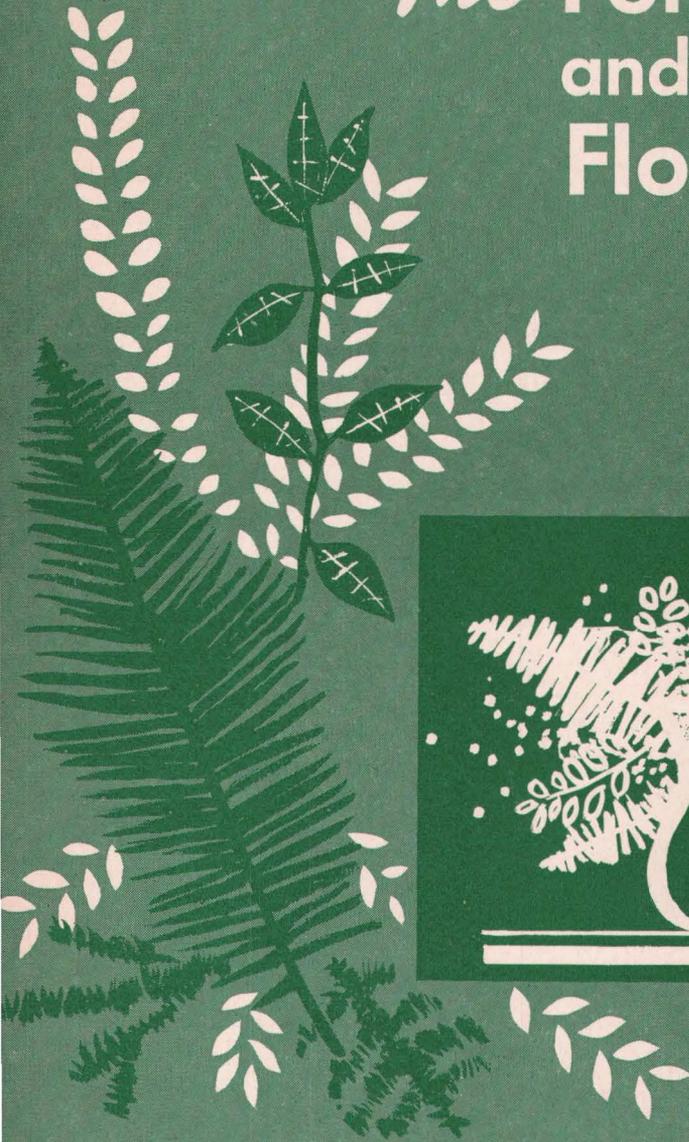


# *The* Forest and the Florist



Extension Bulletin 796

October 1961

Cooperative Extension Service • Oregon State University • Corvallis

## Contents

	<i>Page</i>
The Evergreen Huckleberry . . . . .	3
Western Sword-fern . . . . .	9
Salal . . . . .	12
Miscellaneous Plants . . . . .	14

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*This bulletin was written by C. Ralph Voris, assistant public relations director, Oregon State Forestry Department, Salem. The author acknowledges assistance from many persons in checking the manuscript and making valuable suggestions. Among these were Dr. Roy Young, Dr. Kenton Chambers, and Dr. Casey Randall, all of Oregon State University, and regional plant managers for I. P. Callison and Sons: Phoenix O'Toole, Coos Bay; Orvil Noice, Eugene; and Tony Cicirello, Florence.*

# The Forest and the Florist

Climatic conditions in western Oregon and Washington contribute not only to a dense growth of large trees but also to an understory of shrubs and other plants which are coming more and more into prominence through demands of the florist trade.

These include such vegetation as the evergreen huckleberry, western swordfern, salal, Oregon grape, Scotch broom, and branches of Port-Orford-cedar, noble fir, myrtle, and tanoak.

Few individuals undertake the collection of these minor forest products on a year-long basis since it is not only a physically demanding task, but

one which requires considerable knowledge of the location and harvesting of suitable greenery. The source and condition of this raw material varies with the seasons. While some may collect these products as their sole source of income, generally the work is done by those who wish to supplement other employment. The logger may utilize this opportunity when his seasonal occupation closes during the winter, or the farmer who lives near the forest and finds slack-time on hand. There are also times when a man (and his family) may turn to this occupation between regular jobs as a temporary sustainer.

