

## TRELLISED CUCUMBERS

Douglas C. Sanders and Jeanine M. Davis, Extension Horticultural Specialists

Fresh market (slicer) cucumbers have been produced commercially in North Carolina for many years. The average yield from commercial fields has been 850 to 950 bushels per acre or 2 to 3 times the average yield from non-trellised fields. Some reasons for higher yields and often higher prices from trellising appear to be:

1. Improved fruit quality, particularly with respect to color and shape. Trellised cucumbers have no yellow "ground spot."
2. More effective control of many diseases and insects.
3. Less damage to vines resulting in a longer harvest season.
4. More thorough harvesting resulting in fewer jumbos and culls.

Harvesting trellised cucumbers is easier than harvesting ground grown cucumbers since fruit hang where visible and easily reached. Production of cucumbers on trellises, however, involves a greater investment than when grown on the ground. Some reasons for this are:

1. Cost of erecting trellises.
2. Labor for trellising and pruning.
3. Field clean up at end of the season.

management, especially at harvest time when the crop is being hauled to market. A nearby source of irrigation water can mean the difference between an average crop and a superior one if irrigation is required at critical times. Good air circulation and air drainage are important in guarding against frost. These will also minimize certain disease problems. Select a southern exposure if earliness is important.

A sandy loam to clay loam soil, high in organic matter, is ideal. Soils that cake or crust result in poorer stands. The soil should have good drainage and be naturally fertile. An ideal soil pH is 6.0 to 6.5. A soil sample should be taken well in advance of planting to determine the need for lime and to obtain proper recommendations for fertilization. The soil should also be assayed for the presence of nematodes, and if present, should be fumigated. Contact your county extension agent for proper procedures for taking and submitting samples for nematode assay and fertility analysis. Avoid planting cucumbers in fields that were planted to cucurbits (cucumbers, squash, pumpkins or melons) the previous year.

Handling plants during trellising and pruning may also spread certain bacterial and viral diseases in the field.

**Selection of Site** — Choose a field which is readily accessible. This is important for good

**Varieties** — The ideal variety must produce fruit with the size, shape and color desired by the market. It must have good yielding ability. It should also have resistance to certain diseases, particularly scab and mosaic in the mountain area. Several varieties having good

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disease resistance have performed very well in trials in the mountains. These include Sprint 440S, Marketmore 76, and Dasher II. Each of these has resistance to scab and mosaic. Take necessary precautions to insure obtaining and planting disease-free seed.

**Field Preparation and Fertilization** — Well prepared soil is important in obtaining uniform emergence of cucumber plants. Preplant fertilizers, applied based on soil test recommendations, should be worked into the seed bed during preparation. Lime, as required, should be plowed in as early as possible. Soil test results should recommend that phosphate and potash be raised to a high level. Sidedress with ammonium nitrate, beginning when plants start to run. At this time apply 35 lb of nitrogen per acre (approximately 100 lb of ammonium nitrate) as a sidedressing. A second application will be needed in 2 to 3 weeks after the first sidedressing to maintain good growth during the prolonged season for trellised cucumbers.

**Planting** — The cucumber is a warm season crop. Seed will not germinate at soil temperatures below 50 °F with the ideal soil temperature being 70 °F. The crop is killed by even light frosts. Ideal temperature for growth and development is 75 to 80 °F.

Plant cucumber seed approximately 1/2 inch deep in well prepared soil. Space rows about 5 ft apart; plants within the row 8 to 10 inches apart. If seeding is done by hand, about 1 lb of seed per acre will be required. If machine planting is employed, 2 lb may be needed. A slightly raised bed will aid in drainage and may help in control of certain diseases.

**Trellises** — The most satisfactory trellis is one approximately 6 ft high with a top (No. 8) and bottom (No. 12) wire and plastic twine tied between the two wires at each plant. Posts should be no more than 15 ft apart and the top wire should be very tight. A “stiff knee” (additional brace) between posts may be required in the season when the fruit load becomes heavy.

**Training and Pruning** — Cucumber plants will not climb the trellises satisfactorily by themselves. Training the main stem is required until it reaches and extends over the top wire. About 3 or 4 trips over the field are required to complete the vine training.

Pruning the lateral runners near the base of the plant will result in higher yields. The first 4 to 6 lateral runners that appear should be removed. Other runners above this point should be allowed to run where they will.

**Pollination** — Cucumber fruit are produced only when insects carry pollen to the female flower. Honeybees are essential for this purpose. Provide at least 1 strong hive per acre. Locate the hive near the edge of cucumber field and in a position that will protect it from direct contact with pesticides. Insecticides should be applied in late afternoon to minimize the number of bees killed. The least toxic insecticide that will control the pests is preferable.

**Harvesting** — Harvest normally begins about 50 days after planting. Pick as frequently as necessary to avoid oversized fruit. Picking every other day will normally be sufficient. Late in the season, during cooler weather, this interval may be extended slightly. With proper care of vines, harvesting in the mountain area should continue until late September or early October.

Removal of the fruit by applying pressure to the stem with the thumb, sometimes results in damage to the stem end of the fruit. If this becomes serious, the stem should be cut off with a knife or small pruning shears.

The use of any form of mechanical aid, even simple hand carts to hold picking containers and permit straight-through picking, from one end of the row to another will greatly reduce harvesting labor. In long fields, provide cross alleys for pick-up of filled containers to prevent unnecessary travel within the field.

Harvested fruit should be kept in the shade, pre-pared for and taken to market as soon as possible.

**Pest Control** — Crop rotation and the use of resistant varieties and disease-free seed are the most economical methods of pest control. Follow recommendations closely in controlling insects and diseases. (See Plant Pathology Information Note 144 and/or the current issue of the *North Carolina Agricultural Chemicals Manual*). The cucumber beetle is especially troublesome when plants are very young, and an effective insecticide program with recommended material must be followed to control this and other insect pests. The use of chemicals to control weeds has not been consistently satisfactory.

Mulching with straw or plastic will help greatly in controlling weeds and is very beneficial from the standpoint of moisture conservation and stability. Plastic also produces an earlier crop.

### **Steps to Successful Trellis Cucumber Production**

1. Select a site with good soil and air drainage.
2. Test soil for fertilizer, lime and nematodes.
3. Choose proper variety.
4. Prepare good seed bed.
5. Produce good stand by carefully planting proper amount of seed.
6. Use a strong trellis with only 15 ft between posts.
7. Train and prune frequently.
8. Have a hive of bees for each acre.
9. Control insects, diseases and weeds.
10. Harvest frequently and grade for quality pack.