Characteristics:
Bitter gourd requires a minimum temperature of 18°C during early growth, but optimal temperatures are in the range of 24-27°C. The plant is adapted to a wide variety of rainfall conditions, but regular irrigation is needed to ensure high yield. Bitter gourd tolerates a wide range of soil types but prefers a well-drained sandy loam soil that is rich in organic matter.

Cultivation instructions:
Prepare beds that are 20-cm-high during the dry season and 30 cm or higher during the wet season with a mixture of compost and NPK fertilizers, using a plow or mechanical bed shaper. The distance between centers of adjacent furrows should be about 150 cm with a 90-cm bed top.

Direct seeding: Sow 2-3 seeds per hole at a depth of 2 cm. Space holes 40-60 cm apart in rows spaced 1.2-1.5 m apart. Thin to one seedling per hole when plants have four true leaves.

Transplanting: Sow seeds in small plastic pots with a medium that drains well, such as peat moss, commercial potting soil, or a potting mix prepared from soil, compost, rice hulls, vermiculite, peat moss and sand. Sow 2-3 seeds per pot and thin to a single seedling when they have four to six true leaves. Seedling pots should be placed on benches (avoid touching the ground to prevent infection by soil-borne diseases and vulnerability to flooding). Use 50-60 mesh netting to enclose the nursery, to exclude insect pests. Transplant the disease-free and strong seedlings into raised beds when they are 10-15 cm tall.

Staking and trellising will increase fruit yield and size, reduce fruit rot, and make spraying and harvesting easier. Apply NPK fertilizer during the growth and harvesting periods at two-week intervals. Bitter gourd will not tolerate drought. Maintain good soil moisture using furrow, trickle or drip irrigation.

Nutrition and cooking:
Bitter gourd leaves are a good source of calcium, iron, phosphorus, and vitamins A & B. Fruit contains folate, vitamin C, polypeptide-P, and vegetable insulin or charantin, which lowers blood sugar levels. Immature fruits, leaves, and young shoots are boiled, pickled, and used in soups and curries. Immature fruits can be stuffed, curried, steamed, pickled, and added as ingredients for stir-fries, stews, and soups.

(Momordica charantia)