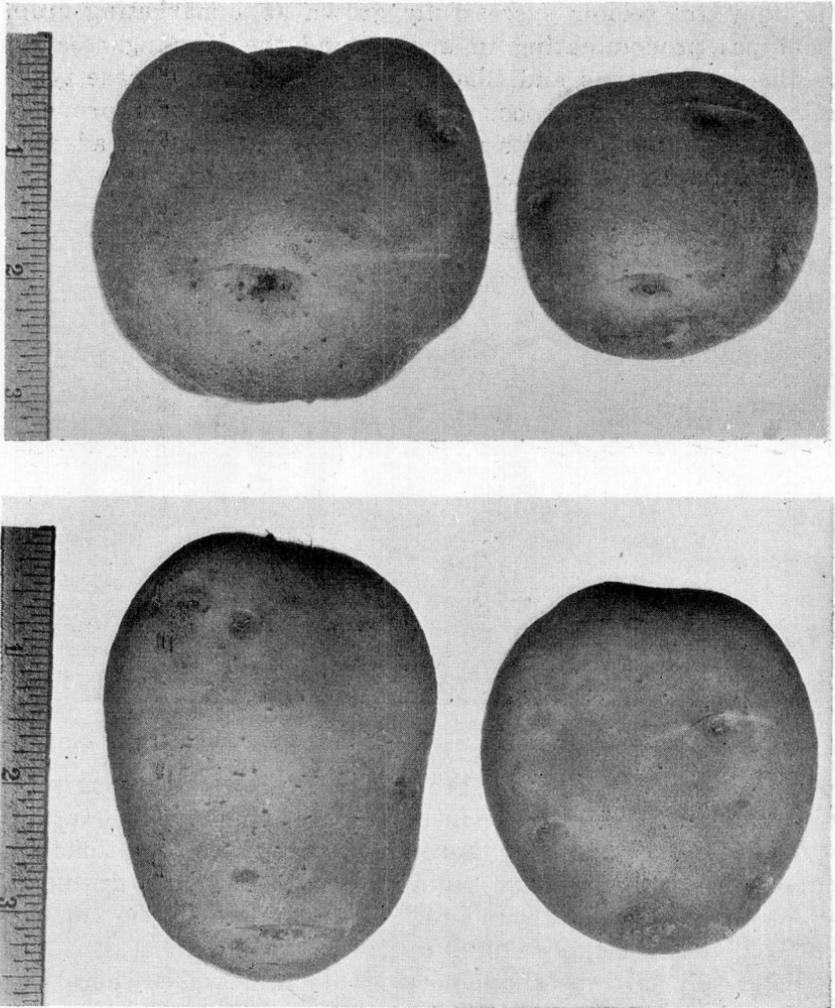


Fig. 26.—Typical tubers of the Bliss Triumph (above) and Spaulding Rose No. 4 potatoes grown in Florida.

in Lee, Palm Beach, and Dade counties. Both varieties are suitable for the production of an early crop and make sufficient growth for marketing in from 60 to 100 days after planting. Other varieties, such as Green Mountain and Irish Cobbler, are produced, but to a limited extent and they are not generally recommended for commercial plantings. Two new varieties—Katahdin and Warba, show promise of commercial importance.

In western Florida counties, Escambia and adjoining areas,

In the western Florida areas applications range from 1,500 to 1,800 pounds to the acre, with approximately the same formulas as used in the Hastings area.

In Everglades soils where organic matter is abundant growers apply fertilizer at the rate of 500 to 800 pounds to the acre, analyzing 8 to 10 percent phosphoric acid and 12 to 16 percent potash. In that area some potatoes are produced even without fertilizer.

