THE CHRISTMAS TREE INDUSTRY: PROBLEMS AND NEEDS

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Abstract .--The Christmas tree industry faces a number of challenges involving the intensive management of short-rotation plantations. Research needs in tree improvement include development of varieties with uniformly straight stems, bright needle color, cold and drought hardiness, and good needle retention. Other problem areas include response to shearing and pruning, fertilization regimes, pest management, and the storage and handling of cut trees.

A relatively young Christmas tree industry is faced with the same types of problems that have confronted plant breeders and crop improvement researchers. These basic needs relate to the production of a high quality tree that satisfies the descriminating tastes of the consumer and the economic desires of the producer.

In the last 30 years the Christmas tree industry has evolved from the harvesting of wildings as a forestry management practice to the intensive planting and management of trees specifically for the Christmas season.

As the standards of living have improved and more money became available for frills, the plantation grown tree gained in popularity. The development and success of the plantation grown tree was challenged by the artificial facsimiles. It was good competition. The real tree growers had a new standard to meet, so they tried harder. The artificial competition is still there although it is somewhat controlled by its negative impact on the non-renewable resources.

CHRISTMAS TREE PRODUCTION

In 1965, the United States was a major importer of Christmas trees with 14,000,000 trees received from Canada. By 1976, the Canadian imports were down to 1,000,000; last year they accounted for about 2,000,000 trees. In this relatively short time our production has increased considerably and we are now looking for foreign markets. This week the vice-president of the National Christmas Tree Association is in England working with their producers and marketing people. Each year we hear of inquiries from several different countries for a supply of trees. The southeastern states are experimenting with the fast growing Virginia pine. The impact of large volumes of live trees in the southern markets could have some effects on the northern production and marketing.

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From the limited survey data we have, it is estimated that 32 million trees were sold nationally last year. A further interpretation of the data indicates that the North Central area represented by this conference produced 11.6 million trees, roughly one third of the nations total production. Some of the major growers who supply the metropolitan areas are located in Minnesota, Wisconsin, Michigan, Ohio, Illinois and Indiana. However, all the North Central States have an assortment of growers who produce smaller amounts primarily for local consumption. It is these growers who have had a profound impact on the Christmas tree industry. In order to be successful, each grower has had to be a strong competitor and the easiest way to compete was with a high quality product. Consequently every producer is in the same arena seeking the information and guidance on how to produce better trees.

Consumers shop for their own satisfaction and growers try to produce the most desirable product. Eventually, the desirable characteristics of a Christmas tree were identified and described in the U.S. Standards and Grades. These standards and grades describe what we want to produce but the actual process needs continuing research to minimize the problems we create and to satisfy the improvements we define.

RESEARCH NEEDS

I am aware that numerous research studies have already been completed or are underway on some of the items to be mentioned. The following summary of needs was compiled from input supplied by growers of pines. Most of these growers are concerned with Scotch Pine. All of the responses addressed this first combination of needs.

1. Even though several strains of Scotch Pine have been developed, there is still a need for further genetic research to develop a seed source which will result in the uniform appearance of an entire crop. All producers prefer a straight stem with an upward branch angle, a uniformly bright color, moderate needle length, several years needle retention and normal to slightly abundant bud set after shearing.

2. Growers in North Dakota are concerned primarily about winter hardiness and the limitation of a short growing season.

3. Kansas growers feel there is a need for one or two strains that are adapted to their specific climate. Their concern is for more uniformity in growth and development, stamina to withstand drought, and needle retention. Ninety percent of their production is Scotch Pine.

4. The economics of insect and weed control can be modified by the use of wetting agents, but what are the advantages and risks of using fatty acids for insect control?

5. There is a need to evaluate the various "additives" that may stimulate growth, insure survival, aid in propagation or condition the soil.

6. Responses to shearing and pruning are too variable with current stock. Research is needed to determine the factors that cause bare stems, excessive bud set and lack of dominance in terminal shoots on Scotch pine. What are the factors that influence apical dominance in bud set after shearing? How do we get a strong central stem rather than a cluster of small weak branches?

7. Fertility requirements for pines. What is optimum?

8. Tree freshness at the market place may eventually be the most critical element in the sequence of marketing a crop. Attaining and maintaining optimum freshness through correct storage and handling is a major concern.

9. Information on how to evaluate equipment would be an aid to many growers. Sprayers, planters and cultural tools could be evaluated.

10. Site and soil research is needed to more specifically match species and site.

11. Production and marketing surveys to identify trends is a part of the industry. Could these surveys be an aid in tree improvement research?

12. The growers in Illinois have identified several specific needs:

    a. The pinewood nemetode and its effects and controls?

    b. Do biological pest controls offer a more economical alternative to conventional pesticides?

    c. What are the benefits that can be derived from planting a companion legume crop?

    d. There must be an optimum fertility balance for pines; what is it, and is it practical to establish the optimum balance?

    e. All growers want to know more about herbicides and insecticides; Which chemical to use, how much, when, how often, and for how long. What are the long term impacts on the soil? Will long-time use of the same herbicide result in adverse soil conditions?

    f. Tree freshness is the concern of the retailer. Improvements in retaining tree freshness would please everyone.

    g. Research on clonal propogation of Scotch Pine was conducted at the University of Illinois with some funding assistance from the Illinois CTA. This was a worthwhile expenditure but perhaps it should be done through the research program of the North Central Tree Improvement Association.

13. I am excited about the work being done by Dr. VanHaverbeke. Just as soon as some of the trees are large enough to require any shaping there should be some evaluation on how each strain responds to shearing.

14. Mechanical shearers are being developed to do large jobs safely and quickly. The improved tree of tomorrow will need to be suitable for the mechanical method.

15. As time goes on there most likely will be a transition to mechanical shearing. This will require a uniform stand of trees; is that possible?

The National Christmas Tree Association is striving to serve the industry in more and better ways. However, our limited resources do not go far enough. We thank you for your support and offer our cooperation in future research projects.