

cone pickers manual

British Columbia Forest Service / Canadian Forestry Service • Joint Report No. 1, July 1974

FOREWORD

The British Columbia Forest Service and the Pacific Forest Research Centre (Canadian Forestry Service) have formed a joint committee to prepare a series of guidelines presenting up-to-date information on cone and seed production, procurement and processing, to forest operations staff and the interested public. This booklet, the first of the series, is intended for use by prospective cone pickers.

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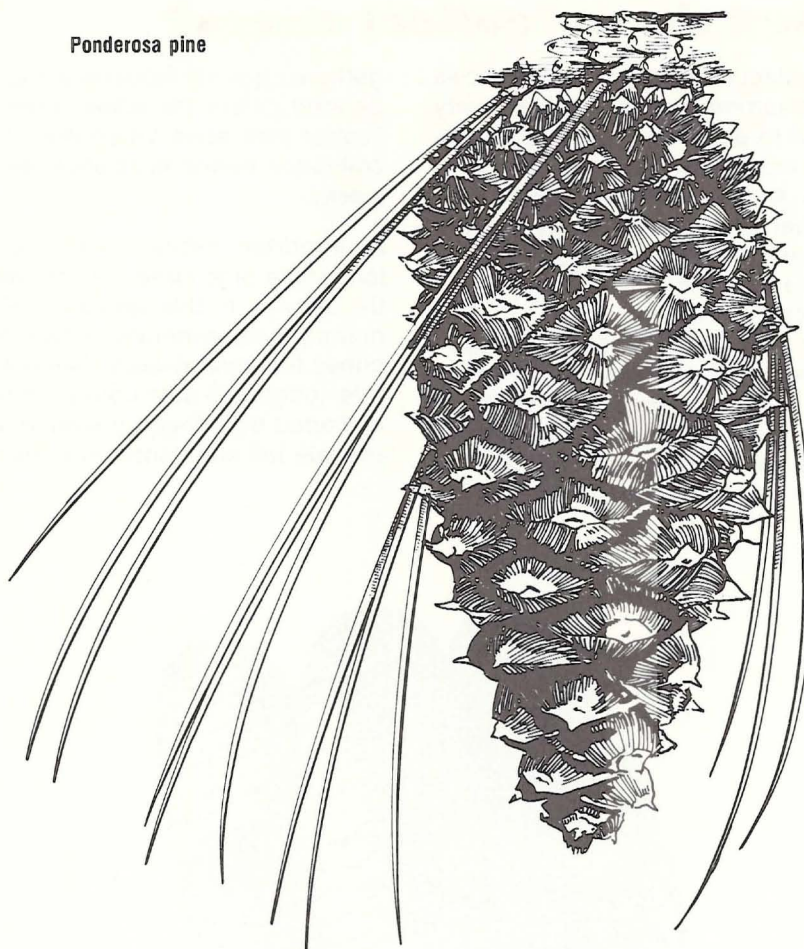
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Resumé

Une nouvelle série de brochures contient des information récentes sur la production, l'approvisionnement et la transformation des cônes et semences. Cette série publiée conjointement par le Service Forestier de la Colombie britannique et le Centre de Recherche Forestière du Pacifique, Service Canadien des Forêts, est mise à la disposition des travailleurs forestiers et du public intéressé. Cette première brochure avec illustrations, préparée spécialement à l'usage des ramasseurs de cônes, décrit les étapes du ramassage, l'identification des cônes, l'endroit et la saison appropriée de ramassage et les usages des cônes. Une attention spéciale est aussi portée au travail lui-même, aux vêtements requis et aux précautions à prendre.

Ponderosa pine



Why do we collect cones?

British Columbia's great forests extend a wide variety of values to the people of the province. First and foremost, they provide a renewable crop which sustains our most important industry and contributes heavily to the economy. As forest stands are harvested, cutover areas must be reforested promptly.