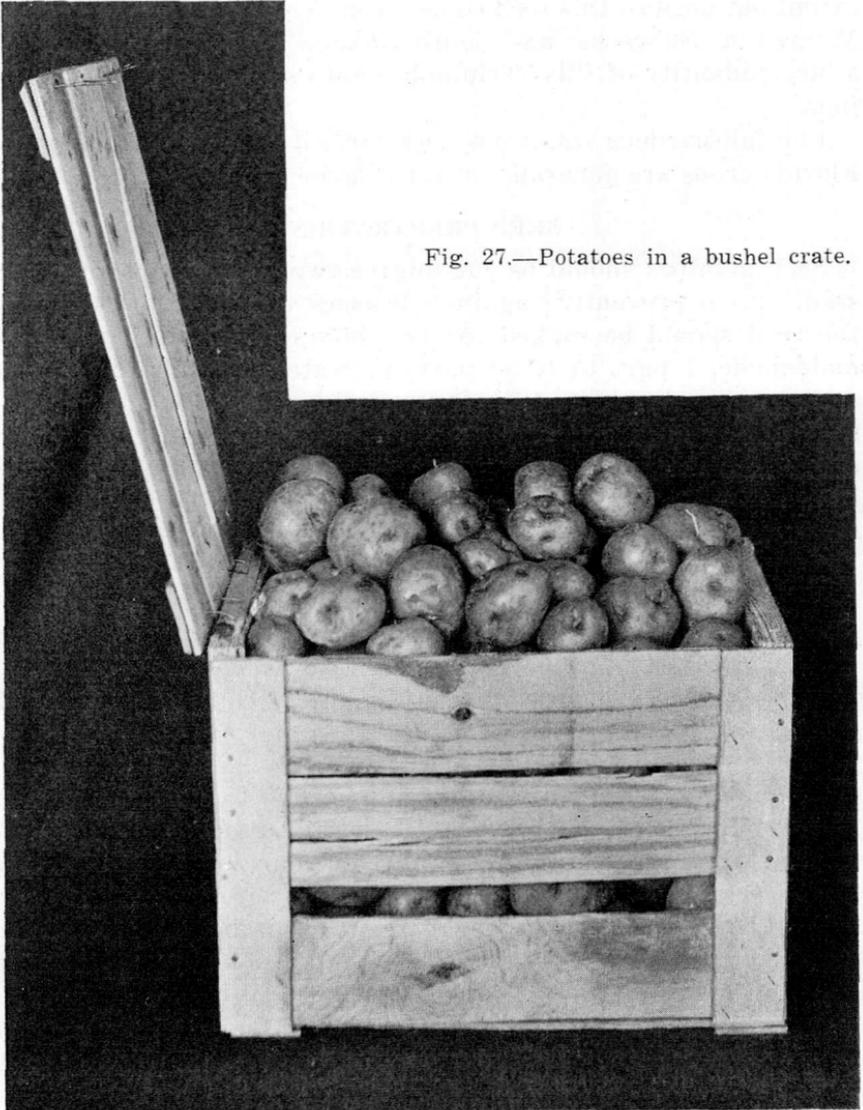


Fig. 27.—Potatoes in a bushel crate.

the Bliss Triumph is the commercial variety grown. These crops are planted during February and marketed in May and June.

SEED SUPPLY

Seed potatoes used for commercial crops of this state are produced in states other than Florida; seed for the Spaulding Rose No. 4 crop is produced principally in Maine. It is recommended that only certified seed be used for commercial crops.

Bliss Triumph seed is also produced in Maine to a limited extent but most of this seed comes from North Dakota, Michigan, Minnesota, Nebraska, and South Dakota. These states furnish a large quantity of Bliss Triumph potato seed for Florida plantings.

For fall gardens small potatoes carried over from the spring Florida crops are generally used for home use or local needs.

SEED PREPARATION

Seed potatoes should be cut to give two or three eyes in each seed. As a preventive against diseases carried in the tubers, the seed should be soaked for two hours in a solution of formaldehyde, 1 part to 1,000 parts of water, then dried and the seed cut for planting. (See Press Bulletin 494, Florida Experiment Station.) For the fall crop, potatoes may be treated with ethylene chlorhydrin to break the rest period of the seed to hasten germination. The material should be diluted 1 part to 60 parts of water.

When the rows are 36 inches apart and the seed spaced 9 to 12 inches in the row and relatively large seed used, it requires about 20 bushels of seed per acre. Where the rows are laid off 42 inches apart and the seed spaced 15 inches in the row, it requires about 15 bushels of seed per acre of U. S. No. 1 planting stock.

POTATO FERTILIZERS

Commercial plantings require from 2,000 to 3,000 pounds of fertilizer per acre, a 4-5-7 being generally used. Fifty percent of the nitrogen should be from organic sources. Many growers apply fertilizer at the rate of one ton per acre before planting, and as the crop nears maturity if conditions indicate slow growth, it is common practice to apply 150 to 200 pounds of nitrate of soda to the acre.

On marl lands growers use 1,600 to 1,800 pounds of fertilizer analyzing 4-8-5 with an additional application of 100 to 200 pounds per acre of manganese sulfate.

PLANTING

Because Florida potatoes are planted on low lands, drainage must be provided and the potatoes should be planted in beds 36 to 42 inches apart. Time for planting depends on the location. For the very early crop, potatoes are planted from October 1 to December 1; for the early spring crop they are planted from December 20 to January 15; and for the late spring crop between February 1 and February 20.

MARKETING POTATOES

Potatoes are shipped in 11-peck barrels, potato crates, or in 80-pound sacks.

They must be graded and shipped clean. U. S. No. 3 grade small potatoes are seldom marketable and if prices are relatively low, No. 2 potatoes sell at a price considerably lower than No. 1.

