

Special Horticultural Practices in Temperate Vegetables

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Vegetables are defined as edible herbaceous plants/plant parts consumed as raw or after cooking. They are rich in vitamins and minerals with low in calorific value. In technical sense all the parts the vegetables are used for consumption. The term, however, is usually applied to the edible plants which store up reserve food in roots, tubers, bulbs stems, petioles, leaves, buds, flowers, fruits, and seeds which are eaten either cooked or raw. Vegetables combat under nourishment and are known to be the cheapest source of natural protective food. India is the second largest producer of vegetables, next to China and accounts for 14.40 per cent of the world's production of vegetables. India ranks first in the world production of cauliflower and pea and second in cabbage production. The diversified and highly nutritive vegetables are of great importance in alleviating hunger and malnutrition. As per nutritionists, per capita requirements of vegetables should be 300g, in which 125 g leafy vegetables, 100g root vegetables and 75 g others. Temperate vegetables are generally tolerant to low temperature and sometimes even frost. This group includes cabbage, cauliflower, broccoli, Brussels sprout, kohlrabi and lettuce, celery, Chinese cabbage, peas, potato, carrot, radish, turnip, beetroot and garlic.

Special Horticulture Practices

Special Horticultural practices refer to unique and innovative techniques used in plant cultivation to enhance growth, quality, and yield. Some of the examples include blanching, forcing, binding, topping, etc

- 1. Blanching in Cauliflower:** Blanching refers to covering of curds. In cauliflower, for getting quality curd, blanching is an important operation to protect the curds from yellowing due to direct exposure to sun (to arrest enzymatic activity). A perfect curd is pure white. It is necessary to exclude sunlight to obtain this. The curds may also lose some of their flavour, because of this exposure. This problem generally occurs in such varieties of early and mid season maturity group, which have spreading and open plant type. In some varieties, the curd remains naturally protected and surrounded by inner whorls of leaves. These are called self-blanching types. e.g. Pusa Deepali.
- 2. Topping In Brussels Sprout:** Removing the terminal bud & lower leaves after the formation of sprouts in late summer or autumn. It is possible to harvest the whole crop after 4-6 weeks of topping. The advantages includes, i) increases in the total yield and ii) increases in the average size of sprout.



3. **Staking In Broad Beans and Pea:** Tall varieties may be given support with wooden sticks or twigs against wind. Place stakes or canes at one meter interval on both sides of the double rows close to the beans. Then tie around the stakes with twine 30-60cm above the ground.



4. **Binding in Chinese Cabbage:** For harvesting in winter, heads which are nearing maturity, are covered with outer leaves and bound with rice straw to protect them from cold damage.

5. **Blanching in Celery:** Excluding the light from the stalks while plants are still growing makes them devoid of chlorophyll and are known as blanching. Blanching is done either by wrapping paper around the leaf stalks or by earthing up the soil as the plants grow. Blanching is now discouraged as the nutritive value is reduced by this process. Now self blanching and green varieties are used instead of blanching.



6. **Forcing in Rhubarb:** Production of rhubarb stalks during winter is known as forcing of rhubarb in regions where the climate is suitable for the production of crowns. The roots of three year old plants dug out late in the fall are left outside for two weeks till they are frozen thoroughly. A thin layer of soil is spread to prevent the evaporation of moisture. The freezing is to allow the buds to be in rest period.



These frozen roots are then taken in to hot beds in specially constructed forcing structure or in any dark or semi dark conditions where the moderate temperature can be maintained. Since light is not desirable the windows in the forcing structure should be covered to exclude light. Now the buds are allowed to sprout. Under dark or semi dark conditions the stem develops a rich pink or red color and good quality. The expansion of leaf blade is very difficult. Hot water furnaces can supply heat. The optimum temperature for stalk development would be 15.6° C. At 10° C the growth will be very poor. The crowns are placed on the floor of the forcing structure at close together as practicable and covered with 5-7.5 cm of soil. For every distance of 1.5-2.0 m, a walking space can be provided to facilitate easy harvest of stalks. By the high temperature the crown sprout and the stalks grow out. When they reach a length of 45 cm they can be harvested, packed and sent to market.

7. **Blanching in Asparagus:** Mounding the soil to a height of 25-30 cm over the rows is practiced to blanch the young spears and get 'white asparagus' for canning. After harvest, the spears should be held in a cool shaded place and sprinkled with water to prevent shriveling and wilting. A single irrigation sprinkler over the boxes works well. Asparagus should be hydro cooled before packing.

8. **Blanching in Leek:** Blanching is important in leek cultivation. It is done by covering the plants to a certain height so as to bleach them, which improves the quality of the crop. For this purpose, plants are put in up to their center leaves in trenches or pits which are heavily manured and to earth up soil as they grow. Care should be taken not to earth up soil too early when the plants are young.



Conclusion

By following special horticultural practices like blanching, topping, curing, staking, binding, and forcing under open field condition it is found beneficial for achieving quality vegetable production which improve the economic condition of farmers and growers.

References

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