

Background

Watermelon (*Citrullus lantatus*) is a popular desert vegetable belongs to the family Cucurbitaceae (gourd family) which includes pumpkin, squash and cucumber. It is a warm weather crop. Watermelons vary in shape; from globular to oblong. External rind colour varies from light to dark green and may be solid, striped or marbled. The pulp colour of most commercial varieties is red. The fruit is generally eaten raw. Fruit size varies from 2-15kgs depending on variety. Watermelon has very high-water content (93ml/100g edible portion). It contains carbohydrates (5mg), calcium (8mg), phosphorous (9 mg), ascorbic acid (8 mg) and vitamins (0.64 g) per 100 g of edible portion. Watermelons need five things to grow and produce fruit: sun, water, bees, nutrients, and a lot of space. They thrive in sandy or sandy loam soil. Give each plant at least 1.5 -2 meter of space, as their vines spread rapidly. Although watermelon produces both male and female flowers; hand pollination or honeybees must pollinate the watermelon blossom for fruit to be produced. Water melon can be successfully grown in fields, greenhouse and poly houses. Farmers can make good profits from cultivation of watermelon, if proper cultivation methods and farm management practices are followed.

There are many watermelon varieties all over the world but major ones introduced in Bhutan are;

Black ball (Bajo Kharimuza 1)

Kabuki (Bajo Kharimuza 2)

Sugar baby

All varieties of watermelon share a distinct mouth-watering, thirst quenching, sugary flesh encased by a solid rind. Some watermelon types have higher sugar content and are sweeter; and some varieties have different colored rind and flesh.

Soil

Watermelon crop can be grown successfully in well aerated sandy or sandy loam soils and clay soil with good organic matter. The ideal P^H range 6.0 to 7.5 is best for watermelon farming.

Field preparation

Prepare the land by clearing all the vegetation covers and plant debris. Avoid using same field which other cucurbits were planted. Incorporate about 9MT of well decomposed organic matter or manure in soil. In one acre of land it is estimated to have about 900 mounds. On each mound, apply about 10kgs of fully decomposed compost or FYM. After soil pulverization or fine tith, prepare mounds at a height of 15 cm and with a diameter of 70 cm. The spacing of the mound should be about 1.5 to 2 meters apart.

Nursery management

Select seeds of high yielding variety. Watermelon seeds need special care during germination, as the embryo is enclosed in hard seed coat. Temperature and moisture control is important to success, and too much moisture during germination can kill the seed. Under research and development centre (ARDC) Bajo condition; the best time for watermelon seed sowing is mid February to early March in greenhouse; so that the fruits can be harvested during start of summer season. Direct seedling in the garden has very low success because outside climate is difficult to control or predict. Therefore, seedling has to be raised under protected condition. For one acre of land about 1500 watermelon seeds are required. In one acre of land about 1300 seedlings density are required. Seeds in group of 2-3 are sown 2-4 cm deep in container (Poly pot); seedlings are later thinned to 1 per pot and later transplanted when 10-14 cm high. Watermelon seed germinate in about 7-8 days. Seedlings must be transplanted and watered as soon as possible after they have been obtained from the nursery. Seedlings should be kept cool and moist in shade before transplanting.

Nursery seeding is done during first week February and transplanted in mid March through early April. The crop can be harvested between first week of June and early July.

Transplanting/planting

Watermelon can be either direct seeded or transplanted. When direct seeding is used; 2-3 seeds are planted in each mound. The mound is then covered with plastic sheet (plastic caps); to increase temperature and maintain moisture for germination. It is also helpful to protect from leaf feeding beetles during seedling stage until it is removed. The plastic sheets are covered on the bamboo splits forming a conical shape. The open end should be covered with soils to prevent from being blown away by wind. The plastic should have some breathing holes to regulate temperature. Before dibbling the seeds in the soil irrigate the mound.

For seedling transplants; dig holes of 30cm wide, 30cm length and 10cm deep (do not plant too deep). Use of transplants not only reduces seed cost but also ensure 100% seedling density. After transplanting keep the soil moist. It is best to have a watering schedule because the fruits become stressed when pattern changes and this affects the fruit development and the spray program.

When transplanting, remove the seedlings from the plastic pots with the soil without damaging the roots. It is recommended to irrigate the nursery seedlings a day before actual transplanting. After transplanting provide plastic cape like in direct seeded method.