Crop yields vary from 70 to over 200 bushels, depending very largely on seasonal growing conditions.

See Experiment Station Bulletin 295 for a detailed discussion of potato production in Florida.

RADISHES

Radishes grow readily and the early varieties mature in 20 to 30 days after seeding.

They should be planted principally for home or local use. Market gardeners usually find them profitable as they are easily produced and sell readily if they are crisp and tender. Unless they are pulled at the proper stage of growth they become strong and pithy and are worthless for the table.

SOWING AND FERTILIZATION

A sandy loam or muck soil produces quick growth. The fertilizer should be applied at the rate of 1,200 to 2,000 pounds per acre and should analyze 4-6-7 on sandy land. On muck soil good crops are grown without fertilizer, although some tests have been made that indicate the advisability of applying it. The fertilizer must be mixed with the soil 10 days before the seed is sown, then the soil kept moist.

Often it is not necessary to thin radishes unless sown too thick. The larger varieties should be thinned to about 6 plants per foot.

MARKETING RADISHES

Radishes should be tied in bunches of 6 to 12. They should be washed clean and displayed with a fresh, clean appearance. Radishes may be shipped in standard bushel hampers or bushel baskets. They should always be iced.

VARIETIES

There are several varieties about equally satisfactory. Of these the Scarlet Globe, Crimson Giant, and French Breakfast are among the best.

About 3 to 5 pounds of seed are needed for one acre, or 1 ounce for 50 feet of drill.

SPINACH

Spinach has not been an important commercial crop in Florida. It is grown for home use and local marketing, a limited quantity is shipped in mixed car and truck loads in many sections, and it is an excellent vegetable to be used as greens.

A sandy loam soil or decomposed muck soil produces good yields, as the growth should be quick. The soil should be well cultivated and made fertile. Open sandy soil or poorly drained soggy land should be avoided.

PLANTING AND FERTILIZATION

The seeds should be planted between September 15 and December 1. Place the rows 24 to 36 inches apart, just wide enough to permit cultivation. It will require about 12 to 15 pounds of seed per acre.

Cover the seed one inch deep. Later the plants should be thinned to about six inches. Spinach seed becomes hard and dry if held in stock for several weeks, often causing an irregular stand. They should be soaked about three days before planting. However, care should be taken when soaked seed has been planted to keep the beds moist but not wet. This will insure an even stand.

The fertilizer for sandy lands should analyze 5-7-5. It should be applied at the rate of 1,000 to 1,500 pounds per acre and should be put in the rows a few days before the seeds are planted. When the crop is grown for local use light applications of nitrate of soda or sulfate of ammonia applied as top-dressings will hasten growth.

SPINACH VARIETIES

New Zealand and Bloomsdale are the principal varieties grown. New Zealand is not a true spinach but is a vining plant. The

tips are used as spinach. New Zealand spinach grows well during summer months.

MARKETING

Spinach should be dry when packed for shipment. It is packed in baskets, barrels, or standard bushel hampers and if carefully handled and iced it can be shipped to Southern markets or even farther with good shipping facilities.

When packing see that the dead leaves are taken off. The plant should be cut with very little of the root attached and should be free from dirt.

When loading, ice may be placed in the baskets, then the basket may be covered with cracked ice.

SQUASH

Squash is one of the easiest of truck crops to produce, as it can be grown on almost any good farming soil. It can be grown alone or with corn. The chief objection to planting it with corn is the difficulty of properly cultivating the corn when cultivation is most needed.

Squash also makes heavy yields on muck or flat lands, but the fruit from such lands usually does not ship as well as from higher soils, nor is it of as good quality.



Fig. 28.—Spinach in a hamper top-iced for shipment.

VARIETIES

Early varieties are the only ones suitable for shipping. These varieties are the Cocozelle, White Bush or Patty Pan, Early Yellow Crook Neck, and Mammoth White Bush. These produce fruit 45 to 60 days after planting. The later varieties, recommended for home use, are principally Hubbard, Giant Summer, African, and Table Queen.

FERTILIZATION

Where no manure or compost is available, from 800 to 1,200 pounds per acre of commercial fertilizer, analyzing 4-8-4, should be used for squash. All of this can be applied before planting. On thin, sandy land, however, it is better to apply half before planting and the remainder when the plants are about a month old. As squash requires liberal quantities of organic fertilizer, it is wise to work stable manure or decomposed vegetable matter into the soil before planting. With this organic material one should apply from 800 to 1,200 pounds of commercial fertilizer to the acre.

PLANTING SQUASH

Early varieties of squash can be planted in checks 4x4 feet, but the later, running varieties should be planted in checks 6x8



Fig. 29.—Squash, protected from frost and wind by board troughs.



