USE OF COPPICE SHOOTS IN SEED PRODUCTION AREAS OF TEAK : A NEW CONCEPT

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Introduction

In the seminar on "Vegetative Propagation" held in July, 1989 at the Institute of Forest Genetics and Tree Breeding, Coimbatore Dr. R.V. Singh, the then Director General of ICFRE, had in his keynote address emphasised the need of giving due consideration and importance to the coppicing ability of various tree species also as a method of vegetative propagation and that wherever possible advantage of this method should be taken for further propagation as an important tool for tree improvement.

Rao (1953) has given a comprehensive list of plants belonging to 37 families and covering most of the important forestry species, which can be propagated by various vegetative propagation techniques. As per his observations apart from other methods of propagation 68 genera out of 110 and 95 species out of 161 possess specially remarkable ability to reproduce by coppicing. Teak, *Acacia*, Shisham and Sandal are a few to mention. In this paper the use of this technique for creating seed production areas of Teak has been explored as follows.

"Teak coppices very well and all coppice shoot originate in one of two ways (1) from callus growth developed inside the bark and situated between the bark and the wood at the edge of the cut surface or (2) from the side of the stool below the cut surface, the shoot appearing through the bark. The former, which may be termed 'callus shoot' are of adventitious origin, while the latter, which may be termed 'side shoots' probably arise from dormant buds".

"Teak coppices and pollards vigorously and sometimes retains the power of coppicing to a considerable size. Mr. Foulkes mentions a tree in North Malabar with a breast height girth of 97 in which when felled produced 22 coppice shoots, and stems with diameter 2 ft. 10 in. to 6 ft. 4 in. which produced 11-13 shoots per stool. The early growth of coppice and pollard shoots is rapid".

Of twelve different species coppiced and pollarded experimentally in 1909 in North Chanda, Central Provinces, Teak showed the most rapid growth both of coppice and pollard shoots (Troup, 1921).

Observations

Coppice shoots flower and fruit abnormally early. Seed from coppice, nine year old, collected in Saugor, Central Provinces and tested by the Forest Botanist at Dehra Dun in 1908 germinated and

produced healthy seedlings (Troup, 1921).

Davar (1934) has reported that in Gallapalle reserves of old Bastar State coppice shoots flowered at the age of 4 years and 9 months.

Muniswamy (1986) states "experiences in Andhra Pradesh have shown that some of the trees in the seed production areas have been responding to the opening created by producing more flowers and fruits than what they produced earlier". He further says should we take a risk to coppice such trees and allow them to put forth coppice shoot to bear maximum fruits ? Or is there a way out.

According to Dabral (1991) in Maharashtra the bulk of the seed is collected from second coppice growth and it gives quite satisfactory results in germination and growth and the collection is also less expensive.

Authors had coppiced two 10 year old plants, which had already started flowering and fruiting and pruned, them for next two years to train them to produce well developed and balanced crowns and observed that after three years they produced profuse flowers and fruits. In several other plants also, coppiced after the initiation of flowers, flowering and fruiting was quite satisfactory.

In 1992 an experiment was again carried out taking seed from two sets of 30 year old plants, heavily pollarded and pruned, plants and those which were growing naturally, and it was found that there was no difference in their weight, germination capacity and survival.

Discussion

It has been stated that the quality of the coppice shoots is not as good as the mother tree but this decline is due to the site deterioration (Rawat, 1991) and in no way it effects the genetic characters. After all the plant is reproducing itself by vegetative means only. Hence, it is worthwhile to experiment on large scale on this line. The selected coppice plants after two three prunings can be trained to developed a canopy to bear large number of inflorescences and fruits in the next two to three years. The best time for coppicing or pollarding are reported to be March or September (Troup, 1921).

Conclusion

With the experience gained so far from the Model Seed Orchard and Germplasm Bank of Teak at New Forest it has been observed that coppice growth is as fast as that of grafts in the seed orchard and in the similar way the coppice can also be pruned to develop a well spread and balanced crown and of convenient height also so as to bear more inflorescences and produce more seed and also to make seed collection easier and less expensive. This technique can be adopted for other species also which give good response to coppice growth e.g. *Acacia, Dalbergia, Santalum,* etc. are a few to mention.

SUMMARY

Creation of seed production areas is an important step in the Tree Improvement Programme for the interim supply of superior seed for afforestation till the seed orchards become fully productive. In Teak seed production areas the production of seed is not only insufficient but its collection is also difficult and expensive. Hence a new approach has been suggested, keeping in view the excellent coppicing capacity of Teak, for higher production of seed per tree and making the collection easier and cheaper.

सागौन के बीज उत्पादन क्षेत्रों में स्थूण प्ररोहों का उपयोग : एक नई दृष्टि

एम०एस० रावत, डी०पी० उनियाल व सी०जे०एस०के० इम्मेनुएल

सारांश

बीज उद्यानों के पूरी तरह से उत्पादक बन जाने से पहले के समय में वनीकरण के लिए उत्तम कोटि का बीज अन्तरिम रूप से उपलब्ध करने के वृक्ष परिष्कार कार्यक्रम में बीज उत्पादक क्षेत्रों को तैयार करना एक महत्वपूर्ण पग है । सागौन के बीज उत्पादक क्षेत्रों का बीज उत्पादन अपर्याप्त होने के अलावा इसे इकट्ठा करना भी कठिन और महंगा पड़ता है, इसलिये वहाँ सागौन के अत्युत्तम स्थूण रूह गुणों को ध्यान में रखते हुए एक नई दृष्टि अपनाने का सुझाव दिया गया है जिससे प्रतिवर्ष बीज का उत्पादन अधिक हो सकता है तथा उसका संग्रह करना सरलतर और अधिक सस्ता भी हो जाएगा ।

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