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Pruning in Indian Jujube (*Ziziphus mauritiana* Lam.): A Review

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Abstract: Pruning in ber is required right from the year of planting. During the pre-bearing stage, it is done to build strong framework to bear the load of fruits and to distribute light and air evenly. In later years, it is done to enhance the yield and quality of fruits every year because; the fruits are borne on current year's growth which is induced by pruning. Pruning time in India is to the specific geographical location. In sub tropical regions, it is done from May to June depending upon latitude while in tropical regions; it can be done from January to April depending upon the possibility of winter rainfall. In western India like in Maharashtra, it should be done before the end of April. Pruning time and intensity affect vegetative growth, flowering, fruiting, fruit drop, fruit retention, fruit maturity time and fruit quality attributes. Light to moderate pruning levels has been found to enhance fruit yield and quality of ber while heavy pruning affects it adversly with delay in fruit maturity owing to more vegetative growth.

Key words: Indian jujube, pruning, pruning intensity.

The Indian jujube *(Ziziphus mauritiana* Lam.), popularly known as ber in India is one of the most important fruits for arid and semi-arid regions of India and other isoclimatic parts of the world. Of late, it has assumed status of commercial fruits due to remunerative income to farmers at low cost of cultivation. It is also cheap source of most of the nutrients and minerals.

Pruning for Form (Training)

Under natural condition, ber has a bushy and spreading growth habit often with long straggly branches and weak crotches. A strong, open and upright frame is required to be achieved by training to obtain higher yield of good quality fruits. This is done in the initial 2-3 years after transplanting of the plants in the field or after budding *in situ*. Under the subtropical condition of India, planting is done in July-August, and the plants are allowed to grow until the following spring (March-April) when it is headed back keeping 1-2 basal buds on the scion portion just above the graft union to induce development of vigorous shoots. One upright growing vigorous shoot is retained from the scion bud (Pareek, 2001). The trunk is kept clean up to a height of 30 cm from ground level by removing all side shoots. Three-four properly spaced and favorably placed branches are allowed to grow from the main trunk. The top of the trunk is again headed back during May to encourage growth of side branches. Ber has a character to produce branches usually starting from sixth or ninth node from the base and subsequently at regular intervals of three internodes (Reddy and Chadha, 1993). It is observed that during spring or summer season of the following year, shoots emerges from the basal buds of these second aries and grow vigorously, but the second aries themselves either dry out or remain insignificant in growth and vigour (Pareek, 2001). In the spring of the second year, the second aries are again pruned to basal buds for emergence of vigorous shoots in the next season. One of the shoots emerging from the secondaries is retained, which will form main branches of the tree. On these main branches, 3-4 upright growing and well spaced side shoots are retained and top of such branches are again removed. In the spring of the fourth year, these side shoots are pruned to their basal buds. Vigorous shoots emerge from these buds to form the tertiary branches of the tree architecture.

Pruning

Basically, pruning is an art as well as science. Art because it requires skill, and science because a pruner has to have adequate knowledge and experience regarding the growth habit, flowering, and fruiting behavior of a particular species. During pruning operation,

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