Pumpkin

a. Name of crop – Pumpkin

b. Common names – Kaddu (hindi); Lal bhopala (Marathi),

c. Scientific name - Cucurbita maxima.

d. Family- Cucurbitaceae

e. Origin: Central America

f. Importance –

Pumpkins were used to treat bladder problems and as a pain killer. Its seeds are an excellent source of fat and protein. Good source of Vitamin A, beta-carotene, Vitamin C, Phosphorus, Potassium etc.

g. Cultivation – Pumpkin hills should be approximately 3 feet by 3 feet. (0.9 x 0.9m). Allow 5 to 6 feet (1.5 -1.8m) between hills, spaced in rows 10 – 15 feet (3m X 4.6) apart.

or Sow 2-3 seeds, 1 inch (2.54cm) deep every 30-40 inches (76cm-102cm) and in rows 6-8 feet (1.8m – 2.4m) apart. Thin to one or two pumpkin plants.

h. Soil and climate

a. Soil : need fertile, aerated soil with a pH between 5.5 and 6.5. Well-drained, sandy loam or loamy soil in organic matter is ideal for its cultivation.

Climate: Pumpkins are a warm season crop

b. Season and months: Sowing time is February to early March, late May or early June. Seeds can be sown directly in the soil. Pumpkins grow best in sunny areas.
c. **Varieties**: Arka Suryamukhi, Pusa Vishwas. Queensland Blue and Jarrahdale are two good keeping pumpkins. They have a blue-grey skin and rich yellow or orange flesh. The Butternut pumpkin is quite popular.

d. **Methods of cultivation**: Plantation on ridges and in pit also.

  e. **Seed rate** – The seed rate is (1.36-1.81 kg) per acre.

f. **Spacing**: - Pumpkins may also be planted in rows 6 to 10 feet apart, spacing plants 2 to 3 feet apart in the row.

g. **Land preparation** – It is best to add nitrogen while preparing soil for planting.

  i. **Sowing / planting**: The planting hole should be about 2 feet apart and two seeds can be placed in each hole at a depth of 1” with the pointed side of the seed facing down. The seeds start germinating after 7 days.

k. **Fertilizer Management**:

Fertilizer rates should be based on the results of a soil test and the nutrient requirements of the pumpkin crop.

Pumpkins respond well to ample dressings of organic manure, and artificial fertilizers may be applied at a rate of (272-363kg) per acre of a 5:10:10 NPK mixture.

**Application Methods** –

- During the growing season, most fertility needs of pumpkins can be met by applying water-soluble plant foods once or twice a week over the entire plant area.
- Give seedlings a fertilizer that stresses phosphorus, such as 15-30-15. Shift to a more balanced formula, such as 20-20-20, once fruits are set.
- Once fruit set is evident, use a formula with a high potassium percentage, such as 15-11-29.

i. **Interculture operations**: Weeding and hoeing should be along and between the rows

  - Applications of N and earthing up should be done before emergence of tendrils
  - Tall grass growing above the foliage should be pulled up
Trained to the veins to grow with bamboo or sticks

**Thinning / gap filling** - Gap filling is done for keeping 2 healthy seedlings per spot. The gap filling is done in missing areas of the planted main field to maintain optimum population.

**a. Water management**: Pumpkins need to be watered regularly throughout the growing season.

Pumpkins need lots of indirect water, and the soil of the mound should be kept well moist but not wet, at all times. Remember not to water the pumpkin foliage.

As it gets warmer you may need to water more than once a day. The best indicator is the plants leaves.

If they are green and look healthy, they're probably getting enough water. If the leaves look wilted, they need more water.

**b. Crop protection –**

**Pest**: The main pests of pumpkins are aphids, pumpkin beetles, Cucumber beetles, squash vine borers and squash bugs and the leaf-eating ladybird. Dusting or spraying regularly before an infestation especially during egg laying and hatching, crop rotation etc is recommended.

Aphids can move into pumpkin fields in large numbers from surrounding vegetation, carrying viruses as it moves and feeds from one plant to another. Aphids also cause problems by weakening the plant through feeding, and both whiteflies and aphids are also vectors of viral diseases.

**Damage**

Damage usually becomes obvious on cucurbits after the vines begin to run. Congregating on lower leaf surfaces and terminal buds, aphids pierce plants with their needle-like mouthparts and extract sap. When this occurs, leaves curl
downward and puckers. Wilting and discoloration follow. Aphid damage weakens plants and may reduce fruit quality and quantity. Honeydew secreted by aphids makes plants sticky and enhances development of black sooty mold on plant foliage.

- The fruits should be washed thoroughly in water before cooking.

**Diseases:** Powdery mildew is a common disease of pumpkins. Downy mildew disease can also affect pumpkins.

At times, pumpkins can become affected by watermelon mosaic virus. The symptoms are prominent mosaic patterns of light and dark green on the leaves and fruits.

Plants infected at an early stage become stunted and their yield is decreased. Infected fruit show irregular, raised blisters.

The disease is spread by aphids. Unfortunately, no varieties are resistant to this disease.

Removing and burning all infected leaves and crops will help to check the spread of the virus.

**Downy mildew**

- **Control:** It is severe during rainy season. This can be checked by spraying mancozeb 50 gm in 15 litre of water (waiting period of mancozeb is three days).

**Powdery mildew**

- Can be controlled by spraying combination of Mancozeb and carbendazim 35 gm per 15 litres of water.

**Mosaic**

- Control the vectors by spraying dimethoate 35 ml in 15 litres of water.
- Uprooting and destruction of affected plants and collateral hosts should be done.
- Harvesting can be done only after 10 days (at least) of insecticide / fungicide
e. **Weed management** - Weeding is the process of eliminating competition of unwanted plants to the regular crop in respect to nutrition and moisture. So that crops can be grown profitably. It also facilitates other operations like irrigation and fertilizer application. The advantages of weeding are

2. Reduced competition for nutrients, sunlight, space and water.

j. **Harvesting & post harvest processing**

a) **Method of harvesting** – 55-75 days after sowing
b) Rind of fruit is very tender
c) The color of fruits skin starts becoming red, fruit rind hardens and seed coat also becomes hard and unfit for eating
d) **yield** : The average yield of pumpkin is between 20 to 30 tonnes/ha. In well-cultivated fields hence appropriate accommodation for transportation and storage should be made.

k. **Post harvest processing** – Washed with water, Covered with the paper in crate.

Packaging : Neatly at the packinghouse, fruits are packed in ventilated polypropylene bags weighing 50 lbs, an average of 2-3 fruits; mesh bags or double walled fiberboard boxes with dividers can also be used.

**Products:**

- Preparation of Bhaaji

**Market availability:** Pumpkin is sold for distant as well as for local markets, long root market.