## The Evergreen Huckleberry (*Vaccinium ovatum*)

The evergreen huckleberry is the "deluxe" of the forest's decorative greens and has become the primary income producer of this industry in the Pacific Northwest. Most large-scale buying is for out-of-state shipment east of Denver and especially for florists along the eastern seaboard. This shrub, as a commercially important species, is found in its most luxuriant growth among the coastal mountains of Oregon and Washington. It is far less abundant on the west slopes of the Cascades.

The huckleberry plant is a rigidly erect shrub that attains heights of from 4 to 8 feet and stem diameters up to 3 inches. It has very numerous

glossy, evergreen leaves  $\frac{1}{2}$  to  $1\frac{1}{4}$  inches long that are egg-shaped in outline with a finely toothed margin. The surface of the leaves appears to have been slightly folded lengthwise along the midrib. The plant produces spherical, shiny, black berries.

### Supply and demand

Anyone interested in "picking brush" as a possible occupation or a source of supplementary income might do well to first determine whether there is a local outlet with a suitable market; and then what the possibilities are of securing huckleberry brush. The outlet will probably be a processing plant that produces for eastern wholesalers.



Desirable flat arrangement of huckleberry leaves (right) is caused by the deep shade of the forest, as compared to the whorl effect produced on the leaves (left) exposed to a greater intensity of sunlight.

The best time to approach the processor from the standpoint of a market is during the critical months of March, April, and May, while the demand is greatest and the supply is uncertain. Of course, this is the most difficult time to find suitable brush but it is also the time when the price is highest. Furthermore, the processor will take the time to advise the supplier on the standards of the trade.

#### Locating and leasing brush areas

Huckleberry must be harvested from under a forest canopy which offers sufficient shade to cause the plants to produce relatively flat, fan-shaped sprays as they strive to present the greatest amount of leaf surface to filtered light. It is generally agreed that the better plants are usually lo-

cated under large second-growth timber on ridges. The presence of the species on ridges can normally be detected by the appearance of scattered individual plants on lower slopes. The picker can profitably pack brush for a distance of  $\frac{1}{2}$  mile from a productive patch.

Leasing of forest areas from landowners is becoming increasingly important in Oregon and Washington and will become even more so in the future. On the Olympic Peninsula of Washington, conditions have increased stumpage prices to as much as 5 cents a bunch, and, in turn, overpicking has critically reduced supply. In Oregon the price of leasing picking rights is accepted at about 1 to 3 cents per bunch according to the accessibility and quality of the patch. Picking rights are also sold on an acreage basis

with the price varying according to accessibility, quantity, and quality of the brush.

Leasing brush areas is especially important in developing and maintaining productive patches. As the plants become older the quantity and quality of sprays begin to decline. Young growth provides the best sprays. Older plants must be heavily pruned to develop suitable sprays in sufficient quantity to justify picking. A picker who has an area under lease should develop older plants by cutting off heavy stems with a hatchet or machete which he carries for making trails. Plants cut back in this manner usually require an average of three growing seasons to produce an adequate crop, but it is well worth the time and effort if the picker's rights are protected by a lease.

### **Harvesting methods**

Harvesting huckleberry does not damage the shrub but is a beneficial pruning if it is not too extensive. Intelligent picking actually stimulates the plant to produce better sprays. Average growth of a vigorous plant is about 6 to 8 inches a year and sprays that are inclined to be on the small side should be left for the next year. It pays to pick with an eye to the future betterment of the huckleberry patch.

