

# Delaware State University

## Cooperative Extension Programs

### Calabaza

#### Ethnic crop series

#### Introduction

Calabaza (*Cucurbita moschata*) is a summer squash that is grown extensively in Latin America and throughout the tropics and subtropics. It is known as *pumpkin* in the West Indies, *ayote* in Central America and *zapallo* in South America. The edible fruits are produced on running vines that may reach distances of 50 feet.

The ideal fruit has a flesh that is yellow to orange at maturity and a rind that is striped or mottled green to light orange in color. The fruit can be round, or pear shaped in nature. Calabaza is used in soups and pies and is a very important staple in the developing countries. The high tolerance to pests and disease, and the ability to grow quickly and smother emerging weeds makes calabaza a good crop to grow for small and limited resource farmers.

#### Seedling Production

Calabaza is frequently direct seeded, but it may be more profitable to grow the crop via transplants. In the Northeast region of the United States, transplants ensure a more uniform plant stand that leads to increasing yield and early harvest. The planting medium should have good drainage and be free of soil-borne pests, diseases and weed seeds. Commercially graded soilless material can be used as the planting medium. Alternatively, sterilized soil, compost, manure and mulch can be used to prepare the planting medium. Seeds are sown at 2 seeds per pot at a 1 inch depth and germinates in 4 -7 days.

Nutrient management in the greenhouse or nursery requires that the planting medium remains wet at all times, and an N: P: K fertilizer be applied to the seedlings once per week. In greenhouse production, seedlings should go through a hardening process before they are transplanted into the field. Seedlings can be ready for the field in as little as 3 weeks.

#### Land preparation

Calabaza can be grown on raised beds that incorporate the use of plastic mulch and drip irrigation. However, the use of grass and legume cover crops is highly recommended. Cover crops can provide nutrients to the soil, improve the crumb structure of the soil and reduce the incidence of pest and disease on the crop. Land preparation should ensure that the soil is free



draining and should have a pH between 6.3 and 7. Calabaza should not be planted in the field until the average daily temperature is above 60°F.

#### Planting

Recommended spacing for Calabaza is 4 feet within the row and 10 feet between rows. Closer spacing results in smaller fruit size while wider spacing results in larger fruit size. Seedlings are placed 2 inches deep into the soil. It is recommended that the planting holes or beds are wetted before planting. An application of N: P: K in foliar form is recommended on the day the crop is planted.

#### Nutrient Management

Nitrogen, Potassium and Phosphorus are the three major elements needed in Calabaza production. It is important that a soil test is done to determine the quantity of N: P: K that is required by the crop. Table 1 shows the nutrient requirement of the Calabaza crop.

Table 1 N:P:K requirements for Calabaza production

Stage	N lb./ac	P lb./ac	K in lb./ac
Broadcast/ Incorporate	0	0 - 110	0 - 160
Planting	20 - 40	0 - 40	0 - 40
Vines start running	>50	0	0
TOTAL	70 - 90	0 - 150	0 - 200

The use compost or cover crops that contain legumes can significantly reduce the amount of nitrogen fertilizer needed by the crop.

### **Pests and Diseases**

Insect pests can cause major damage to the rind of the fruit. Some of these insects include, cucumber beetle, squash wine borer, pickle worm, melonworm, aphids, thrips rind worm, mites nematodes and whiteflies.

Diseases that affect calabaza include damping off, downy mildew, gummy stem blight, anthracnose, bacterial wilt and powdery mildew. Chemical pesticides have traditionally been used to control diseases. However, studies have proven that no-till crop production has resulted in less disease. Calabaza have proven to be highly tolerant to a host of diseases.

### **Weed Control**

Establishment of a good plant stand is desired for weed control. In addition, proper manage of cover crops can facilitate a good plant stand. A good plant stand will allow the crop to grow quickly and will eventually stifle weed growth. It is recommended that IPM practices be followed to control weeds, pests and diseases.

### **Harvesting and Post- Harvesting**

The mature fruit is harvested at 100 to 115 days from seeding, even though it can also be harvested earlier as an immature fruit. The fruit can weigh between 5 to 48 pounds at harvesting. Fruits are harvested by cutting the stem with a knife. The crop should be harvested before the frost.

Fruit should be handled with care. Rough handling can cause wounding to the fruit making it susceptible to fungal diseases. Calabaza can be stored for up to 2 weeks at a temperature range of 80 to 85° F and above 90 % RH and for 3 month at 50– 55°F and a relative humidity of 70 – 75 %.

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### **References**

Florida Cooperative Extension Service, “ Cucurbit Production in Florida” ,Horticultural Science Dept., HS725, (Dec 2005) 185-187  
NE Veg Management guide, “Pumpkin , Squash, and Gourds” , [http:// nevegetable.org](http://nevegetable.org), accessed on 10/25/2006

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