Specimen Conifer Production

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MARKET NEEDS

Dwarf and unusual forms of conifers have been recognized since the 1800s. Ten dwarf forms were first listed in 1938, and by 1966 over 1000 forms were available. Now the cultivars available are abundant. In developing a market for these specimens, we need to consider today's economy and the time available to home owners for work in their landscape. Building lots are becoming increasingly smaller in size as real estate prices soar. Funds required for care of massive plantings has led to a serious look at the benefits of smaller, compact plantings in this day of economic stress. A new home owner must consider time and effort, as well as expense, when planting a harmonious landscape. Dwarf and unusual conifers in a landscape will provide years of beauty, balance and growing interest to the space limited gardener, as well as eliminating yearly garden chores that are a must for massive plantings. Limited space and great expectations support the need for various forms of dwarf or unusual specimen conifers, therefore creating a market need.

STOCK PLANTS

The most important factor besides market need is the availability of quality stock plants. Without healthy and vigorous stock plants, it is impossible for production to advance. We began purchasing stock plants in 1975 when we acquired the last plants propagated by Henry J. Hohman of Kingsville Nursery. At that time, we had approximately 100 taxa, and today we have over 1000 taxa in production. Several criteria must be met before buying in stock plants. The most important is that the plant is true-to-name. We feel it is important to know the history of the plant and the supplier before we commit to purchasing any particular stock plant. The plant must be healthy, have good vigor, be true-to-name and adaptable to our zone and climate conditions. We may not always purchase mature stock plants and may resort to buying in liners; however, the liners must meet the same criteria as the more mature forms. If the stock plant source is in a liner form, we will grow it on for a period of two years in a one-gal container and then plant it in our field. If the stock plant is of a mature size, it will be incorporated into one of our display gardens. Many times, we will plant stock plants into our regular field production or container production area and then harvest them every 4 to 6 years, depending on quantity of cuttings or scions needed. During this period of time, we are also able to evaluate the plant for its growth, maintenance requirements and special characteristics. All stock plants are under our regular growing program that includes fertilization, pesticide control and irrigation.

PROPAGATION

The two basic methods for producing specimen conifers are by grafting or by cuttings. Our grafted conifers are propagated from December through March, and

our conifers from cuttings are stuck from October through April.

The introduction of disinfestation procedures into our production system is the most important factor in our successful propagation of these plants. All of our scions and cuttings are emersed in a 10% bleach solution immediately after preparation. We also wash our propagation houses with bleach and sterilize all tools, flats and pots.

GRAFTING

Understock is potted into 2 3/8 x 5 in. pots in February and March. We feel that the deep band pot has increased our percentage of take incredibly. The pot size of the understock is critical to the success of grafting. Our potting soil is basically a mixture of 70% composted pine bark, 20% coarse sand, 10% peat moss, lime (7 lb per yard), and Sierra Blend + minors 17-6-10 (10 pounds per cubic yard).

The understock is maintained under regular growing conditions with water, fertilizer and pesticide control. When it is time to graft, the understock is brought into the head house as needed for grafting preparation and actual grafting. We use a standard modified side graft, making certain that scions are of good size and vigor and that rubber strips are not too tight. The plants are then plunged into palite with 72°F bottom heat. They remain in the grafting houses until April and then are removed to a shade frame where they will remain until summer potting. Prior to potting, grading takes place and inferior plants are discarded. All plants are potted into a trade 1-gal container using the same soil mix as in the understock. It is important that grafts are hardened off prior to potting. If potting takes place during June or July, the plants are placed under 47% shade. However, if they are potted in August or later, shade is not necessary. These plants will remain in the one-gal container for 2 years or 3 to 4 growing seasons. At that time, they are ready for field planting.

CUTTINGS

We usually use cuttings for various cultivars of *Chamaecyparis, Cryptomeria, Juniperus, Picea abies, Taxus, Thuja* and *Tsuga*. Cuttings are taken in advance of propagation and are kept in cold storage where they are kept moist until preparation time. They are then removed from cold storage and taken to the head house where they are prepared and stuck. Our media consists of various ingredients such as 75% palite and 25% peat moss as one mix; another would be 50% sand and 50% peat moss. All cuttings are dipped into a 2% IBA talc or into a liquid quick dip at a ratio of 1:5 or 1:10 respectively. Flats of cuttings are carried by conveyer to the cutting house and placed on bottom heat at approximately 72°F with ambient air temperature maintained in the low 50s depending on sunlight and heat buildup.

Low profile plastic tunnels are placed over the flats to increase rooting and to save heating energy. Cuttings are rooted within a 6 to 10 week period and then potted into a 2 1/4 in. rose pot, 1 1/2 quart pots or 1-gal containers. This would depend on the cultivar, production time and scheduling. A 2 1/4 in. rose pot plant would go into a 1 gal after 1 1/2 years of growth and a 1 1/2 qt would go into a 2-gal can, also after 1 1/2 years of growth. These plants are then grown on for a period of 2 to 3 years or until field ready for lining out.

GROWING-ON

Fields are prepared one year in advance of planting out. If we are going into a new piece of farm ground that has been planted in alfalfa or some other crop, we will perform soil tests and prepare the soil accordingly. If the field has been planted in corn, wheat or other nursery stock, a triazine test for herbicides is in order, along with routine soil testing. An attempt is made to prepare the ground in late fall for planting the following spring. An application of liquid cow manure is applied at the rate of 15,000 gal per acre and then subsoiled to a depth of 18-20 in. The ground will remain in this condition until spring planting. It has been our experience that fall subsoiling greatly increases the survival rate of plants the following year. This is probably due to better moisture, friability and aeration in the soil. Once the ground is ready for planting, the fields are laid out according to blocks and topography. Plants are tagged, removed from their containers, and the root balls are broken up entirely. They are then loaded into field planting boxes and delivered to the fields. There the plants are unloaded onto the planter and planted out. Our spacing depends on the cultivar of plant and at what size we plan to harvest it. The standard spacing is 6 ft in the rows and 18 ft between rows. The columnar conifers are more tightly spaced. If we are going to harvest plants at a 7 to 9 year schedule, we will block these plants into three rows per block, with grass strips in between. Fertilization is done in March and September, and pesticide control is on an IPM basis. Our herbicide program is still under testing and evaluation. Herbicides can be a problem, especially if you plan to use your field stock as a propagation source. We clean cultivate where possible and in late summer drill in oats for- a winter cover crop. This helps soil erosion control and protecting the root surface. All plants remain in the field until they reach landscape size of specimen quality.

HARVESTING

Plants are harvested yearlong depending on the market. We will trench and water in before digging if we are digging in summer. Most plants are dug with a mechanical digger, with the exception of the larger or specimen conifers which are hand dug. After they have been loaded by forklift, plants are brought out of the field and taken to the holding yard by wagon. Conifers, such as *Picea* and *Pinus*, are not dug between bud break and hardening off.

SALES

We contribute the majority of our sales to the Foxhorough product itself and also to word-of-mouth sales. Advertising occupies only a small portion of our budget, and our sales staff is inhouse. Our first public listing was included in a national sources guide 14 years ago, and from there we built our clientele base.

Pricing is a somewhat difficult area because of the inability to extensively compare pricing of our specimen conifers with those of other nurseries. Our basic criterion is to test the market with pricing and to develop our base from there. Pricing on specimens is done on an individual basis.

In summary, the cultivation of conifer specimens is an area that many mainstream nursery businesses bypass. Specimens require extra field space, years to harvest, patience and marketing ability. To become an innovative grower in this day and age, we must take time, make space and he creative for each specimen conifer has its own characteristics.