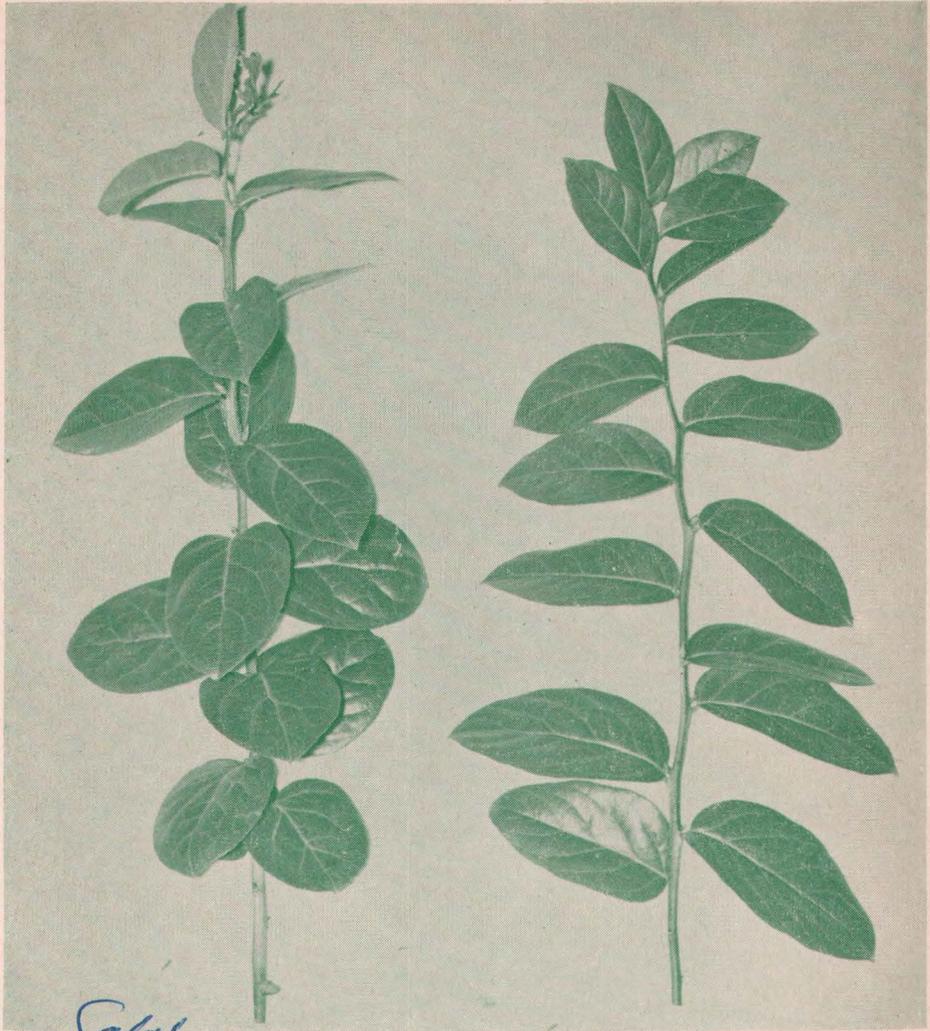
The picker should "pick and break" for flatness and length of spray in the field. A great percentage of the time, the spray, as it is picked, will not be absolutely flat. A single stem may protrude forward or extend upward well beyond the desired length and this will necessitate a "break." This stem should be broken off at a branch junction and placed in the bundle as a single. Frequently there are two sprays on a single main stem that require breaking at a junction. Special attention to this procedure

produces a higher percentage of usable sprays and causes less damage in transit to the processor.

"Salt spray" or white spot may occur on huckleberry leaves and it is the primary defect that the picker has to look for. Beyond a certain degree this defect is unacceptable. The degree varies according to the market and the availability of the brush. This also holds true for other defects of the leaves. Certain specimens are occasionally called "shot huckleberry" due to numerous small, round holes in the leaves caused by the action of a certain insect.

Pickers have different methods of assembling and packing brush from the woods. One system produces a bundle of brush which will weigh between 35 to 45 pounds under normal wet conditions. This method requires that the sprays should be picked with one hand and the stem-end placed in the palm of the other hand with foliage flat and outward to a depth of about 3 inches and laid to one side without tying. Eighteen of these handfuls are necessary to make up a bundle. Processors encourage a maximum spray length of 30 inches and require that at least one-third of the sprays in the bundle meet this length as a minimum; the remainder of the spray lengths may graduate toward an absolute minimum of 14 inches.

After sprays are picked and assembled in a central area, a piece of strong twine with a loop in one end should be placed on the ground. Then stem ends of individual handfuls of brush should be laid across the twine—nine opposite each other on either side. Stems then should be alternately layered one on top of the other from each side. Next, kneeling on the bundle, the picker should pass the end of the



*Salal*

~~Evergreen huckleberry~~ grown within the forest produces a flat spray (right) required by the industry, whereas an open-grown plant (left) has a bushy appearance.

twine through the loop which is on the opposite side, cinch it tight, and tie it off. This bundle makes a well-balanced load that can be carried on the back with the assistance of one hand, leaving the other hand free for traversing rough terrain.

The picker-bundled sprays are then sent to the processor's packing shed

where they are sorted, trimmed, and arranged into small bunches of standard size and weight. He is paid according to the number of bunches that can be produced from his material by the processor. Bunching is generally done by women in the employment of the processor, but since they are paid on a piece-work basis the picker is

equally benefited. Discarded brush is of value to no one.