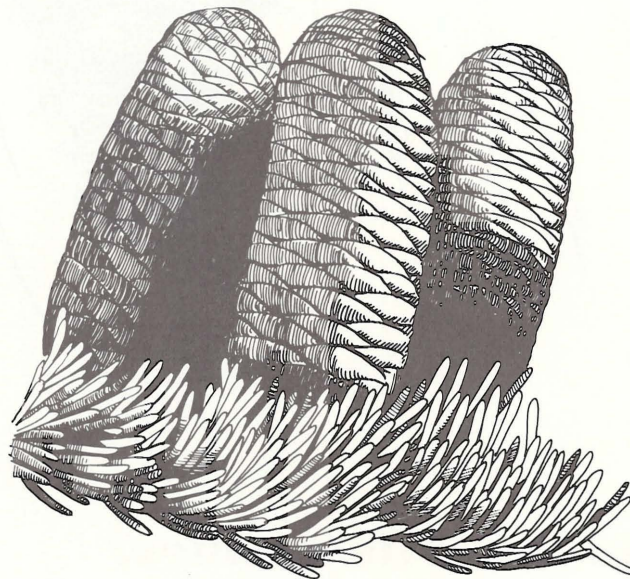
Toward this, the B.C. Forest Service conducts a vigorous and expanding reforestation program, the success of which depends on a plentiful supply of good quality forest tree seed. To provide the seed, cones must be collected from trees having good form and other desirable qualities.

When do we collect cones?

We collect cones from most species in late summer and fall - but not every year. A forest rarely produces a good cone crop every year and, all too often, it may be several years between crops which justify picking. Because of this, foresters must ensure that enough cones are collected during the "rich" years to cover reforestation needs through the "lean" years. When a good crop is developing, the cone collection operation must be delayed until the seeds are mature. But once the cones are ready, the harvest must be

gathered quickly because it may not be long before the cones open and scatter their seed. Often the collection period is as short as two weeks.

An important exception occurs with lodgepole pine cone collections in the Interior. In this species, the mature seeds generally remain in the cones for several years. Because of this, lodgepole pine cones are often collected from logging slash during the late fall and winter months.



Grand fir

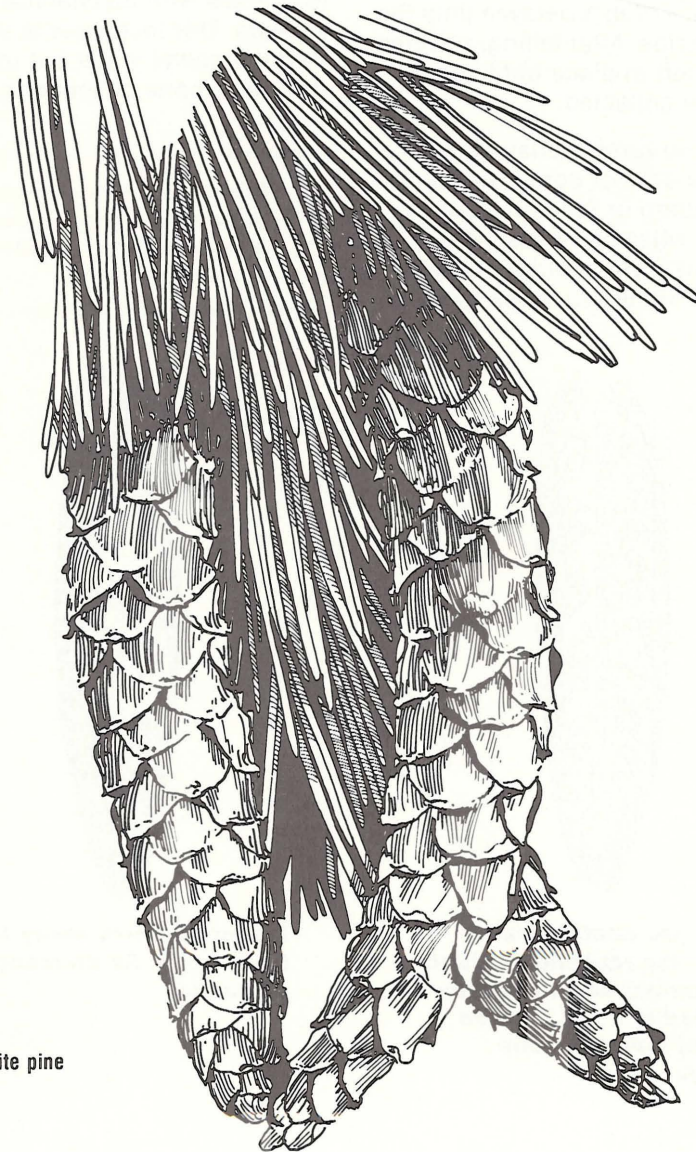
Seeds are used to produce seedlings which are normally planted in the general area where the cones were collected.