Fig. 30.—White Bush or Patty Pan type of squash in a hamper ready for shipping. Sometimes squash are wrapped individually before being shipped.

feet. The seeds are planted four or five to each hill. This will require about two pounds of seed to the acre for the bush varieties and one pound for running varieties. The seeds will sprout in a few days, and when two or three inches high should be thinned to about three plants to the hill. If the weather is warm, the crop will grow rapidly and cultivation should be continued as long as it is possible to work between the rows.

Squash plants can be easily transplanted; but, unless one is near an excellent market, it would hardly pay to go to the extra expense involved in transplanting. It requires 50 to 60 days to produce marketable shipments.

The squash is a surface feeder, and as the vines grow close to the ground, care must be taken in cultivating not to bruise them; just enough cultivation to check weed growth is sufficient.

PACKING AND MARKETING

Squashes are packed in bushel hampers and in standard cabbage crates.

There is a market for Southern grown squashes, and, if shipped early in the season they usually bring a fair price compared with the cost of production. There is also a market in Southern cities, usually, for a limited quantity. They should be handled with some care to avoid rotting in transit, but there should be no difficulty in shipping to Eastern markets, if ordinary care is exercised in picking and packing.

As ripe fruit can be gathered in late fall when some vegetables are not growing, and since it is easily grown, both as a fall and spring crop, the squash is one of the most satisfactory truck crops for home use in Florida.

STRAWBERRIES

Strawberries are quite generally grown throughout Florida. The principal market crops are produced in Hillsborough, DeSoto, Manatee, Dade, Polk, Hardee and Bradford counties; Hillsborough leading in acreage.

SOIL AND ITS PREPARATION

The best soils for strawberries are the better grades of flatwoods. These soils are dark in color, sandy and level. The more decomposed organic matter they contain the better.

Strawberries require a warm soil, as the crop is harvested between January 1 and April 20. If the soil is cold and wet, few berries will ripen during winter when prices are usually highest.

Soil intended for strawberries will be benefited by having a heavy crop of cowpeas, beggarweeds or crotalaria plowed under 30 days before the plants are to be set. The soil should be in good cultural condition.

PLANTING STRAWBERRIES

Two systems of planting are generally followed in Florida. If the land is well drained and there is no danger from flooding after heavy rains, the plants should be set 14 inches apart in 30 to 36-inch single rows, or rows wide enough that a horse cultivator can be used.

Where the land is low and not well drained, the two or three-row system is advisable; that is, make narrow beds, about 40 inches wide with a water furrow between, and set the plants 12 inches apart in 12-inch rows. The system will require hand

FERTILIZING STRAWBERRIES

A good supply of vegetable matter supplied by a cover crop is highly desirable. In addition, strawberries should be given from 1,500 to 1,800 pounds per acre of commercial fertilizer analyzing 5-8-5. This should be applied in two or three applications, a third before the plants are set, a third six weeks after plants are set and the remainder when the first fruit is setting. In addition 100 pounds nitrate of soda or sulfate of ammonia should be applied with the third application. This nitrogenous material will increase the size of the berries and prolong the bearing period. Some growers use for the first application a fertilizer analyzing 5-7-3, for the second 3-7-7, and the third 3-7-7.

In any case the soil type and moisture condition must be considered. If after the second application the soil remains dry and loose the fertilizer will become available very slowly, so that a third application would be of little value, or may even injure the plants. In that case, the top-dressing of nitrate fertilizer is usually advisable.

CULTIVATING AND MULCHING

Good cultivation should be kept up throughout the growing and bearing season.

When the crop is about ready to pick, it is advisable to mulch with grass or pine straw. This prevents the soil from drying out and keeps the berries off the ground, making them cleaner and easier to pick and also prevents the fruit being beaten into the ground during a heavy rain.

PICKING AND PACKING STRAWBERRIES

Strawberries are picked in field baskets, taken to a packing shed, and there sorted and packed in pint or quart baskets. These baskets are packed into ventilated crates, and shipped under refrigeration; or if to nearby markets, they can be hauled by truck without refrigeration if carefully handled.

VARIETIES

The varieties generally grown, especially for shipment, are Missionary and Klondyke. Brandywine and Excelsior are grown for early local markets. Tests conducted at the Strawberry Laboratory at Plant City indicate that the Missionary variety is superior to any other variety. (See Bulletin 63, Agricultural Extension Service.)

cultivation except in the water furrow, which may be kept open by horse cultivators.

Strawberry plants are usually set during September and October. They require three to four months to come into full bearing. Under favorable conditions fruit may be produced in 10 weeks from the time the plants are set. It will require approximately 12,000 to 15,000 plants to the acre. The best crops are made where the plants are set every year. It is seldom advisable to carry plants over two years.