Price ranges from 20 to 30 cents a bunch and each bunch weighs  $1\frac{1}{4}$  pounds wet and  $1\frac{1}{8}$  pounds dry. An experienced picker with good prices and ideal conditions might make \$15 to \$30 a day, although the average is around \$8 to \$10 per day.

### Harvesting seasons

The main harvest season begins in July after new growth has "hardened off" and by the first of August harvest is in full production. It is necessary to hold the best brush patches for these summer months when competition with

evergreens produced in the eastern states necessitates maximum quality and rigidly enforced standards. The first of the season finds huckleberry brush good under alder and as the season continues it becomes progressively better under second-growth and old-growth timber. A continuous source of supply can be found under alder from May to November. However, during the remainder of the year, a discoloration of huckleberry leaves known as "alder or maple black" may occur. This is the result of a sooty mold fungi on sugar that has fallen on the leaves from insects infesting alder and maple. This discoloration can prohibit picking for 2 or 3 years

**An evergreen huckleberry bunch of standard size and weight is produced from the bundle of sprays harvested within the forests.**



in a particular patch until abundant rains have washed it clean.

A condition which occurs twice a year, in September through October and May through June, is called the "shatter season." During this change of seasons, sprays tend to lose a substantially greater number of leaves than usual. This loss of leaves is associated with degree of plant maturity and weather conditions. Although picking continues, the inferior product presents a problem to the industry and may affect the amount of brush that can be marketed.

One way to help remedy this situation is to use water on the bundles as they are being assembled in the field. A 5-gallon pumpcan with a spray nozzle can be used at the picking site to apply a fine mist of water between bunches. As the water evaporates it tends to cool the leaves. If atmospheric conditions are suitable, this cooling effect can be detected by feeling the inside of the bundle. If cooling has not been produced, the brush should be delivered to the processing plant as soon as possible.

From December until the beginning of the growing season, usually about the latter part of March, young second-growth spruce stands of coastal regions are a good source of huckleberry brush. The greatest demand from eastern markets occurs during this time when their local source of supply has frozen out. Brush is more resistant to injury from handling and to damage in storage when it is picked during the winter months, when the foliage is mature.

Brush should not be picked or handled while it is frozen, for this causes foliage to turn black at the point of contact. Freezing will not damage

picked brush unless it is handled while frozen.

During the spring and early summer months when new leaves have not matured enough to permit harvesting, suitable sprays can be found at the center and base of the plants. These sprays are of poorer quality because they are usually thin stemmed with sparse foliage and thinner leaves, caused by too little light. They should be rigid enough to stand upright when held by the stem in a vertical position.

In the latter part of the season, plants mature in a variety of areas at different times according to mean average temperatures. It is the picker's special problem to find protected patches that are favorably located for optimum spring growth and early maturity. This completes a harvest cycle.

### **Red huckleberry**

Evergreen huckleberry is also recognized as "Red Huckleberry" by the industry, when harvested under entirely different circumstances. During the months of December, January, and February, leaves of huckleberry that is growing in the open turn red with exposure to sufficient low temperature and sunshine. These open-grown plants produce terminal "spikes" upon which the leaves project uniformly from all sides rather than in flat sprays.

Spikes are picked when their color is more red than green and when there is no evidence of new growth in the buds. This stage is critical because if they are not ready they turn green again upon packing. Only experience can tell the picker when this stage has been reached. A limited market for red huckleberry necessitates contacting the processor for specific orders.

## **Western Sword-fern** (*Polystichum munitum*)

Western sword-fern ranks among the top three income-producers of the decorative greens business in Oregon and Washington. It reaches its most luxuriant growth under large, dense fir, hemlock, and spruce forests of the Coast Range and fir forests on the west slope of the Cascades. This fern also extends into hardwood stands of alder and maple. It is an evergreen fern whose fronds (leaves) are pinnate, large, and spread singly from a densely tufted crown, which is the base of the plant. These fronds are harvested from within the overstory of the forest. Thousands of acres of Oregon's western timberland produce a tremendous amount of sword-fern and its annual growth is far beyond the present or anticipated demand.

### **Supply and demand**

The western sword-fern makes a beautiful background for funeral sprays and this accounts for 90% of its use. For the past 5 years considerable competition from an eastern cedar and a southwestern palm has caused a steadily declining market. It is not known to what extent this competition may eventually affect the market for sword-fern.