Where do we collect cones?

We collect cones anywhere in B.C., according to needs and availability. However, while cone collections may be mobilized anywhere in the province, the origin of cones is important and is crucial to a successful reforestation program. The Forest Service has strict rules governing the transfer of seedlings

from the locale and elevation where their seeds were obtained.

Generally, stock must be planted in the same zone and within 500 feet of the elevation of the seed source. This requirement is administered with the aid of the seed zone map shown on pages 6 - 7.



Western white pine

How do we collect cones?

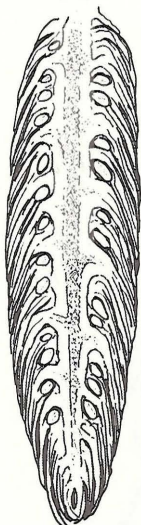
Cones are collected from standing trees, felled trees or, sometimes, from squirrel caches. If trees are no more than 50 feet tall and have sturdy branches in their crowns, they may be climbed. Whenever feasible, and certainly when trees are unsafe for climbing, cone collection is co-ordinated with logging or land clearing operations. In these instances, felling is delayed until the cones are ripe. After felling, selected trees are left in place until cones have been collected.

Although squirrel caches may be another source of cones, collection from standing or felled trees is preferred whenever possible. Collections from squirrel caches should be limited to those found in

uniform stands of good quality trees, since squirrels do not differentiate between good and poor trees. Collecting cones from caches is not likely to deprive squirrels of their winter food supply since they have a varied diet and usually collect far more cones than they need.

In the future, cones may be shaken from trees with mechanical tree shakers. This technique is still in the developmental stage but may one day make cone collections much easier.

.....
Climbing trees can be dangerous and should be attempted only by strong, agile persons.
.....



Cones are containers of seeds - the real end product. The number of good seeds revealed in a cut section (above) indicate cone quality.



Insects destroy many forest tree seeds. So do many diseases.

Who wants cones?

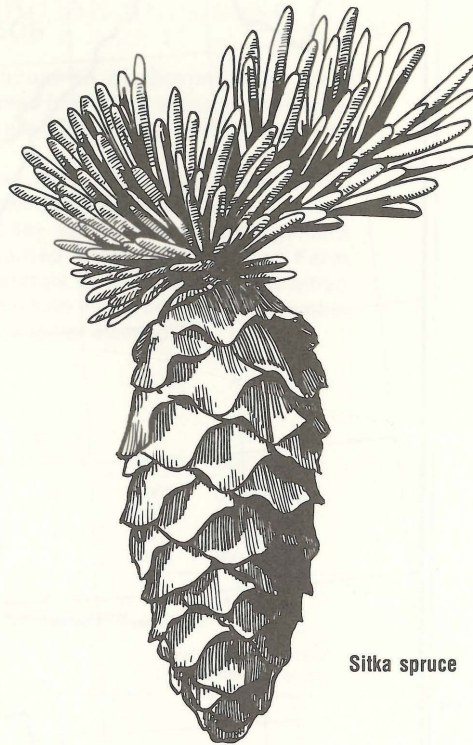
The B.C. Forest Service, forest industry, and commercial seed dealers want cones. All cone collections to be used in the provincial reforestation program are co-ordinated by the Forest Service; collections are supervised by the Forest Service or, in some cases, by a leaseholder. Commercial seed dealers collect and process cones to provide seeds for export and, in some cases, for domestic use. Cone pickers should make arrangements for selling cones before they make collections; check with the local forest ranger or licensed cone buyer.

