DEPENDABLE VEGETABLE SUPPLIES FOR CANNING IN FLORIDA

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The Florida vegetable industry is thriving and extending, often on leased land. The potential production capacity is very great. In 1958, a season 26 per cent lower than the five-year average in vegetable crop harvests, the total harvested acreage was nearly 400,000 as compared to only about 100,000 thirty years ago. The future growth of the Florida vegetable industry depends upon the national economy, and the ability of the industry to adjust itself to changing needs and conditions. Florida, it appears has just begun to grow—in population and new business ventures. In the next ten years Florida population is expected to increase 74% as compared to 20% for the U. S. The Florida population now is 4,470,000 and is expected to become 7,760,000 in ten years.

A wide variety of vegetables is grown in Florida for fresh market. A number of these do lend themselves to canning or freezing. These crops offer definite possibilities to greatly expand production for processing. This additional outlet would help to diversify and stabilize the vegetable market. Green beans, tomatoes, white or Irish potatoes, sweet potatoes, southern peas, okra, summer squash, peppers, carrots, celery, spinach and various green crops—all are grown in Florida and canned either in the State or shipped to other processors.

High Quality Snap Beans Require Selected Varieties, Pest Control and Proper Harvesting

Snap bean production in the State last year was 18,000 tons on 9,200 acres and about 15,000 tons are expected this season from about 10,000 acres. Production for processing last season was 347,000 tons, a reduction from the 410,800 tons in 1956-57 and the record high of 556,800 in 1953-54. The canned pack of green beans has ranged from about 434 to 630 thousand cases (basis 24/303's) in the last four years. The exact percentage of this crop processed in Florida is not known. Your own processors, however, are interested in obtaining increased supplies. High quality, round podded varieties are grown in several areas of this state. Occasionally, flat podded green beans are used for the French style pack. Selected strains of the preferred small, round, tender, green podded pole beans with white seed, are now being grown in certain areas from Tampa to Havana. Special equipment, for plant and pest control, and a long harvesting season are required for the successful production of pole beans. A new strain of the fresh market type pole bean has been developed for complete rust resistance. This quality should be incorporated into a round-podded variety having white seed suitable for processing. Seed lines are now available with resistance to certain strains of rust.

Potato leaf hoppers, spider mites and the lesser corn stalk borer need special attention to avoid losses or low quality. Irrigation, also, is desirable in dry seasons.

The bush snap bean picking machine has been tried in Florida. Where this crop is grown on mineral or upland soils, its use is entirely feasible. On muck soil, however, some modification in construction is required. Scheduled plantings and careful supervision of picking, prompt delivery and processing are required to avoid excessive fiber or large sieve sizes.

Further development is desired in developing high yielding, high quality varieties of green beans resistant to rust and southern bean mosaic—suitable for processing. In some areas Sclerotinia root rot is severe and better control methods are desired. Nematode infested soil is to be avoided and alkaline peats are unproductive.

Pick Only Red Ripe Usable Tomatoes For Canning

Tomatoes processed in Florida last season were estimated to be 38,200 tons and nearly the same volume is indicated this season. The 1958 pack figure was 1,155,635 cases (basis
24/303's), and during the last five years the figure has been between one and two million cases.

The tomato canning season in Florida usually is a short one lasting from two to three weeks just following the shipping season. In the areas producing fall tomatoes there is always the hazard of winter freezes, and in the spring crop districts the early arrival of late spring or early summer rains. When torrential rains begin the tomatoes suffer greatly from the spread of foliage diseases and frequently the fields are flooded.

Generally, the quality of tomatoes delivered to Florida canners is slightly better than that of tomatoes received in other Southern green wrap areas. Normally the climatic conditions prevailing in Florida during the ripening season are much more favorable for proper color and quality development than is true of some other southern areas. It is difficult, however, to teach pickers of green wrap tomatoes to harvest the crop at the proper stage of maturity for canning. The predicted development of a tomato picking machine with the development of suitable varieties may change the future tomato picture somewhat.