Demand for sword-fern is rather constant throughout the year but the supply of fronds varies with the season. Processors keep their suppliers on quotas during the greater part of the year. However, during March, and particularly in April and May, quality fronds are so scarce that processors are likely to take all they can get. At this time, the source of supply further north may be snowed out, and wholesalers must have an adequate stock for the

Memorial Day market which is by far their best.

March to May is a good time for a supplier to make initial contact with a wholesaler. With supply of greatest concern, the wholesaler will generally take the time and patience to assist the supplier in understanding the methods and standards of the business. Once a picker has proved his knowledge of standards of the trade by the quality of his produce, he is likely to have established himself as a regular. It is the nature of this industry to have a tremendous turnover of suppliers. It is estimated that about one-third of the fern suppliers make their living at this work. For others, it serves to provide supplementary income between jobs or during slack times in their regular employment.

### **Sword-fern markets**

The first thought of an experienced picker, aside from availability of sword-fern, is whether there is an adequate market within a reasonable distance so as to make the venture a profitable one. Prices vary between 14 and 18 cents per bunch according to the availability of quality sword-fern fronds. Throughout the year an experienced picker can expect to average about \$10 a day, considering the time necessary to locate and develop fern patches. On the other hand, picking continuously, he may produce from 100 to 125 bunches on better days.

### **Locating and leasing sword-fern areas**

Fern fronds, to be acceptable, must be harvested from plants located within an overstory of trees. When fern occurs in the open as "cow pasture"

or "road strip" fern, it lacks the necessary fine quality (soft fern) and flat appearance. With this in mind, the picker should select timbered areas that are within one-quarter mile of transportation, since he must carry the bundles of fronds out of the woods over uneven terrain and possibly through a considerable amount of vegetation. A machete or hatchet usually is used to develop trails into heavy producing areas which will be improved with each succeeding season of harvest.

In order to protect his investment, the picker should attempt to secure exclusive harvesting rights to an area through a permit from the landowner. The landowner will naturally expect some value in return for these rights. The picker can hardly afford to pay more than 1 cent a bunch where the fern patch is in top condition. This means that the patch must have close to 50% pickable fronds. It does not pay to pick a patch which is less than 25% pickable.

### **Harvesting methods**

To determine whether an area is ready for harvest, a sampling of fern fronds, as the entire leaf-arrangement is known, should be examined for proper tip maturity. This sampling should be taken from the current crop of fronds since they will most readily meet required standards. The sword-fern plant is an evergreen and it may have fronds that are still green but which have been produced over a period of 3 years. The current crop consists of fronds that are the most nearly erect, while the previous years' crops have been pushed nearer to the ground. The glossy appearance of the frond tip indicates that the fern has "hardened off" sufficiently to pick.

