

## Christmas Tree (*Abies fraseri*) Production

**David Hide**

Everton Nurseries, Everton, Lymington, Hampshire, S041 OJZ

### INTRODUCTION

As winner of the Richard Martyr Award, I attended the Southern Region International Conference held at Greensboro, North Carolina (N.C.) in October 1993. After the Conference I drove west up into the Appalachian Mountains where I spent more than a week looking at the production of *Abies fraseri*, the Fraser fir, from seedling transplant to 7-m tall, competition-winning Christmas trees. Though many of the natural stands of Fraser fir are dying due to balsam woolly aphid, these are now being replaced by farmed trees as *A. fraseri* becomes an increasingly popular Christmas tree. I visited many Christmas tree growers but this report describes two, Bob Jennings of N.C. State Forestry Station and Wayne Ayers of Roan Valley Tree Farm.

### PRODUCING QUALITY THREE-YEAR-OLD TRANSPLANTS

At the Forestry Station I observed the production methods for growing top-quality transplants for the Christmas-tree growers of N.C. The station is at an elevation of 760 m in the hills close to the aptly named town of Spruce Pines.

Before sowing a piece of ground it is cropped with rye for 4 years, then cultivated and sterilised using methyl bromide. Seed is then sown from June 10 through to the beginning of July when the temperature can be as high as 80F (26.5C). This facilitates speedy and unchecked germination with a possible two flushes of growth before the autumn. The seedlings should then be approximately 30 mm tall. Summers are hot and so the seedlings are covered with 30% shade netting and are irrigated once the temperature is above 85F (29.4C). *Phytophthora* can be a problem, especially during a wet summer, so Subdue (metalaxyl) is applied to the seed beds twice a year—once in the spring and again in the autumn when the soil temperature is above 55F (12.7C). In November, the netting is removed and the seedlings are covered with straw to a depth of 15 cm as a frost protectant.

The seedlings are grown on for a further 2 years, and they should be between 10 and 20 cm tall by the autumn of the third year. That autumn, in advance of lifting, they are undercut if *Phytophthora* has not been a problem or just laterally pruned if it has. Lifting takes place from the middle of February onwards during mild weather and light winds. A potato harvester is used for lifting if the ground is sufficiently dry, otherwise the job is done by hand.

Grading the transplants is very important. A transplant must be a minimum of 10 cm, have a single straight stem, a well established terminal with good buds present, a strong root system, and be free from mechanical damage. These are then tied in bundles of 25, dipped in Viteria or Agragel to reduce transpiration, and then sold to the N.C. Christmas tree growers for \$175 per thousand.

### **AWARD WINNING CHRISTMAS TREES**

Wayne Avers, of Roan Valley Tree Farm, grows his trees at between 1200 to 1500 m on the hillside of Roan Mountain, within a 300 m of its summit and its natural stand of *A. fraseri*.

The steps involved in producing first class Christmas trees include the simple tasks of planting the crop in straight lines, ensuring the crop is upright, annual pruning to maintain symmetry, and pesticide applications to control red spider mite and woolly aphid. Ayers, who has 30 years experience of Christmas tree production, won the National Christmas Tree Championship in 1993, with a presidential reception and the right to provide the President of the United States with a 7 m Fraser fir for the Blue Room in the Oval Office of the White House. It is a great honour for Roan Valley Tree Farm but also provides national recognition for the Fraser fir growers of N.C. as they strive to increase their share of the lucrative Christmas tree market above 15%.

In all I spent 3 weeks in North Carolina and Virginia looking at many different aspects of horticulture. May I take this opportunity through the pages of the *Combined Proceedings*, to thank everybody I met for the help I received and the information I gained.