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How to Grow Jilo in Connecticut

Jilo *(Solanum gilo)*, also known as tropical eggplant, is a solanaceous plant grown in West Africa where in some countries it is known as "garden eggs". It is also grown as a minor crop in central and southern Brazil. Its principal use is in vegetable stew (ratatouille) and sweet and sour mixes with chicken and pork. There are two basic types of jilo grown in Brazil, *comprido verde claro* (long, light green) and *morro redondo* (round hill), a more bitter variety. The majority of Brazilians in New England prefer *comprido verde claro*. The culture of both types of jilo is very similar to that of tomatoes and eggplant.

Growing transplants. Containers for growing transplants can be purchased or you can use plastic egg cartons, milk cartons, aluminum foil loaf pans, or pie tins. Provide drainage holes at the bottom of the container before filling the container nearly to the top with a soilless mix. Several commercial sterile soilless mixes are available. Garden soils may be contaminated with disease and weed seeds, and drainage is often poor.

Sow seeds approximately 8 weeks before planting in the field. When using trays or pans, plant the seeds in rows and cover with one quarter of an inch of mix. Do not plant seeds too thickly. When planting in individual containers, plant two or three seeds per container. After thorough watering, cover the containers with a piece of plastic or slip them into a clear plastic bag to maintain high humidity until germination. The optimum germination temperature is 80^{o}F. Germination time is usually 7-14 days. If the temperature drops below 80^{o}F, germination slows.

As soon as the seeds germinate, remove the plastic to increase the light intensity to prevent spindly growth. Maintain at least 6 hours of direct sunlight each day. Cool, white, 40-watt fluorescent tubes placed 6 to 8 inches above the seedlings can be used as a supplemental light source. Optimum results are obtained if the fluorescent fixture is next to a window to increase the amount of light reaching the young plants. The planting medium should be kept moist, but avoid overwatering. Individual containers with more than one

seedling should be thinned to one plant. Seedlings germinated in trays should be transplanted to individual containers while still small.

Fertilization. Soluble 20-20-20 fertilizer (1 tbsp/gal) is added to the potted seedlings about ten days before transplanting. The field soil is fertilized with 10-10-10 at a rate of 1300 lb/A before transplanting. The pH of the field soil should be about 6.5. If the pH is too low, lime can be added at a rate determined by a soil test.

Field transplanting. At least one week before transplanting in the field, transfer seedlings to an outdoor cold frame for hardening. In late-May to early June, transplant seedlings two feet apart in rows four feet apart. At a closer row spacing, branches of plants in adjacent rows become intermixed and make harvest more difficult.

Mulches. Jilo prefers warm soil temperatures. Plastic mulches raise the soil temperature an average of 6-12^{o}F, whereas organic mulches such as compost, leaves, hay, or grass clippings lower the soil temperature 10-18^{o}F. Thus, plastic mulches are preferable to organic mulches for crops that prefer warm soil temperatures. Clear plastic creates a mini greenhouse which favors the growth of weeds, which compete with the jilo plants for water and nutrients. Black plastic prevents weeds from germinating. The warming effect of black plastic mulch compared to unamended soil is more evident early in the season. Our studies showed that plants mulched with black plastic had greater and earlier yields compared to unmulched plants. Although harvest of fruit from mulched and unmulched rows began on the same date, yield from the mulched rows were more than twice the yield from the unmulched plots in the early harvests. Yields of mulched plants often exceed 10 lbs/plant. The only detriment to black plastic mulch is water stress that may develop if the plastic is laid in dry soil. Ideally, plastic should be laid after a rain or irrigation. Holes can be punched in the plastic after a rain to drain puddles on the plastic and to allow water to penetrate the soil beneath the plastic.

Irrigation. Jilo should never be allowed to develop water stress because of their high water requirement. Yields will be greatly reduced if they develop water stress during fruit formation. In our studies, moisture stress caused flowers to abort with little or no fruit set. During the growing season, at least 1 inch of water each week from rainfall or irrigation is needed to promote fruit set.

Insects and diseases. During our 5 years of trials, jilo was virtually free of insects. As a member of the Solanaceous family, jilo can attract Colorado potato beetles. In one dry year, some plants at one site developed symptoms of verticillium wilt late in the season. Otherwise, our plants were disease and insect-free.

Harvest. Fruit, borne singly or in clusters of 2 or 3, are harvested in the immature green stage as they reach 2-3 inches in length (Figure 1). As the fruit matures, its color changes from green, to yellow, to orange, and finally to a bright red. As they mature, the fruit also increases in bitterness. If the harvest is delayed more than 1 week, the fruit enlarge and become too heavy for the stems to bear. To avoid breaking of lower stems, they may be lightened by more frequent picking. The 12-week harvest span begins in early August and continues until the end of October or early November. Light frosts injure the uppermost leaves of most plants, but do not injure the fruits.

Summary

Jilo, seldom found at most farm stands or supermarkets in Connecticut, is an easy crop to grow and virtually insect and disease free. Supplied with sufficient water throughout the growing season, plants will produce up to 12 lbs/plant over a 12 week harvest period. For the commercial grower, a large Brazilian population in the Danbury-Waterbury area provides a ready market. For home gardener, jilo provides new culinary opportunities in kitchen.