Tomatoes suitable for canning must be, at least, two-thirds and preferably nine-tenths red, inside and out, and free from molds, decay and insect damage. Green or even pink tomatoes ripened off the vine do not make a good canned product. Of available varieties, Rutgers is considered to be a good spring season variety for canning. Homestead and Manalucie, are new varieties which have greater resistance to certain diseases. Manalucie is reported to ripen rather slowly, while Homestead is sometimes said to be rather susceptible to cracking, as is Rutgers. Indian River is reported to have resistance to gray wall as well as internal browning.

While acreage yields of tomatoes have been greatly increased, continued consideration of controlling disease epidemics, resistance to Fusarium wilt, and economical methods of controlling insects and nematodes are desired. Minor element usage on certain soils and pH adjustment require careful attention. Various ripening disorders, blossom-end rot and crack resistance along with reduced fruit fly populations and mold or decay require further study.

Peppers Used In Various Products

Florida peppers are being used in various ways by processors. A mosaic resistant strain of the thick-walled, bell type pepper, such as Yolo Wonder, is preferred. However, pepper weevil and other contaminating insects must be carefully controlled in order to produce high quality raw products suitable for processing.

Canned Small, Whole White Potatoes Are Convenient To Use

Canned small, whole white potatoes in Florida, particularly from the Hastings district, have contributed to the canned pack of from three to four million cases annually in the U.S. The pack of canned potatoes has been rising rather steadily during most of the post-war years. Primarily, the smaller sizes of potatoes, not suitable for fresh market, are used for canning. Pontiac and Sebago are the varieties most commonly used in Florida – December 1 to July 1.

Small, immature potatoes with low solids content and with a specific gravity of less than 1.075 can generally be canned without disintegration or sloughing. Low temperature storage, or other conditions, may increase the sugar content of potatoes, causing the canned product to become discolored. In some seasons potatoes have been found to be subject to discoloration or darkening when heated. The cause of this type of discoloration is not definitely known.

Careful inspection of potatoes for canning should eliminate tubers showing insect damage, injury, disease, or other defects. If 15% or more of the potatoes show defects or damage, the additional labor required may make the cost of canning such potatoes prohibitive. Freshly harvested potatoes yield a better quality canned product and require less labor for inspection and trimming.

For a more dependable supply of potatoes for canning, continued improvements in growing the crop are required, including:

1. High yielding, disease resistant varieties.
2. Suitable sources of seed with carefully supervised and well regulated certification practices.
3. Thorough spray protection with effective fungicides.
4. Effective foliage and soil insect control.
5. Planned and profitable fertilizer program
according to the needs of specific soil areas.

6. Freshly harvested potatoes delivered to the canner, avoiding handling and transit injuries.

Small, Whole Sweet Potatoes Are Preferred

Small, whole sweet potatoes make up most of this pack. Larger sizes go into baby foods, and the solid or pie packs. Goldrush and a few other varieties are used in canning small, whole sweet potatoes. The small roots (1 to 1½ inches) are separated in the field. A freshly dug supply, particularly early in the season, gives greater assurance of wholeness and firmness in canned packs.

Okra and Southern Peas Are Grown On Smaller Farms

Okra is a crop particularly well suited to farmers who can give it special attention during the summer months and can harvest the small, tender pods frequently. Special strains for processing are currently being developed for resistance to wilt and nematodes.

Southern peas or Cowpeas, also are well suited to the grower with adequate labor during the summer months. The green-mature pods are harvested, to be shelled mechanically before processing. Cowpea pod weevil or curculio is controlled by scheduled insecticide applications, according to the state entomologist or county agent.

Young, Tender, Uniformly Colored Summer Squash Require Frequent Harvesting

Summer squash, particularly the uniformly yellow colored Early Straightneck variety, are used for canning. This is a quick maturing crop which must be harvested frequently for high quality—free from blemish and with a rind so tender that it can be easily punctured.

Disease Resistant Spinach and Cabbage Required for Dependable Supplies

Spinach production has become more dependable with the new blue mold resistant hybrid lines, developed by the U.S.D.A., and now are commercially available.

During seasons of abundant supply and low prices for Florida cabbage, large quantities have been purchased in the Hastings-Palatka area by kraut packers who shipped it to the Northern kraut factories for processing. Varieties resistant to yellows and bolting, producing a high yield of suitable size heads are required. Freshly harvested, solid heads, free of insect or disease damage are most profitable for kraut.

