Collards: a truck crop for Louisiana

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A Truck Crop for Louisiana

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The collard is the most important green vegetable found in the southern gardens and on southern markets during the winter months. This is especially true in the cotton producing areas, fifty or a hundred miles inland where the climatic conditions are less favorable for the production of other vegetable crops. The collard is also an important winter truck crop, especially in the mixed vegetable districts of South Louisiana. During the past winter, 1933-34, there were 1400 cars of mixed vegetables shipped from Louisiana; of this number 500 contained collards or an estimated volume of 150 carloads. There was one solid car shipped. The demand for collards in the northern markets is increasing and each year sees more cars of this product shipped.

The collard, (Brassica oleracea var. acephala) according to Bailey (1) is a kind of large kale, belonging to the headless cabbage group. The collard was probably brought to America by the early English settlers. Sturtevant (2) states that Colewart or collard was mentioned by Sprigley as being grown in Virginia as early as 1669. This plant is grown principally for greens in the southern states. The collard may be classed as winter annual, biennial, or potentially a perennial, all depending on the time of planting and the section of the South where grown. At Baton Rouge, Louisiana, collards may be planted any month of the year, but regardless of when the seeds are planted the plants develop seed-stalks during the latter part of February and through March. The January planting may be only six inches high, but the plants will develop a seed-stalk during the same period as other plants which may be three feet high, and which were planted nine months earlier. At this period the temperature and light are favorable for seed-stalk development.

PLANT CHARACTERISTICS

The edible portion of the collard is the green rosette of leaves which resembles a cabbage plant just previous to heading. In harvesting the plant for use, some growers cut the head or rosette from the stalk while other growers prefer to cut only the lower leaves and allow the bud or heart leaves to continue their growth. During the winter months the rosettes become more compact and in some sections with certain strains, loose white heads develop. In the interior section of the South where the seeding and transplanting are done in the spring the plants will grow two to three feet in height by the following winter. As soon as the cool weather of the fall approaches the plant grows vigorously and becomes more compact. At this time most of the old leaves, which grew during the summer, shed from the stout stalk, leaving the winter rosette often as high as two feet or more above the ground.

FOOD VALUE AND USES

As is shown in Table I, which was reported by Smith, (1929), Newton (1931), and also by Chatefield and Gerorgian (1931) the collard contains more food
value, such as protein, fat, carbohydrates than did other similarly used vegetables such as cabbage, turnip greens, and spinach. In mineral and vitamin content the collard is either higher or compares favorably with the vegetables just mentioned.

This crop may be harvested at any season of the year at which the plants are large enough. However, it is mainly grown for use as a winter green and improves in quality, increasing in sugar, after a touch of frost. There are three methods of harvesting this crop; first, by cutting the plants when they are about one-eighth grown; second, by cutting the large, base leaves; and third, by cutting the entire rosette or crown of cabbage-like leaves.

Another important way in which collards are used in some sections of the South is in making sauerkraut. If cabbage is available at the time of kraut making some growers prefer to use about one-half of cabbage and the other half of collards.

Collards are also used as a green feed for poultry. Many poultrymen find collards an excellent food during late summer and early fall when other green feeds are not available.

**Climatic Requirements**

The collard will withstand a greater range of temperature, both heat and cold, than any other vegetable crop grown in the South. Plants set to the field in the spring will continue growing through the heat of the summer, even though the temperature may be very high—above 100 degrees Fahrenheit. During the drought of 1931 in North Louisiana the collard and okra were the only two vegetable crops that survived. It is also very resistant to cold and is seldom killed by temperature above 15 degrees Fahrenheit unless the freeze follows a period of warm weather.

**Soils and Soil Preparation**

While collards are found growing on all types of soil in the South, they do best, when grown on a sandy loam soil. When growing collards on a commercial scale a green manure crop such as soy beans should be turned under for soil improvement. The soil-improving crop should be turned under at least a month before planting.

