

Salad Crops



Salad crops. Some vegetables are consumed in the uncooked state and are known as salad crops. They are lettuce (*Lactuca sativa* L.), celery (*Apium graveolens* L.) and parsley (*Petroselinum crispum* (Mill.) Nym). All of them are cool-season crops and are mostly grown around big cities. The leaves of lettuce and leaf-stalks of celery are eaten, whereas parsley leaves are used for decoration, garnishing or in soups, sauces and stews.

CULTIVATION. The seeds are generally sown in the nursery-beds from August to October. About 500 g of lettuce, 250 g of celery and 1.5 kg of parsley seeds are required to raise seedlings for one hectare. The seedlings of celery are often transplanted in well-manured trenches. Blanching is often done by wrapping-paper or black polythene around the leaf stalks or by earthing up the soil as the plants grow. The leaves of lettuce and parsley can be used even when they are young. Each celery plants is cut just below the surface with a sharp knife. The diseases which affect lettuce are slimy soft-rot and mosaic and those affecting celery are early and late blights, pink-rot, mosaic and aster yellows. Aphids attack both lettuce and celery. It is safe to use 3% Nicotine dust on the leaves. Celery leaf-miner and carrot weevil are other pests.



LEAFY VEGETABLES, POTHERBS OR GREENS. Leafy vegetables are very rich in minerals and vitamins A and c. They also supply the roughage required in our daily diet. A number of greens are cultivated in India. The leaves of some shrubs and trees are also used as greens. These vegetables are grown throughout the year. Some are suitable for growing during winter e.g. *palak* (*Beta vulgaris* L.), spinach (*Spinacia oleracea* L.), *fenugreek*, *methi* (*Trigonella foenumgraecum* L.) and mustard *sarson*, *Brassica* spp). Others, such as amaranthus (*Amaranthus* spp.), portulaca (*Portulaca oleracea* L.) and

poi (*Basella alba* L.) are suitable for growing during summer. Other leafy vegetables, which are also eaten in different parts of the country, are *karam saag*, New Zealand spinach, buckwheat, *bathua*, *chakwat*, etc.

CULTIVATION. The land is laid out in plots convenient for irrigation. A basal dressing of 35 to 40 tonnes of farmyard manure should be incorporated into the soil at the time of preparing the land. A mixture of 40 kg of nitrogen, 30 kg of phosphorus and 30 kg of potassium per hectare is applied to the soil at the time of sowing. The seed is sown either broadcast or in rows about 15 to 30 cm apart and the surface is raked to cover the seed. Twenty-five to 30 kg of seed of *palak*, spinach and fenugreek, 6 to 8 kg of mustard and about 2.5 kg of amaranth are required to sow one hectare. One light irrigation may be given immediately after sowing, followed by subsequent irrigations at 8- to 10-day intervals. The average yield may vary from 7,000 to 10,000 kg of green leaves per hectare. The important diseases which attack leafy vegetables are damping-off, *Cercospora* leaf-spot, mildew and rust. These diseases can be controlled by treating the seeds with Ceresan and by spraying some copper fungicides, e.g. Bordeaux mixtures. The common insects are aphids, caterpillars and beetles. As leaves are continuously cut and used, poisonous insecticides should be avoided.

Spraying with nicotine sulphate or dusting with 0.2% Pyrethrum is recommended.



OTHER ROOT CROPS In addition to the root crops already described, other root crops which are commercially important are colocalia (*Colocasia esculenta* (L.) Schott.), yam (*Dioscorea alata* L.), tapioca (*Manihot esculenta* Crantz) and elephant's-foot yam (*Amorphophallus campanulatus* Blume ex Dcne.). They constitute an important source of food in the tropical areas. They are rich sources of carbohydrates. Young leaves and petioles of colocalia are cooked like other greens. The tubers of some varieties of colocalia and

elephant's foot yam have acidity, which can be destroyed by boiling. However, acidity-free varieties are now available. Tapioca roots are eaten either after boiling or baking. Flour or meal made from the roots is used in making bread and dishes. Starch is also manufactured for making paper, laundering and other industrial purposes.

CULTIVATION. The root crops mentioned above are warm-season crops and are grown in summer as well as in the rainy-season. For the summer crop, they are sown in February-March and for the rainy-season crop,

in June-July. A deep, rich friable, well-drained soil is ideal. Sprouted tubers of colocasia and yam (elephant's-foot) are sown in rows 45 cm apart and 30 cm within rows. Cuttings about 15 to 20 cm long are used to propagate tapioca. Most of these crops take 5 to 6 months to be ready for harvesting. Elephant's-foot takes three to four years. The yield per hectare is about 15,000 kg in the case of colocasia and 30,000 kg in the case of tapioca and elephant's-foot. Colocasia suffers from blight which can be prevented with regular spraying with Bordeaux mixture. Tapioca is often attacked by the mosaic virus. Varieties resistant to this diseases should be grown where it is a problem.



PERENNIAL VEGETABLES. Perennial vegetables are those which produce the edible portion continually for several years. The common vegetables under this group are asparagus (*Asparagus officinalis* L.), rhubarb (*Rheum rhabarbarum* L.), globe artichokes (*Cynara scolymus* L.) and Jerusalem artichoke (*Helianthus tuberosus* L.). These crops have tuberous roots, rhizomes or crowns. Asparagus is cultivated for its tender shoots, commonly known as spears, rhubarb for its large, thick leaf stalks, globe artichokes for its flower-bud and Jerusalem artichoke for its roots. These are all cool-season crops. The aboveground portion dies each year during winter and again in spring.

CULTIVATION. Asparagus is propagated from seeds and crowns, rhubarb from crowns, and artichoke from suckers as well as from crowns. The seedlings of asparagus are raised in well-prepared nurseries. The seedlings are transplanted when one year old. The proper preparation of soil is essential, as the crop occupies the soil for a number of years. A good amount of organic manure should be incorporated into the soil. Then 50 to 60 kg of nitrogen, 25 kg of phosphorus and 50 kg of potassium should be added annually in two doses, once in spring and again after harvesting. These vegetables start yielding sizable crops after about three years and with good care may give economic yields for about 12 years. Asparagus spears are harvested with a special knife which cuts 3 to 5 cm below the soil surface. The



artichoke buds are harvested by cutting the stem 2.5 to 3 cm below the base of the bud. The stalks of rhubarb are pulled out and not cut, leaving a few stalks on the plant. New stalks come up within a week. Asparagus rust and rhubarb crown-rot and leaf-spot are some of the diseases. Asparagus beetles, garden centipedes and rhubarb beetles are the common insect pests.