What kind of cones are required?

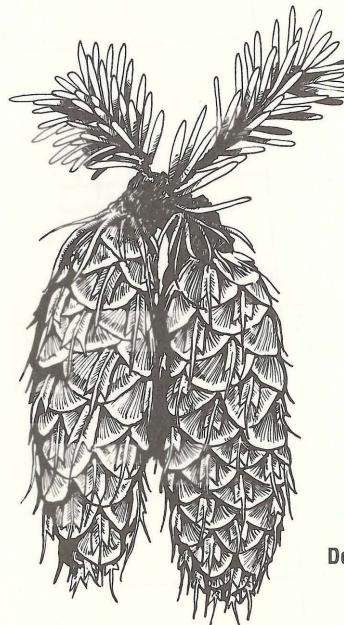
Several tree species are used in the reforestation program and for all of these, we must collect cones. Cones of the more important species are illustrated throughout this booklet. (Cone illustrations are approximately life-sized.)

Cone quality is important and may vary from year to year, place to place and even within a single tree. Therefore, cones must be of high quality, of the required species and they must be picked within certain areas and often from specified trees or stands.

Good quality cones are freshly ripened, closed and contain an adequate amount of good seed. Insects and diseases may damage cones and seeds. For these reasons, the kind of cones to pick will be indicated by the cone collection supervisor or the cone buyer.



Sitka spruce



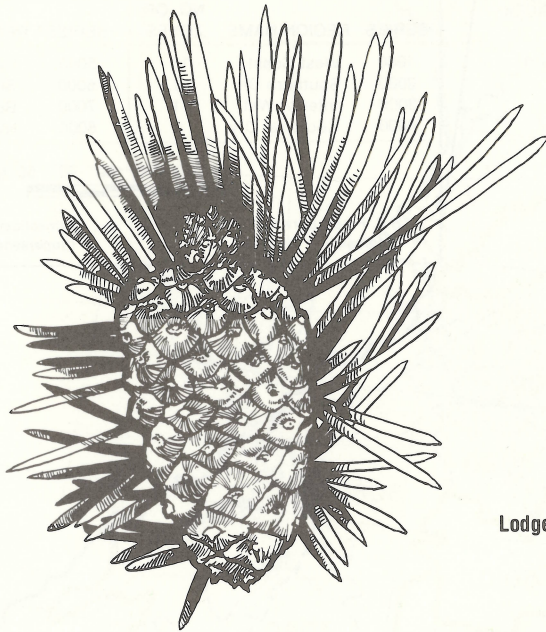
Douglas-fir



Who picks cones?

Interested persons may pick cones on Crown land provided 1) they have a permit issued by the Forest Service and 2) they have a licensed buyer for their cones. To pick cones on Crown land which is under lease, permission must be obtained from

both the Forest Service and the lessee. Alternatively, they may be hired to pick cones with a supervised crew. To pick on private land, permission must be obtained from the landowner.



Lodgepole pine

Cones should be collected only from trees which are free of disease and have straight stems and narrow crowns.

Cone pickers should never fell trees or strip branches from standing trees.

The work of picking cones

Forest Service crews usually work a full eight-hour day when weather permits, and picking often continues throughout weekends and holidays. Unless otherwise advised, pickers provide their own transportation to a designated point - and they provide their own lunch.