Carrots and Celery Juice Are Canned

Carrots require a fertile well-drained soil. The carotene content increases with age. Carrots grown in Florida during the cool, short days of mid-winter have been lower in carotene than those grown during warmer, longer days of fall or spring.

Celery has been used for packing juice and in combination with other vegetable juices. Control of early blight, the selection of high yielding varieties, fertilizer applications according to soil requirements, and harvesting efficiently are practices to be considered in using this crop for canning.

Soil Drainage, Irrigation and Efficient Management Needed For Profitable Production

Florida vegetables are produced on a variety of soils. South of Miami they are grown on marl; in the Everglades on peat or muck, and in many parts of the State, on fine sand or fine sandy loam. All of these soils require the application of large amounts of fertilizer, good drainage, and irrigation. Excepting certain peat and muck areas, where little nitrogen is required, nitrogen, phosphoric acid and potash are supplemented with minor elements such as iron, copper, magnesium, manganese, boron and zinc. Profitable use of fertilizers requires a knowledge of the soil in order to apply various nutrients in the proper amounts, at the most effective time, and in the proper chemical form.

Soil drainage and irrigation are equally important. Since the land is flat, water drainage is slow, unless moved by pumps and open ditches. Many acres are ruined each year by flooding when torrential rains occur in the fall and spring months.

More than half the vegetables of Florida, according to estimates, are irrigated once or more during the growing season. The portable sprinkling systems are most popular.

Large-sized fields and efficient use of relatively large machinery have aided in the reduction of production costs, the control of crop pests and the delivery of relatively uniform produce in large volume. Some areas, however, still have small farmers with adequate labor for harvesting such crops as okra and southern peas.
Quality of Raw Products Is Most Important

An adequate and dependable supply of raw products is required for successful vegetable or fruit canning operation. The quality of the raw product as delivered to the cannery is the most important factor in determining quality after canning. Careful planning by the canner and his field department is required for production, harvesting, and handling operations in relation to the quality, cost, and sale of the finished product.

While some canning companies own or lease land and produce their own crops, the general practice is to contract with farmers in the vicinity of the cannery to produce raw materials for them. Usually seed or plants of varieties adapted to the local area are supplied by the canning company to insure uniform raw product. The application of pesticides is arranged as needed for crop protection without harmful residues. It is customary to purchase on the basis of quality and maturity standards. Consideration must be given to harvesting, containers, harvesting labor, or special harvesting equipment.

Good grower-canner relations are necessary to any successful vegetable or fruit canning operation. The grower looks to the canner as his market, while the canner is dependent upon the growers for his entire supply of raw products. A well organized plan is required for a good agricultural program as follows:

1. A long range program in planning, organizing, and directing a sound agricultural policy by the management with a sympathetic attitude toward farmers problems.
2. A definite production schedule, based upon the canning factory capacity, equipment and sales outlets.
3. A fair contract for both the canner and the grower—legally correct but in easily understood language.
4. Location of a production area where the soils, climatic conditions, and type of farming are suitable for the particular crop.
5. Selection and education of growers to produce the quantities and quality of the crops desired.
6. Special services to the grower in arranging for unusual facilities or special equipment may be required in growing or handling the crop.
7. Intelligent and careful field service at harvest time.
8. Carefully kept records of individual growers field operations are the basis for developing a crop improvement program.
9. Close cooperation with the local and state agricultural agencies.
10. Favorable local publicity and continuing contacts with growers and local agricultural problems during the year.

Krome Section

TRAINING AVAILABLE IN FLORIDA IN TROPICAL AND SUBTROPICAL HORTICULTURE

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All of Florida, except the Lower Keys, has a subtropical climate, but some tropical fruits are grown commercially in the warmest areas, and conversely some temperate zone fruits in the coolest sections of the state. The most important subtropical fruit crops of the state are oranges, mandarins (including tangerines), and grapefruit — the kinds included in the term "commercial citrus". While lemons are also included in this term, the lime is excluded, both in common usage and in the legal code governing shipping of "citrus" fruits.