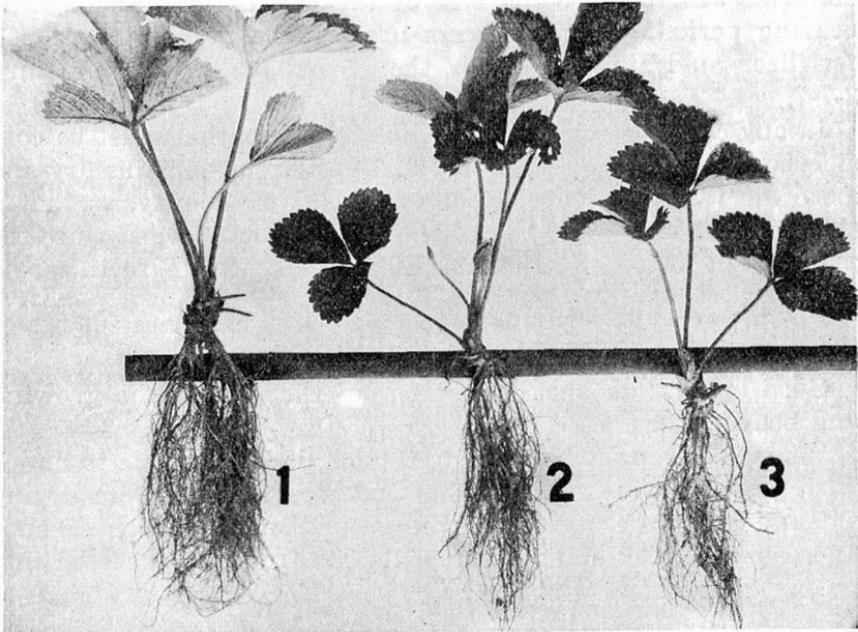


Fig. 31.—Showing depths of setting plants. (1), too shallow; (2), right depth; (3), too deep.

Plants should be set so that the bud and crown are above ground; too deep setting causes the bud to rot. (Fig. 31.) The roots must be covered with soil and the dirt pressed firmly around them.

For intensive culture, especially on expensive land and near good markets, or in small garden plots, the plants can be set much closer than under ordinary conditions. This will involve much more hand labor, but will produce larger crops, if proportionately heavier fertilization and irrigation are used. Irrigation is especially valuable in commercial berry growing, as the bearing season can be prolonged and larger berries produced.

SWEET CORN

Sweet corn can be grown on average vegetable land, and does well in all sections of Florida. The land should be prepared about the same as for vegetable crops. It will make poor growth on dry, thin, sandy land and will not do well on wet, undrained, new land.

VARIETIES

The choice of sweet and roasting ear corn varieties depends on how the crop is to be used or marketed. If it is sold by the crate to Northern markets the main considerations are acreage yield in pounds and crates, earliness and large ears. If the corn is marketed by the dozen ears in local markets the number of marketable ears per acre is more important than the number of crates per acre.

For the general crop for Northern markets Snowflake, White Dent, and Oklahoma Silvermine are satisfactory varieties. In the Everglades area the Tuxpan is more desirable.

For home use, or where there is a demand for high quality corn, sweet types are best. Two varieties recommended are the Suwannee Sugar and Honey June. These are both truly sweet corns of highest table quality. Suwannee Sugar was developed by the Florida Experiment Station, Honey June by the Texas Experiment Station. Both of these sweet varieties are equal to the common roasting ear varieties in resistance to worm damage and are much superior to the old sweet corn varieties in this quality.

These two last varieties have not been tested extensively, but results so far indicate that they will yield 75% to 80% as many crates and as many ears per acre as Snowflake and other similar varieties.

Of the older varieties, Country Gentlemen and Long Island Beauty are among the best.

Sweet corns do not harden as rapidly, in the field or enroute from field to consumer.

These varieties will be ready to pick about 70 days after planting.

PLANTING CORN

On account of the probability of being attacked by bud and ear worms, sweet corn should be planted just as early as weather conditions will permit. To lessen damage from worms, use a mixture of 1 pound powdered arsenate and 5 to 8 pounds hydrated or perfectly air-slaked lime. Drop a small amount in the bud when the worms make their appearance. The same

mixture may be dusted on the silks to control the same worms (ear worms) but the treatment must be repeated twice a week or more often to be effective. Another method that is partially effective is to clip off the silk after it has dried. To have a succession of sweet corn, it is necessary to make several plantings about a week apart. This lengthens the picking season.

Sweet corn should be planted much closer than field varieties. On good soil it may be planted in 3-foot rows, one stalk every 12 inches. However, if the soil is dry, wider planting is better. Sweet corn will produce the best filled out ears when planted fairly close, because of better distribution of pollen. It should not be planted too thickly, however, particularly on thin land, or it will suffer for lack of moisture when most needed. This will mean small ears of poor quality.

