Nursery Scene in Western Canada[1]

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Abstract.--In western Canada, forest managers are becoming aware of the increasing area of non-productive forest land. Nurseries are increasing production and new nursery facilities are being built.

INTRODUCTION

Canada covers 3,859 M square miles of which 1,259 M square miles (32%) is productive forest. The Western and Northern Region of the Canadian Forestry Service is comprised of the provinces of Manitoba, Saskatchewan, Alberta and the Northwest Territories. The three Prairie Provinces--Manitoba, Saskatchewan and Alberta--have a total land area of 758 M square miles of which 220M square miles (29%) is productive forest.

In the Western and Northern Region there are approximately 54,835 hectares of forested land clear cut yearly, of which 71% (38,790 hectares) is regenerated naturally or artificially. We are losing production on 15,845 hectares of forested land yearly because of inadequate regeneration plus losses to insects, fires and the elements.

How can regeneration be accomplished? It is well known that, after logging or fire, some forest stands can regenerate by themselves in a short period of time. For example, Jack Pine usually regenerates naturally after fire. However, forest managers most often intervene in order to obtain desirable regeneration.

When the forest manager intervenes in regeneration he has options that can be used, such as various cutting, slash disposal and seed bed treatment (site preparation). Artificial regeneration is accomplished by scarifying to prepare a seed bed for natural regeneration from existing seed sources or planting or artificial seeding.

In order to achieve the goal of regenerating poorly or unstocked forest land the public must be made aware of the problem. The public will then support the resource manager in developing sound programs to provide adequate forests for future generations.

NURSERY PRODUCTION

When we look at nursery development and seedling planting in the region it becomes obvious that our forest managers are becoming concerned about the rising area of productive forest land not adequately stocked. The Alberta Government has a new forest nursery with a planned production of 20 million seedlings a year, 10 million bareroot and 10 million container, for use in reforestation. The Saskatchewan Government recently opened a greenhouse facility with a production of 2 million container seedlings a year. When we look at the numbers of trees planted per year for reforestation within the region we see that from 1974 to 1978 numbers approximately doubled and by 1981 it is expected it will approximately double again (see Table 1).

In 1978 there were approximately 237 million seedlings (1/3 containers) produced for reforestation in Canada.

In the region there are 11 nurseries producing seedlings for either reforestation or agriculture plantings. Of the 11 nurseries, 9 are producing seedlings for reforestation only. Of the 9 nurseries producing reforestation seedlings four produce both bareroot and containers, 3 containers only and 2 bareroot only. Size of nurseries varies in annual production from 250 M to 20 million.

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[1]Paper presented at the Intermountain Nurserymen's Meeting, Aspen, Colorado, August 14-16, 1979.

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Table 1.--Bareroot and container production for reforestation in the Western Region

Year	Bareroot(m)	Container(m)	Total(m)
1974	8,300	4,678	12,978
1978	10,500	10,500	21,000
1981[1]	22,000	17,000	39,000

'Projected

The two nurseries producing seedlings for agricultural use have also been increasing production. In 1974 they shipped 6,670 M seedlings, in 1978; 8,770 M and by 1981 expect to ship 10,000 M seedlings. Seedlings from these two nurseries are shipped free of charge excluding freight to farmers for shelterbelt or farmstead plantings.

NURSERY DEVELOPMENT

During the past two years 3 new nurseries and a greenhouse complex at an established nursery have come on stream. The Alberta nursery and Saskatchewan greenhouses were previously mentioned. Saskatchewan has also developed two satellite nurseries which will ship their first seedlings in 1981.

The PFRA nursery at Indian Head Saskatchewan which has been in operation since 1902 is in the process of constructing a cold storage building for the overwintering of some 5 million bareroot seedlings.

I will not report on the new Pine Ridge Forest nursery at Smoky Lake, Alberta because this will be reported on later in the program.

Construction of a new seed extraction plant will start this fall at the Prince Albert Forest Nursery in Saskatchewan. This extraction plant will be similar to the one at the new Alberta nursery.

St. Regis (Alta.) Ltd, located at Hinton, Alberta, will be constructing a new greenhouse header house complex this fall to replace their existing facility. This new facility will have glass houses and a yearly production of approximately 2 million container seedlings.

A new forest management area in Alberta is being negotiated at the present time. One of the stipulations in this FMA will be that the successful company be responsible for growing their own seedlings for reforestation. This will result in another nursery being constructed.

PROBLEMS

One of our biggest problems is the over-wintering of container stock. We sometimes get severe cold before snow has covered seedlings resulting in frost damage to roots. At the present time research is being carried out to determine a hardening regime in relation to frost damage. Also, different methods of overwintering are being looked at.

Because of our cold winters and warm dry summers, diseases in our bareroot nurseries are practically non-existant. Occasionally we will get one of the grey molds in our container stock.

It has been a pleasure speaking to you.