

SELECTION OF *ALNUS NITIDA*, LINN

*Alnus nitida* (sharol) is a large tree (upto 20 m height and 0.5 m dbh), comes up naturally on banks of streams and on moist sites in Hazara, Swat and Azad Kashmir from 1000 m to 1500 m elevation. The tree has caught the eye of the foresters as it has been found quite useful for the manufacture of bobbins in the textile industry. A study was started to select straight stemmed healthy plants for getting seed and clonal material for large scale propagation.

**Sowing of seed.** The cones collected in the first week of December 1977 were placed in sun for ten days to allow the paper thin seed to come out. Raised sand beds were prepared at Abbottabad nursery in early February 1978 and sowing done in lines 10 cm apart, covering the seed with one cm thick layer of sand and leaf mould mixture. The beds were watered twice a week with a fine rose. As a safeguard against rain wash, beds were covered with polythene sheet stretched 30 cm above the beds. Germination started in the last week of February and the seed continued to germinate for about a month. The seedlings attained an average height 10 cm by the end of July. Six weedings were adequate.

**Pricking.** Pricking of the seedlings was started in July to remove congestion in the beds. The selected seedlings were planted at a spacing of 30 x 15 cm. Transplanting was followed by watering. Hoeing and weeding was done as and when necessary. The seedlings attained an average height of 30 cm by the end of the growing season of 1978.

**Selection method.** In March, 1979 when the transplanted seedlings were about 1 year old, the selection work was started. The selection was made on the basis of habit, form of the stem, rate of growth of seedlings and their resistance to fungal and insect diseases. Keeping these criteria in view 220 seedlings were selected from a total of about 5000. The numbered seedlings were lifted from the beds and a new nursery with root shoot cuttings and stem cuttings from the selected stock was established in the first week of April: 20 cm long rooted cuttings were planted 1 m apart in lines. At a distance of about 30 cm from these lines, 3 stem cuttings 10 cm apart were planted in such a way that each rooted cutting was facing its own 3 stem cuttings.

**Second selection.** All the rooted cuttings sprouted and formed roots. The stem cuttings although sprouted but only a few developed roots. The resultant plants were any way poor in rate of growth and were discarded.

Keeping the same evaluating standard in view a second selection was done in 1980. Each plant obtained from rooted cuttings was graded. Out of the first selection of 220 plants, only 28 could stand this rigorous test. Each of these plants has been given a number and planted in the Research Garden, Peshawar at a spacing of 4 x 4 m in February, 1980.

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