About one peck of seed per acre is required.

CULTIVATION AND FERTILIZATION

Cultivation of sweet corn is the same as for field corn.

Commercial fertilizer analyzing 4-8-4 should be applied at the rate of 600 to 800 pounds to the acre. It should be worked into the soil before planting. When the crop is about two feet high, broadcast about 100 pounds of a readily available form of nitrate fertilizer on each acre and work it into the soil with a shallow-working tool.

MARKETING SWEET CORN

For marketing, the ears should be gathered when the kernels are in the milk stage. Ears of similar sizes should be packed together—do not place a variety of sizes in the same crate.

There is always a demand for early sweet corn, and at good prices. Where conditions are at all favorable, a celery and lettuce crop can be followed with sweet corn. Sweet corn should be planted in every home garden.

Sweet corn is packed in 10-inch celery crates, 400 to 450 of which make a carload.

TOMATOES

The tomato is one of the most widely grown vegetables of Florida. It is produced as a home garden crop in practically every community, being one of the easiest and most satisfactory garden vegetables. In many sections it is also one of the most profitable truck crops for shipping.

Tomatoes are grown in Florida during the warmest periods of the trucking season. If set out in July or August and shaded

until strong, a fall crop can be produced in northern Florida. They can also be set in southern Florida during late fall for an early winter crop.

Most Florida tomatoes are grown during late winter and spring. The earliest shipments of importance are usually grown in Lee and adjoining counties. The seedbeds are set in July and August and the crop is harvested in October, November and December. Tomatoes are also produced on the lower East Coast for an early spring crop. These tomatoes are planted from November to February and marketed between February and April. The next crop is produced on the lower West Coast and in the Lake Okeechobee region. These plants are set in the field in February and the crop is shipped during April and May. North of these sections, planting continues until April 15 and even up to June 1 for home use.

SOILS AND SOIL PREPARATION

It requires one-fourth pound seed sown in the seedbed for each acre to be planted. If the seed is sown in field rows without replanting, it will require one-half pound of seed per acre.

Tomatoes are planted in Florida on a variety of soils. The largest acreage is planted on well drained, sandy pine land; also a large acreage is planted on the marl and muck lands. The warmer types of soils of any section usually produce the earliest maturing crops.

The soil is prepared in the usual way by plowing and thorough cultivation. The rows are laid off four to five feet apart and the plants set 15 to 20 inches apart in the rows. The plants should be set deeper than they were in the plant beds.

On sandy lands of the East Coast, growers start their first seedbeds during August. Plants are set in rows four feet apart and the plants are spaced 22 inches apart. Some growers place a handful of wet manure or peat moss around each plant so that the roots will not dry out before the plant can make a start to grow. On marl lands of the East Coast plants are set in the field beginning about December 1. The rows are laid off 6 to 7 feet apart and the plants set 24 to 30 inches in the row. Here an application of 50 pounds manganese sulfate to the acre is mixed with the regular fertilizer or may be applied separately.

Tomatoes are among the easiest plants to transplant and, if the plants are stocky, the soil moist, and conditions of growth favorable there is little difficulty in getting a good stand.

Tomatoes are cultivated principally with a one-horse or light tractor cultivator. Cultivation is kept up as long as it is possible to pass between the rows. Care must be exercised not to cut the roots after the plants begin to bloom or the bloom and early fruit may be shed.



Fig. 32.—Most tomatoes are staked and pruned in the Manatee County area.

Pruning to a single stem, tying to a five-foot stake, and thinning the fruit to four or five hands or clusters is practiced in a few sections. Labor so expended in home gardens and on small acres will be well spent. However, on muck or marl lands or where the vine growth is very abundant, it is not practical to stake the plants or thin the fruit.

FERTILIZING TOMATOES

For tomatoes planted on pine, sandy, or marl lands, a fertilizer analyzing 4-8-8 should be applied at the rate of 1,200 to 1,800 pounds per acre. If the soil is rich in humus and organic matter, 1,000 to 1,500 pounds may be sufficient. Too much ammonia is likely to cause soft tomatoes easily bruised and delayed in shipping. However, sufficient nitrogen is needed to insure good growth.

On sandy lands of the lower East Coast fertilizer applications are practically the same as for sandy pine lands in other sections. However, when the marl subsoil is close to the surface it is advisable to use 200 pounds of manganese sulfate in each ton of the mixed fertilizer. If the manganese sulfate is left out of the mixed fertilizer it may be applied later as a top-dressing at the rate of 50 to 75 pounds per acre.