In many cases, pickers will have to climb ladders and trees; sometimes cones will be collected from felled trees or from squirrel caches. When picking from standing trees, the picker usually climbs as high as safely possible and removes cones as he descends. Most cones are found in the upper and middle portion of the tree. Except when climbing, the picker must be secured to the **main stem** of the tree with his safety belt. A cone picker's hook is used to hook branches near their ends and draw them upward and inward so that cones may be reached (see illustration on cover). It may also be used to knock or rake cones from out-of-reach upper branches. A sack is hung from a convenient branch with an S-hook; when about half full it is tied and dropped to the ground. In brush-free areas, it may be more convenient to drop cones to the ground where a teammate may collect and place them in sacks.

Cones may be easily picked from felled trees **after the fallers have left the area**. Since felling scatters many cones, they may also be gathered from the ground. To gather small cones, cone-laden branches may be removed (from felled trees only) and pulled through a cone stripper which contains a series of teeth similar to a rake.

The picked cones are placed in two-bushel sacks which, when filled to the fill line (1½ bushels), are tied with string. The reason that sacks are not completely filled is that most cones expand as they cure. There should be very little foreign material (needles, twigs, old cones, dirt, stones) in the sack. Sacked cones must be kept in the coolest dry place available and they must be placed in such a way that air can circulate around each sack. They should be transported to temporary storage facilities as soon as possible.



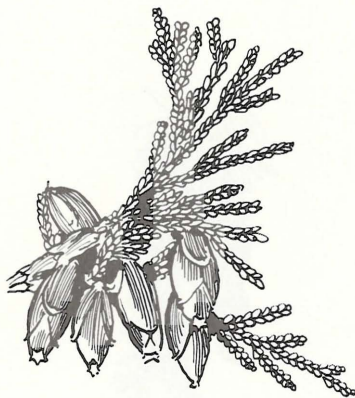
Western Hemlock

What to wear

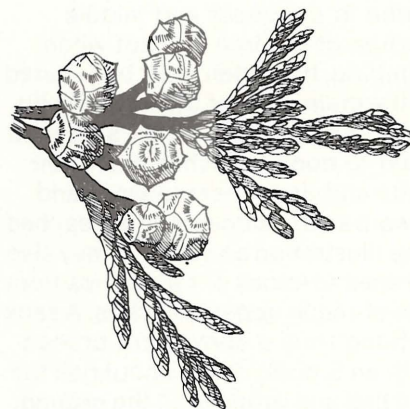
A well-dressed cone picker is illustrated on page 11. The Workmen's Compensation Board requires that hard hats be worn when working on the ground and recommends that they be worn when climbing trees. Boots with non-slip soles (preferably soft rubber) and at least a 6-inch top are a must. A long-sleeved shirt which can be buttoned at the neck, heavy-duty trousers and leather gloves give protection against scratches, abrasions and pitch. Cone picking is

hard on clothes, so durable clothing which can stand the abuse of dirt, pitch and snagging should be worn. During hunting season, brightly colored clothing, such as an orange vest, should be worn. A hard hat and other items (safety belt, cone picking hook, etc.) are supplied to Forest Service pickers.

An important point: if picking lodgepole pine cones during the winter, the well-dressed picker wears appropriate warm clothing.



