



DRY LAND HORTICULTURE – AN USEFUL SUPPLIMENT

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ABSTRACT:

The dry land is characterised by the land which receive less rainfall and therefore only one crop is grown in these areas. It only grows the arable crops and use around 80% of the rainfall which is received. The remaining 20% of the offseason rainfall received goes unutilised as runoff, evaporation or deep percolation and may also lead to more soil erosion, because there is no vegetation in this period.

KEYWORDS: dry land , cultivation of fruit.

INTRODUCTION:

In this situation the cultivation of fruit trees serves as the best alternative for these dry lands. The reasons for suggesting fruit trees as alternative are the following benefits which can be derived from them –

- (1) The fruit trees are deep rooted, hardly and able to tolerate drought conditions.
 - (2) They can withstand the delayed onset of monsoons as compared to short season crops and therefore they become suitable for drylands.
 - (3) The standing year around vegetation offered by fruit trees elp in conserving soil and moisture. The vegetation cover checks the run-off of soil.
 - (4) Fruit trees require less labour for maintenance and need only a little attention in comparison to traditional one season crops.
 - (5) They also give fodder and fuel through pruned lopping especially during off-season.
- There benefits make the fruit tree cultivation attractive under dry land conditions.

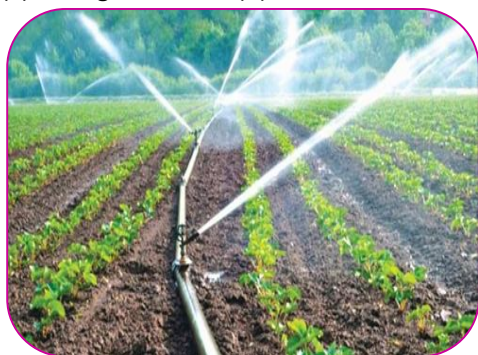
Criteria for Selection of fruit trees under dry land conditions.

The following prints to be considered for section of fruit trees under dry land conditions –

- (1) Trees should have ability to withstand drought conditions.

The following figures given water requirement for certain suitable trees under dry land conditions in litres per week-

- (a) Mango – 140 (b) Potato – 140



- (c) Guava – 91 (d) Pomegranate -91
(e) Berry -63 (f) Tamarind-63
(g) Jamun-35 (h) Sitafal-17

There trees can be considered while making selection of fruit trees.

- (2) Become of very low rainfall it is better to select seedling progenies rather than going for grafts or layers.

- (3) Selection to be made depends on the soil and climate. In the areas where rain intensity is heavy the crops to be selected should be such that they will not have flowering and fruiting during rainfall because the trees which flower and fruit during rainy season may have to suffer from drop of flowers and fruits.
- (4) The areas where temperature exceeds 45⁰ c and coupled with desiccating wind, orchards be protected by planting windbreaks around them.
- (5) The soils with poor drainage are generally unsuitable for fruit trees ; except Berry trees which can withstand waterlogging conditions. For clay and red soils mango, guava, potatoes are suitable while for red soils pomegranate custard are suitable for acid soil tamarind is suitable.

Planting Technique for fruit trees in Dry lands

The fruit trees are seasonal in bearing and have a long juvenile period. Therefore different fruit trees are to be mixed for having one or other tree in bearing and yielding conditions continuously. The best principle is to include slow growing. Late bearing species with early bearing fruit trees.

There are two alternative system which can be adopted. In one system, the slow growing fruit trees are placed at the centre of fast growing trees, while in another system, the trees which are fast growing and slow growing are placed in alternatively within the row and the tree placed in first position of every row is changed.

The important thing to be considered in mixed planting is that trees selected must be established in proper spacing : so that, each tree will utilise available occupy area in most economic way, without doing over crowing to each other. The species selected should be such that they will have alternate fruit bearing period to give yield continuously.

Water harvesting- practices in dry land orchards

The success of dry land horticulture depends on conservation of soil, moisture and prevention of soil erosion. Efforts have to be made to allow rain water to percolate into soil and to check run-off of water and soil. The various methods for conserving soil and moisture can be as below –

- (1) Summer ploughing across the slope be chosen. So as to prevent the quick runoff of rain waters.
- (2) If the fields are having higher slope, bunding across the slope be provided. For this purpose contour bunding or compartmental bunding can be used.
- (3) To check run- off of the rain water, vegetative barriers like Agave and Vetiver can be planted on the contour bunding.
- (4) Formation circular or saucer basins around the trees will help in holding water.
- (5) Munching of the tree base, will help in conserving the moisture in the soil. By checking less due to evaporation.
- (6) Construction of farm pods will store the running off rain water and will provide it for use in dry season.

Similarly construction of percolation ponds or tanks at higher elevations will store rain water coming from other land and can be utilised by constructing wells at down levels.

Further techniques can be used on need base.

Selection of suitable varieties of fruit crops

The fruit trees with less requirement of water have many varieties developed for different regions. Among them suitable varieties to be selected by considering soil and climate of the place where plantation is to be made. In this respect the Horticulture department of Maharashtra State or extension wings of the agricultural universities should be consulted.

Intercultural, fertiliser management and plant protection

The dry land fruit plantation once made need to be given intercultural operations like, hoeing, weeding and removal of parasites if any on them. They should be given recommended doses of manures and fertilisers. Organic manures, Green manures be preferred over chemical fertilizers. However to make goop the deficiencies chemical fertilisers can be used as supplement, but in Long run their use should be

discouraged. The organic manures help in moisture conservation and development of soil flora which help in conditioning of the plantculture.

The growth stimulating hormone like Gibberrellic Acid (GA) at 100 ppm concentration can be used at the time of following of trees.

The fruit trees also need to protected from the pests, and diseases by use of insecticide and fungicides. In this respect in the Integrated Pest Management will help in a lot. Moreover Biological control of pests be preferred to the chemical control. Chemical controls should not be prime but be supplementary.

Harvesting and Marketing

The suitable time of harvest with suitable conditions of fruit required for market needs to be selected. The marketing links can be developed with terminal markets which will help in giving better returns to be farmers.

CONCLUSION

The above technical analysis suggest that, there is vast scope for the dryland horticulture. A little deviation from the tradition is necessary to adopt these techniques by the farmers. The results of these will be encouraging if they are taken up as substitutes. The need of support about credit and technical guidance facilities can be rendered by government through department of agriculture, horticulture and other related agencies.

The proper exim policy (export import policy) about agricultural product is also needed to protect dry land farmers. The checking of the dumping of fruit and horticultural products by capitalist countries into India endangers the dryland cultivators in overall respects. The export import of the agricultural products with due diligence can help survival of dryland farming. Let future be to serve us better.

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