On sawgrass peat lands of the Everglades good results have been obtained from a formula 0-6-12 applied at the rate of 500 pounds per acre. On the custard apple and elder lands, which are more generally in use in the glades area, the formula generally used is 0-8-12 applied at the rate of 250 pounds per acre. All fertilizer is applied ahead of planting; usually no definite advantage has been seen in side-dressings after the crop is growing.

For average Everglades soil the general practice is to apply 400 to 800 pounds per acre, analyzing 0-8-12, with 200 pounds manganese sulfate in each ton of the mixed fertilizer.

On loose, thin soils two applications of fertilizer are preferable to one. The first application should be made immediately before, or soon after, the plants are set, and the second when the first bloom is noticeable. In working this second application into the soil care should be exercised not to break the roots during cultivation or the fruit will shed. At this stage, additional cultivation will give additional vegetative growth and may cause shedding of bloom. The first crop may be lost thereby.

PICKING TOMATOES

As the earliest tomatoes usually bring the highest prices it is necessary to pick over the crop several times. When a fruit is nearly mature in size and begins shading from dark green to a light green, it is ready to pick and ship. In this condition the fruit is too green for local markets. If allowed to ripen a little more the flavor is improved. Picking is done in ordinary market baskets. The fruit is taken to the packinghouse, sorted, wrapped and packed in tomato lug boxes according to size.

VARIETIES

The principal varieties of tomatoes for Florida are Marglobe, Glovel, Livingston's Globe, and Grothen Red Globe. All of these mature early, stand shipment well, are of good size, are smooth, and when ripe have a fine color. For home gardens several other varieties may be grown satisfactorily. Ponderosa, which grows much larger but less uniformly, produces a satisfactory yield and is quite suitable for home consumption.

TURNIPS AND RUTABAGAS

Turnips and rutabagas are grown principally for home use but are also shipped in car-lots by rail and are hauled by trucks. They should be carefully packed and iced. They can be tied in bunches without icing and will carry in good condition to nearby markets if carefully handled. The tops must be tender and green and shipped early. Turnips grown for distant markets requiring several days in transit should be shipped in hampers and crates and iced. For shorter hauls by truck they can be shipped without crating.

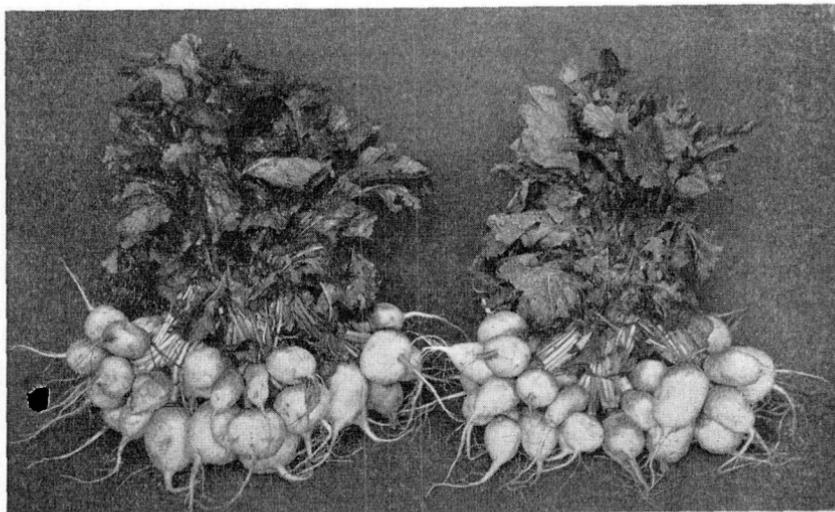


Fig. 33.—Turnips with tops attached, neatly washed and tied in attractive bundles.

Turnips can be planted with satisfactory results any time between October 1 and June 1, although they do best during the cooler months. Turnips grown during hot weather often have a strong taste.

A well cultivated sandy loam soil will produce good quality turnips if it is well fertilized.

PLANTING TURNIPS

The seed should be sown in rows two feet apart, using about two pounds of seed per acre. If large turnips are wanted they should be thinned to 6 to 10 inches apart. Often for local use they are left thick in the row, producing small turnips that can be sold in bunches with the tops attached.

VARIETIES

Early Flat Dutch, Purple Top Globe, Early White Egg turnips, and Purple Top rutabagas are good varieties. About 2½ pounds of seed per acre should be sown.

KOHL-RABI

Kohl-rabi is grown very similar to turnips and can be planted in narrow rows 18 inches to 2 feet apart and thinned to six inches in the row.

By planting at intervals of two weeks beginning in September, one can have a succession of green, tender vegetables until spring. It is grown in a limited way, principally for local markets. White Vienna is a satisfactory variety.