Western red cedar



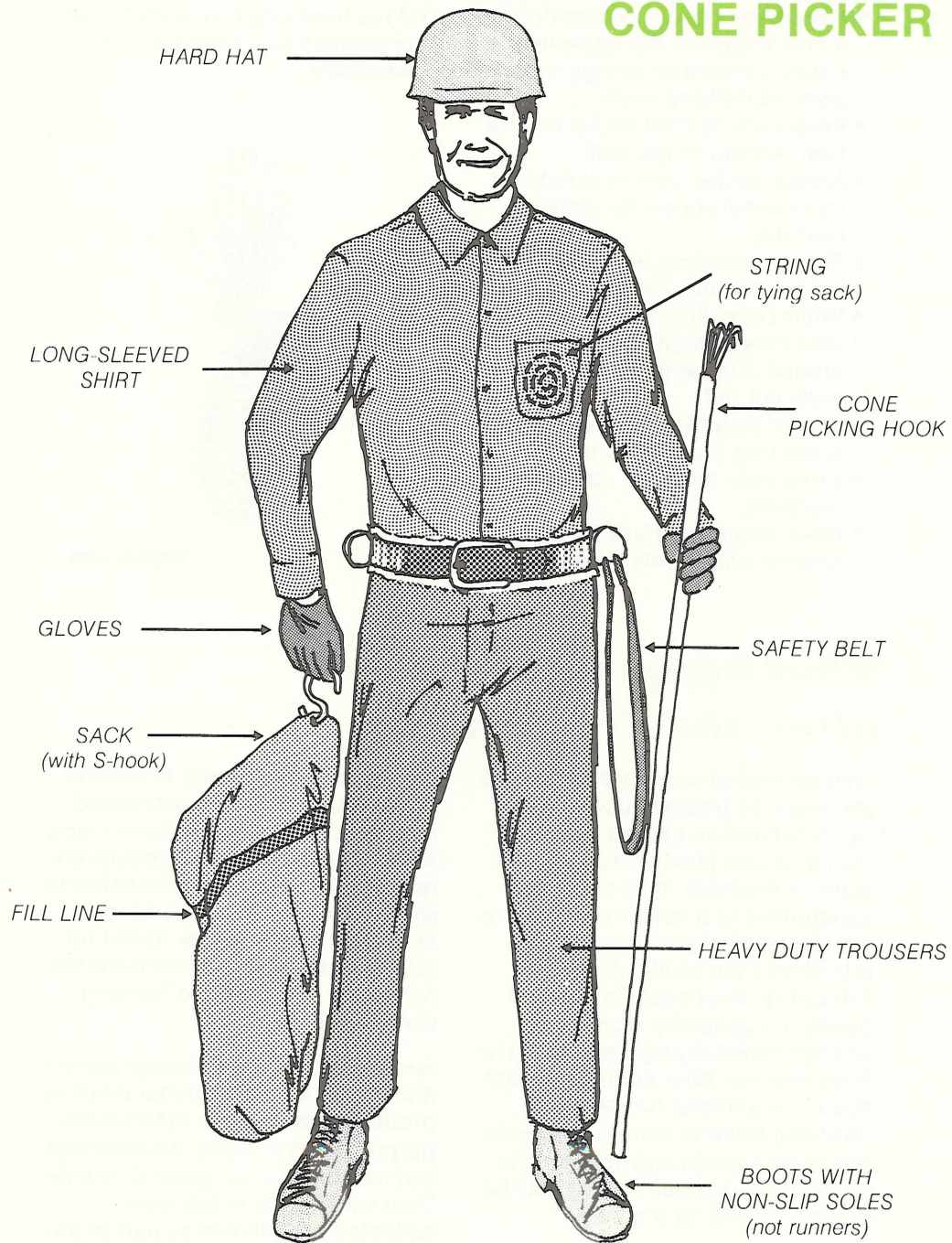
Yellow cedar

Pay

Tree cones are usually purchased, or cone collecting is paid for, by the Imperial bushel (36.4 litres or 2219 cubic inches). Many factors such as year, location, kinds and quality of cones, density of the crop and picking conditions determine rate of pay. For current pay rates, check at the local ranger station.