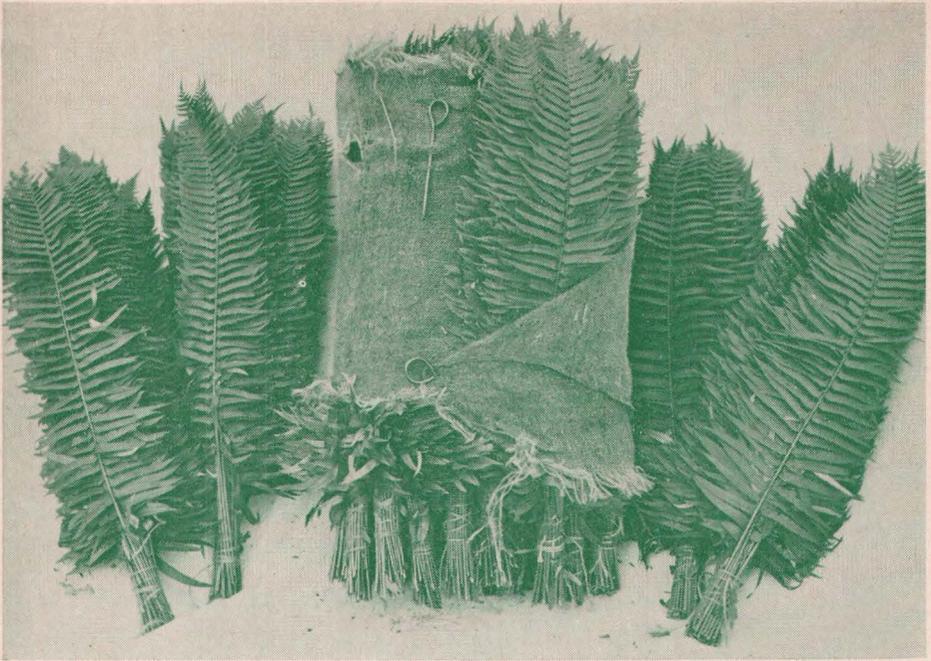
About 3 weeks from the time the

plant has its growth there is a point of critical judgment that comes only with experience. Fronds still have  $\frac{1}{2}$  to 1 inch of the tip which has yet to lose its dull, sticky appearance when pickers begin their harvest. This tip will "set" after picking if the fronds are mature enough to pick. The picker should bring about setting by placing the butt ends of the bundled fronds in water at his collection station. Pickers should hold over one day's picking in this manner but should never leave fronds in water over 12 hours or dry-rot will set in.

Fronds should be flat and entire; the tip 6 inches without blemish and of a distinct greenish appearance. The presence of even the slightest indication of purple-spot will disqualify fern fronds, since this condition spreads through them after they are packed.

Examination of the tip area on the back of the leaf will reveal the formation of sporangia or ring-like clusters. These are the reproducing bodies of the fern and they develop progressively from the tip toward the base of the frond and produce a reddish "dust" as the season advances. It is required that development of these sori be limited to a 6-inch length measured from the tip—known as the maximum "tip seed limit." However, a certain amount of light green "seed" is accepted beyond this limit under certain conditions. The objectionable feature is the dusting effect rather than the reddish color, although the latter serves as an indicator.

Fronds should be picked to a 24- to 26-inch length and placed in bundles of 50 fronds with 2 extras to compensate for possible culls. The picker should use a twine knife or "ring knife" to cut fronds from fern plants. This tool is actually a broad ring with



**Western sword-fern fronds are picked to a specified quality and length and placed in bundles which are then formed into rolls.**

a small curved blade attached, and it can be used on whichever finger seems to be most convenient.

Fronds should be cut to length from the plant with the knife on the finger of one hand, and then placed in the other hand, one on top of the other and the lower 3 inches stripped of leaflets. They tend to assume a fan shape which has to be corrected later when the bundles are formed into rolls. As a bundle is completed, it should be bound at the base with strong twine by merely inserting the end of the twine between the stems, wrapping it tightly around them, and pulling it between the stems again.

These bundles, weighing about 1 pound apiece, are carried from the woods on a pack-board to a point where the picker assembles them into

rolls. Rolls are made up of from 20 to 25 bundles each by placing the bundles with the frond tips all one way and rolling them in a split burlap sack. Sacks should be fastened by either two nails or two stiff, straight wires, with an eye in one end and sharpened at the other. These fasteners are used at both ends of the roll to bind the burlap to itself. The picker either arranges to have the rolls picked up or delivers them to the processor.

A properly cared for fern is fluffy, crisp, and beautiful on delivery to the plant. In dry summer weather and in clear, crisp winter weather, ferns should be straightened daily and kept in damp, cool condition until delivery. In rainy weather they should be drained of excess water to avoid water-

logging. Waterlogged ferns spoil rapidly after packing.

### Seasons of harvest

Sampling for proper maturity is a continuous process. As one area develops beyond the point of marketability, the picker should locate another area which is growing under different conditions. Through the winter and during the early portion of the growing season or "tip season" as it is called by the industry, the most logical area to locate suitable sword-fern fronds is under dense timber where it grows on south slopes. This is known as "winter fern" and is a heavier quality of sword-fern.

As the season progresses ferns mature faster under alder and maple stands and where timber is more sparse. From about the first of July to the latter part of October, fern located under heavy stands of second-growth timber is at its best. As the season develops the problem changes from one of tip maturity to one of the

6-inch seed tip limitation during the spore production of the "dust off" period which occurs from about the middle of August to the middle of November. Spore production is minimized and many times eliminated by dense shade in heavily timbered areas; so such areas are best during the dust-off period. Spores have usually dropped by the latter part of November and affected fronds have lost their seedy appearance.

Ferns can be harvested under alder and maple during the early fall period but caution must be taken to observe the presence of "alder or maple black" which may occur as the season continues. This is the same defect that occurs on huckleberry leaves. Its occurrence depends to a certain extent upon whether there is sufficient rain at this time of the year to keep ferns clean. It has been observed that this condition is more prevalent around large alder and maple trees whereas its occurrence in young stands is less likely.

## Salal

(*Gaultheria shallon*)

Salal is found abundantly distributed in forested and cutover areas between the coast and the Coast Range, among these mountains, and inland to include the west slope of the Cascades.

