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Eggplant is a popular greenhouse crop due to the high yield potential, rapid growth, and improved quality possible over a longer season. A strong, vegetative growth habit makes eggplant fairly adaptable to a range of growing conditions. Greenhouse growing maximizes production by growing the crop fast at a high temperature and high planting density.

Our greenhouse eggplants have been bred to thrive under greenhouse growing conditions. At least some heat is recommended for these varieties, but they will also grow well in hoophouses in areas with mild weather. If you do not plan on some type of trellising, or are using an unheated hoophouse in a short-season area, you will get an equal return from growing field varieties in a low trellis or basket weave.

PROPAGATION:

Sow in flats or plugs 6–8 weeks prior to transplanting into the greenhouse. Maintain an even temperature of 80–90°F/27–32°C until emergence, 70°F/21°C thereafter. After true leaves form, transplant into cell-type containers or blocks. After transplanting to a larger cell, maintain a daytime temperature of 66–72°F/19–22°C and a nighttime temperature of 64–66°F/18–19°C. Fertilize with a complete nutrient solution (EC 2.5–3.5, pH 5.5) or equivalent as needed to keep plants dark green and healthy. Transplant to the greenhouse when plants are 10–12-inches tall. You may need to put a stake in the container and rubber band or clip the plants to it to get them this tall without falling over. Plants can go out into the greenhouse when they are smaller but you will save on heating costs if you can grow them to this size at a denser spacing in a smaller propagation area. Eggplants are self-pollinating, so pollinators are not required for fruit set.

FERTILITY:

For growing in soil, perform a soil test using the saturated media extract test designed specifically for greenhouse growing, and amend to the recommendations provided. If you are growing a long-term crop that will be in the ground for 4 months or more you will not be able to provide all the necessary nutrients from preplanting fertility. Side dressing or fertigating with extra nutrients will be necessary. Use plant tissue testing to monitor the health of the plants and add extra nutrients when necessary.

TRANSPLANTING/SPACING:

Grow plants with 2–4 stems per plant, resulting in a density of 5-8 stems per square meter (9 sq.ft.). A standard setup would be to put four-stemmed plants 1 foot apart in rows trellised to 2 parallel overhead wires 2 feet apart with 3 feet between rows. In this planting plan, 4-stemmed plants with each stem 6 inches apart would give a spacing of 7.2 stems per square meter. For 2-stemmed plants to reach the same planting density, you would plant a single row of plants 6 inches apart or a double row of plants 1 foot apart.

Use 4 stems per plant if you have a shorter greenhouse because the plants will not reach the top wire as quickly. Growing 2 stems per plant will result in each stem being more vigorous. Adjust plant spacing as needed. For greenhouses with less-than-optimal ventilation and light penetration use less dense spacing.

CLIMATE:

Eggplants require a similar climate to tomatoes and can grow well in the same structure. For the week after transplanting, grow with a daytime and nighttime temperature of 75°F/24°C to encourage rapid growth and rooting. A climate with less variation in daytime and nighttime temperatures will encourage more vegetative growth. When fruit begins to set, switch to a daytime temperature of 72°F/22°C and a nighttime temperature of 66°F/19°C. Under a full fruit load, grow at daytime temperatures of 68–72°F/20–22°C and nighttime temperatures of 62–66°F/17–19°C.

TRELLISING:

Tie strong twine to the overhead wire at the desired spacing and anchor the other end to the base of the plant with a loose knot. Twine made of natural materials tends to degrade and break under greenhouse conditions. If the knot is tight, it will cut into the plant as it grows and girdle or even kill the plant, and may form a wound where pathogens can enter. Twist the stem of the plant around the twine or clip with trellis clips every 10–14 days to keep it supported and growing up the twine.

PRUNING:

The shoot below the first flower cluster produces the strongest sucker most evenly matched to the main stem. For a 2-stemmed plant, let this sucker develop into the second stem. If this shoot is damaged, or for multi-stemmed plants, any other shoot can be left to develop into a stem.

While pruning, instead of removing the whole shoot, as you would with a tomato sucker, let it develop and cut the shoot off right above the flower cluster. Letting fruit develop on the shoots will increase yield. Keep the plant clear of leaves below the lowest developing fruit by cutting leaves off flush with the stem with pruners or a knife. As fruit are harvested up the plant, continue removing leaves from below the lowest fruit. This will improve airflow and remove old leaves that are beginning to senesce.

DISEASES AND PESTS:

Practice crop rotation or use new media to reduce incidence of soil-borne disease. Regularly schedule releases of beneficial insects control pests. Companies like Koppert or Biobest can advise you on the appropriate beneficial species based on the timing and square footage of your crops. Minimizing the amount of time with temperatures below 65°F/18°C reduces the amount of botrytis.

HARVEST:

Harvest fruit at desired size, most commonly ½ pound for baby eggplant and ¼ pound for mini eggplant. Using pruners or a knife, cut the fruit off flush with the main stem of the plant. Make sure not to leave a stub on the plant, as this can be an entry point for pathogens. Eggplant harvested at this size should not develop seeds or bitterness.

STORAGE:

Do not leave harvested eggplants in the greenhouse longer than necessary or they will heat up and decrease in quality. Eggplant can be stored at 80% relative humidity and a temperature of 54–59°F/12–15°C. Do not store with crops that emit ethylene, like tomatoes. Eggplants are sensitive to dehydration, so if fruits are intended to be on display for more than a short period of time, they should be wrapped to prevent drying out.

Pruning an eggplant sucker to leave flowers and fruit to develop



1. Identify the first flowers to form on a sucker.



2. Place the pruners just above the first flowers.



3. Terminate the sucker just above the first flowers. Note that the sucker does not have to be this large for topping. This can be done as soon as the flowers are visible on a sucker.

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