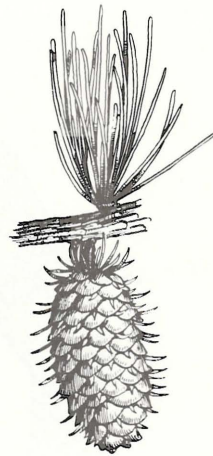
**Only clean,
freshly-ripened cones will
be accepted for payment.**

WELL-DRESSED CONE PICKER



General tips

- Keep track of your collections as a check against the supervisor's count. Colored tie strings make a good identifying mark.
- Keep track of filled sacks; they've been known to get lost.
- Always advise your supervisor if you cannot report for work the next day.
- Finish collecting from one tree before starting another.
- While collecting, the mouth of the sack may be kept open by tying it around a large tin can with both ends cut out.
- Plastic pails may be useful when collecting from felled trees.
- Bring your rain gear - and insect repellent.
- Have some waterless hand cleaner and towels available.
- If you have long hair, some means of protecting it from pitch is advisable.



Western Larch

What happens to cones after they're picked

Tree cones and seeds are perishable and must be treated accordingly. Upon collection, sacked cones are kept in a cool shady place and, as soon as practical, they are transported to a seed extractory - a special facility for extracting and processing the seeds. At the extractory, the cones (in labelled sacks) are generally stored in well-ventilated drying sheds for up to three months. After curing, they are dried in a kiln and tumbled in a revolving drum to extract the seeds. The empty cones may be used for decorative purposes or they may be ground for use as a mulch.

After extraction, the seeds are

de-winged and cleaned to remove debris and chaff, then processed through a separator to remove empty seeds. At this point, the seedlots are relatively pure and are still labelled to show their species and area of collection. Samples are tested for quality and moisture content and the remainder are stored in freezing compartments.

Seeds are taken from storage as they are needed and sown in nurseries to produce seedlings for reforestation purposes. When ready, the seedlings will be taken to the general vicinity from which their seeds were collected and planted as part of the provincial reforestation program.

Safety First!

There are hazards in the woods - hazards well known to experienced woods workers. Some hazards are just there - such as roots to trip on and logs which may roll; others are related to woods jobs - such as axes and saws to be cut with and trees to fall from. So it is important for prospective cone pickers to study the following safety tips.

- *Suitable clothing must be worn - especially in respect to headwear and footwear. During hunting season, wear brightly colored clothing.*
- *Pay attention to ground conditions and avoid walking on logs.*
- *Watch for loose bark on windfalls.*
- *Stay away from logs which may roll.*
- *Be alert for wasps' and bees' nests.*
- *Horseplay and running in the collection areas is poor practice. So is rushing, crowding and jumping onto or from vehicles.*
- *Don't get lost! Know the location of your vehicle; check local landmarks.*
- *Don't wander away from the supervised picking area.*
- *Sacks of cones are heavy - lift with the legs, not with the back.*
- *Avoid rubbing the eyes when hands are covered with pitch.*
- *Keep clear of machinery.*
- *Keep clear of power lines.*

When climbing trees . . .

- *Always check your safety belt and strap.*
- *Be sure of a good hold with your hands before moving your feet - and vice versa.*
- *Stand on or grip branches as close to the main stem as possible.*
- *Watch for brittle branches - test doubtful branches before putting your weight on them.*
- *Watch for bark peeling from limbs under footholds - these are slippery.*
- *Broken dead branch stubs can snag your clothing and can cause bad scrapes.*
- *Don't be tempted too far up a tree. The diameter of the main stem should not be less than 3 inches at face level.*
- *Except while climbing, your safety belt must be attached to the **main stem** of the tree.*
- *When picking near the top of a tree, keep your body close to the trunk so that your weight bears down, not outwards.*
- *When in tree crowns, avoid quick head movements (which could result in a twig poking your eye).*
- *Make sure the area below is clear before dropping equipment or sacks of cones. If in doubt, call a warning first.*
- *Never slide down or jump from a tree no matter how close the ground may seem.*

Cone pickers are covered by Workmen's Compensation Board benefits and regulations! Since Forest Service pickers work under the supervision of a provincial forest officer, they must follow his instructions regarding safety.

For information about cone-picking jobs in
your area, contact your local forest ranger.

Additional copies of this booklet are
available from . . .

*Forester i/c, Reforestation Division,
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Engelmann spruce
(white spruce cones are similar)

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