The salal plant is a freely branched evergreen shrub with smooth, shiny leaves that are somewhat thick and leathery; 2 to 4 inches in length, and broadly egg-shaped. Its fruit is almost black and about  $\frac{3}{8}$ -inch in diameter.

### Demand and supply

Although the market for salal developed slowly over the last decade, the demand for salal increased to the point of doubling its market. There

has been a greater increase in the relative importance of this species than of any other decorative forest evergreen in Oregon and Washington. However, its harvest is limited because of a leaf-spot fungus (*Phyllosticta gaultheria*) that is peculiar to salal. In Oregon the harvest period begins about July and is finished by the first part of September. Conditions further north in limited areas of Washington appear to be more favorable for harvesting salal, although the fungus is prevalent and special caution is necessary.

This particular salal fungus causes an accelerated deterioration of the plant leaves after they are packed for

shipping. The retailer is protected, however, since this condition becomes apparent within 48 hours after packing and, also, since everything shipped is guaranteed by the wholesaler for a period of 30 days after arrival.

The picker is unable to detect this fungus condition in the field until after fall rains and frosts have caused deterioration of the plant leaves. Thereafter, any plants whose leaves remain undamaged are acceptable to the wholesaler until the growing season in the spring.

### Harvesting methods

Salal is used by the floral industry in practically the same manner as huckleberry and its harvesting procedure and standards are about the

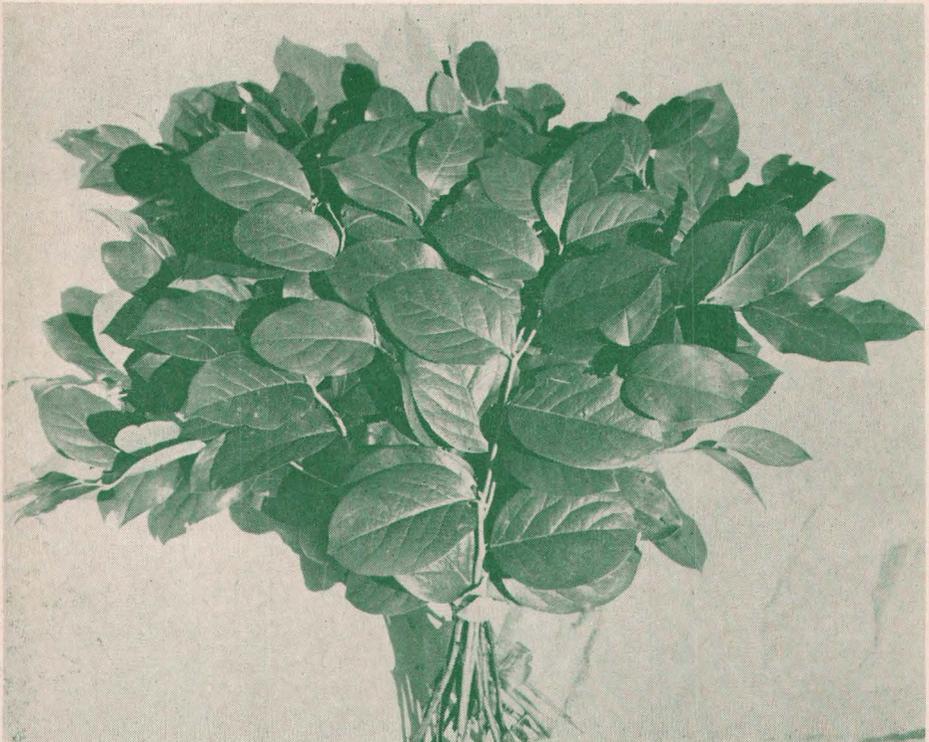
same. However, since the surface areas of salal leaves are large, defects tend to show more readily and the processor will be more critical in this respect. He will demand flat sprays of smooth, undamaged, oval leaves with a dark color and stems of clean, fine texture.

### Salal prices

The picker can expect from 20 to 24 cents per bunch for salal, which is some 2 to 3 cents under the price for huckleberry. The lower price is attributed to the fact that salal does not go as far for the florist.

As with any product, the picker should determine the availability of a market and especially for salal because the problem of leaf deterioration has not yet been solved.

**The salal bunch is the product offered to the floral industry and, as such, it serves as a basis upon which both harvester and wholesaler are paid.**



## Miscellaneous Plants

Several species of vegetation have a limited market and only come into use periodically as holiday decorations.