**Fertilization**

The collard, like cabbage, responds very much to fertilization, especially fertilizers of a nitrogenous nature. When grown in Louisiana for commercial use it is recommended that, on a three and a half foot row, basis, 800 lbs. of fertilizers analyzing 4 per cent nitrogen, 12 per cent phosphorus, and 4 per cent potash be applied per acre at planting time. As a top dressing one or more applications of nitrate of soda at the rate of 100 lbs. per acre for each application is recommended. The number of applications of nitrate of soda will depend upon the needs of the plants and the stage of growth at which the crop will be harvested for shipment.

**Methods of Planting**

There are two distinct methods of planting the seed. The first, to sow it in drills in a cold frame or on row beds and as soon as the plants are 6 to 8 inches in height transplant them to the permanent rows, spacing the plants 18 inches to 2 ft. on the rows. This system is the one more widely used. The second is to sow
The collard, although a member of the cabbage family, is resistant, or potentially so, to most of the common cabbage diseases. Higgins, 1916, reports that black mold (Alternaria Brassicae) caused considerable trouble in Georgia. As a control measure he recommends spraying with Bordeaux mixture. He states that Sclerotinia sclerotiorum also attacks collards, considerable damage being done, especially to young plants.

**INSECTS**

The collard is subject to all the cabbage insects. For the control of cabbage worms it is recommended that derris dust containing $\frac{1}{2}$ per cent rotenone be applied as needed. In order to keep the plants free of worms, especially for a period of time before harvesting, it is necessary to dust every 10 days or 2 weeks at the rate of 15 to 20 lbs. per acre depending on the size of the plants. After the plant becomes large apply light applications from both sides of the rows. The same material will control flea beetles and aphids.

At the present time there is no definite control for the harlequin bug which is very troublesome to collards. In the home gardens these bugs may be hand picked and destroyed. As for a commercial control method it is practical to make a small planting in the spring as a bait crop. These plants should be sprinkled with kerosene or gasoline and completely destroyed by burning before planting the seed for commercial use.

The above recommended control measures are according to information obtained to date by The Division of Truck Crop Insects, United States Bureau of Entomology and Plant Quarantine, which has been making a study of these insects at the Louisiana Experiment Station during the past two years.
Although the collard has been grown in the South since the coming of the early English settlers, little systematic effort has been given in establishing definite varieties. As one visits various communities throughout the South many variations in the types of plants may be found. However, none of these variations, which the author has seen, is pure enough to be classed as a distinct variety or strain. Most growers produce their own seed. It has been within relatively recent years that most seedsmen have listed collard seeds in their catalogs. A few of the Southern seedsmen have supervised the production of collard seeds and have placed their product in the seed channels of the country.

Stuckey, 1910, of the Georgia Agricultural Experiment Station was the first to report a definite breeding project on collards. He crossed the collard with the Charleston Wakefield cabbage in an effort to obtain new types of plants for breeding superior strains. From the above cross Stuckey released, in 1924, a new variety he named the Cabbage-Collard. Instead of producing a leafy rosette the plant produced a somewhat loose white head, similar to cabbage, the plant being more resistant to cold and heat than cabbage.

Breeding of the Louisiana Sweet Collard

Most of the collards produced in the South Louisiana trucking area are grown and shipped as a bunched vegetable. Therefore, to be able to make an attractive pack the grower must have a uniform product. Due to the great variability found in any lot of collards it was very difficult to make an attractive, uniform package. In 1930 the author saw the difficulty that the Louisiana shippers were facing and set up a breeding project to correct this evil. The problem was to fix a definite, uniform type of plant having a deep compact rosette center, leaves with short petioles or stem, and free of purple or red color.

A number of plants were selected approaching as nearly as possible the above requirements. A program of inbreeding and selection has been followed now for four generations with a marked degree of success. While all the desired characters have not been completely fixed the present product is so much superior to the old that the large growers of the state are using the new strain entirely. Breeding will be continued until a satisfactory, uniform type has been established.

This new strain of collards will be known as Louisiana Sweet Collards. Arrangements have been made with Louisiana Seed Growers to produce several thousand pounds of this seed for use next season. Each year the seed growers cooperating with this project obtain the latest foundation stock of seed from the experiment station.
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