WATERMELONS

Watermelons are grown on a variety of soils in this state, preferably the better grades of rolling pine land. Frequently watermelons are the first crop grown on new land that is to be used for citrus groves afterward. It is usually not advisable to plant watermelons on the same land three successive years unless the variety is resistant to wilt. Four to six years should elapse on account of the probability of diseases that carry over from year to year. Good drainage is necessary as the seed must be planted early and unless the ground is warm there will be a poor stand. Poorly drained soils seldom produce satisfactory crops.

The land should be plowed and harrowed four to six weeks before planting. If plowed immediately before planting the soil is likely to dry out and give a poor stand.

PLANTING

In Lake, Levy and Marion counties planting usually begins about January 15 to February 10; in southern Florida 10 days to a month earlier; in northern and western Florida, usually after March 1 or as soon as danger of frost has passed. The field is laid off in squares, either 10x10 feet or 8x10 and the seeds are planted in the checks. Before planting, the soil should be freshened in the furrows.

About 1 pound of seed should be secured for each acre to be planted. One planting will not require this amount, however; many growers make two or three plantings 10 days apart to secure an even stand; then, when all danger of frost is past, the plants are thinned in the hills.

FERTILIZING WATERMELONS

Watermelons should receive about 800 pounds of fertilizer to the acre, applied before the seeds are planted or half of it 10 days before planting and the remainder when the vines are about 6 inches long.

On poorer soils, 1,200 pounds may be used to advantage. It is never advisable to place fertilizer in the ground one day and plant the next, as germination is likely to be reduced; and when the second application is made after the plants are 6 inches high, care should be exercised not to place it close to the plants or it may burn them. Where the vines show lack of growth it is advisable to apply from 50 to 75 pounds of readily available nitrogenous fertilizer. Care must be exercised to avoid placing it close to the plants or too much in one place, as it is likely to make the plants shed small fruit or bloom.

The fertilizer should analyze 5-6-4. At least one-half of the ammonia should be secured from an organic source, such as fish scrap and tankage.

CULTIVATION

When the plants are small they should have sufficient cultivation to keep the soil loose and to keep down weeds. Watermelon vines, however, are easily injured and the roots are tender, so all cultivation should be shallow and at a safe distance from the plants.

As soon as the vines begin to run they may be pushed aside and cultivation continued, but cultivation should be avoided when the vines are wet for that will have a tendency to spread any diseases that may be prevalent on the vines. After the vines meet in the middle there is little opportunity for further cultivation, but in any case it should be shallow and always with the view of preventing injury to the vines or the roots.

WATERMELON VARIETIES

The variety most generally grown for commercial shipping is the Watson. In past years many other varieties have been tried but the Watson grows well on sandy soils and is well known in the markets, is generally well suited to Florida conditions and the melons are acceptable to the trade. Other varieties grown for home use are Dixie Queen and Stone Mountain.

Since 1931 the Florida Experiment Station's laboratory at Leesburg has tested 104 varieties and strains for wilt resistance. Out of this number one selected from those tested in 1932 has

shown outstanding resistance to wilt and good shipping quality. This variety is known as Leesburg and has been developed from Kleckley Sweet. The Kleckley Sweet has been a favorite on account of high quality, but not a good shipper. The Leesburg has shown that it has resistance up to 75%, even when planted on soils infested with wilt organisms, and has better shipping qualities than the Kleckley Sweet.

Chief objections to the Leesburg melon from the commercial grower's standpoint are the color of the flesh and brown seeds. Experimental work is being continued to develop wilt resistant varieties having good marketing qualities.

Returns from watermelon crops depend on a variety of factors. In the southern Florida area the crop is often harvested during April and May and usually watermelons sell readily at a good price. If, however, the weather is unfavorable and watermelons are not of good quality the markets will pay less for them. In central and northern Florida the melons are shipped in June and early July when the demand is usually good; however, the price goes down for Florida melons when Georgia melons begin to move.

Watermelons are relatively a cheap crop to grow as compared with other vine crops. If all the crop is not entirely marketable, a part of it can be used for hog feed; however, it is usually not profitable to grow melons only for hog feed.

In the southern part of Florida the yield usually is relatively light, requiring 4 to 10 acres to produce a carload. In the northern counties production is heavier and a carload may be produced on from two to five acres.

PESTS

Watermelons are subject to destructive fungus diseases and insect pests, principally anthracnose, stem-end rot and aphids, all of which can be controlled. To control these diseases and insects one must be equipped for spraying melons before the pests appear. The Agricultural Extension Service can furnish information to assist growers in controlling these pests.

The following bulletins from the Experiment Station should be helpful: 225, Diseases of Watermelons; 288, A Wilt-Resistant Watermelon for Florida; 232, Truck and Garden Insects; 252, The Melon Aphid; Press Bulletin 470, Mice and Gophers in Watermelon Fields.