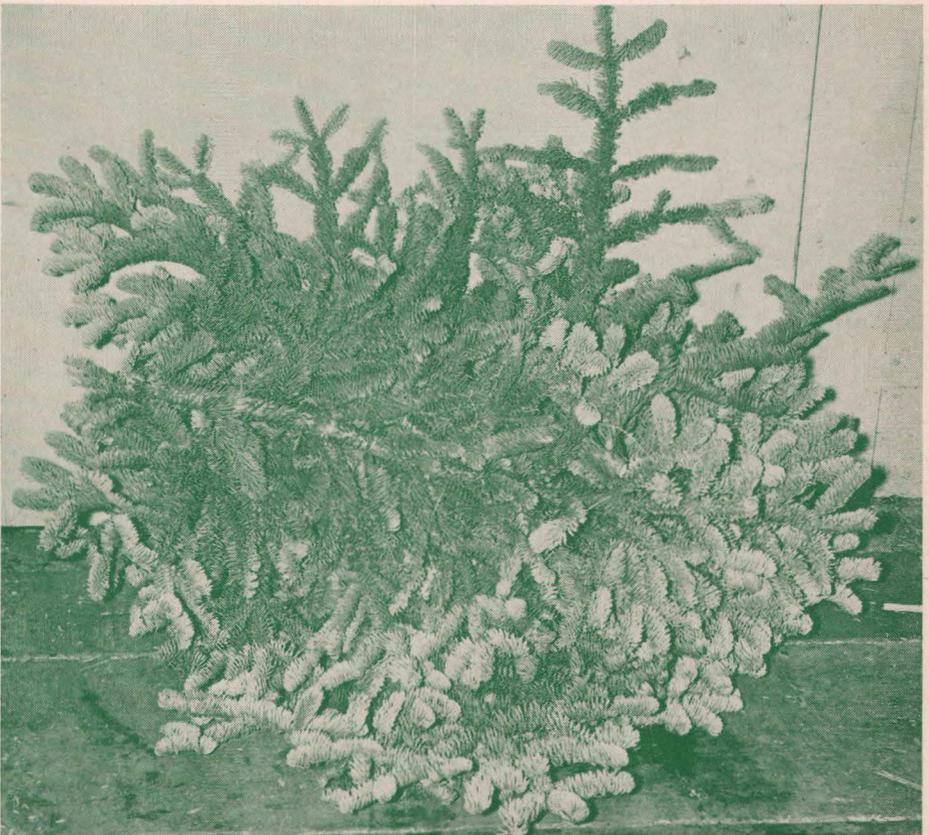
Noble fir (*Abies procera*) is cut for a short period from the middle of October to mid-November. Limbs must have long, heavy needles and a bluish cast.

Scotch broom (*Cytisus scoparius*) has a limited harvest in certain areas during the months of November through January. It is a native of Europe but has become established in this country and will take over land

to the permanent exclusion of any other vegetation.

Branches of Port-Orford cedar (*Chamaecyparis lawsoniana*) are harvested on a limited scale from the middle of October to the first of December. Branch lengths are limited to 20 to 28 inches according to the amount of foliage. They are shipped in 2 pound bunches for which the picker is paid 12 cents. Bunches are shipped 40 per case, weighing approximately 88 pounds. Although cedar is a heavy shipper, it is a good keeper.

**Noble fir has a limited market as a holiday decoration and high quality material is demanded from the harvester.**



Myrtle (*Umbellularia californica*) has been introduced to the market for the past 5 years with no apparent increase in demand. Specifications are for branches of 30 to 34 inches in length from which 2-pound bunches (dry weight) are made at a price of 20 cents to the picker.

Tanbark oak (*Lithocarpus densiflora*) is an evergreen tree that is limited in its range to the dry hills of southwestern Douglas and western Josephine and Curry counties of Oregon and south to California. Its foli-

age is recognized as a part of the industry and has a limited market at certain times of the year.

Long-leaved Oregon grape (*Berberis nervosa*) is occasionally in demand as a decorative green, although it does not appear to occupy a position of very great importance in the florist industry. Perhaps the prickly leaflets which number from 9 to 15 on a single stem make it slightly objectionable to handle. This plant is found in high woods and mountains, mainly west of the Cascades.

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Cooperative Extension work in Agriculture and Home Economics, F. E. Price, director. Oregon State University and the United States Department of Agriculture cooperating. Printed and distributed in furtherance of Acts of Congress of May 8 and June 30, 1914.

12M-9-61