THE GREAT OUTDOORS
By FRANK R. OASTLER

Oh, give me a bit of the great outdoors
Is all that I ask of you,
Where I may do whatever I like
And like whatever I do.

Where the sky is the boundary up above
And the earth is the measure below,
And the trail starts on where the sun comes up
And ends where the sun sinks low.

Where the wind blows sweet as a baby's breath,
And the sun shines bright as its eyes,
And the showers come and the showers go
As the tears when the little one cries.

And the brook runs merrily through the glade,
Singing its gladdening song,
And the pine trees murmur their soothing sighs,
Still bearing that song along.

Yes, carry me back to the lake's white shores
With its deer and its lily pad,
Where the loon calls out to the moonbeams bright
Through the mist on the waters sad.

Oh, let me hear the elk's far cry
As it sweeps through the forest deep,
Where the silence hangs as over the dead
At rest in eternal sleep.

I'll pitch my tent by some lonesome pine,
By the rippling water's edge,
With the great outdoors as my garden,
And the willows round as my hedge.

And surrounded by pretty flowers,
That perfume the gentle breeze,
I'll idle away the whole long day
In the shade of my old pine trees.

And I'll watch on yonder mountain
The colors change with the day,
And I'll follow each shadow creeping
So silently on its way.

And then I'll give thanks to God above
And in gratitude I'll pause,
And I'll love, not hate, each care that comes
In that great big home—Outdoors.
THE GREEN THUMB

MEMBERSHIP CAMPAIGN

As we go to print our membership campaign for 1949 is under way. Many members are assisting, and the committee in charge urges all former members who have not already done so to send in their dues. We earnestly urge every member will consider himself a committee of one to secure new members whenever the opportunity arises, so that the valuable services of "horticulture house" may grow with the years.

SNOWSHOE NATURE TRIP

All who are interested in seeing nature in the winter are invited to come on Mrs. Anna Timm's annual snowshoe trip, December 12th. The location depends on snow conditions, but will probably be in the Arapaho area. Leave Horticulture House 9 a.m. Bring lunch and a can soup for the general pot. Register all in advance so transportation can be arranged. Snowshoes may be rented for the day at sporting goods' stores.

AWARD TO HOME GARDEN CLUB

The Home Garden Club of Denver has been notified that it was awarded the second prize in the Garden Club Yearbook Contest for its 1947 yearbook. This prize, which is sponsored by the magazine "Horticulture," carries a cash award of $25.00. In the letter announcing the award it was stated that yearbooks were widely studied as help for other clubs in improving their work.

We congratulate Miss Lula R. Forse, President of the Home Garden Club during 1947, and Mrs. W. E. Emberton, artist, on this achievement.

ORCHIDS TO FRED R. JOHNSON

Mr. Johnson is a professional forester and at the present time one of the assistant regional foresters of the Denver office of the U. S. Forest Service. In 1905, he entered Dickinson College at Carlisle, Pa., and later attended Yale Forest School, graduating in 1911. His first forestry job (in 1910) was with the Ohio State Experiment Station where he surveyed woodlots in 10 counties.

He entered the U. S. Forest Service, July 1, 1911, as forest examiner on the Arapaho National Forest in Colorado, went to the Nebraska N. F. in 1912, where he later became forest supervisor. In 1916, he came to the Denver Regional office and for about 13 years was in charge of the tree planting work of the Region. In 1929, he was attached to the Recreation & Lands division where he handled the public relations part of that branch. In 1937, he was placed in charge of a newly established division, Information & Education, where he still presides.

For many years before the reorganization of this Association, in 1944, he was a member of the old Association (Colorado State Forestry) and carried a heavy burden of its existence on his capable shoulders. Besides being secretary and a director of the present organization, he is chairman of the Finance committee, is very active in the Membership committee, and is liaison officer between officers, directors, and staff workers, thereby effectively maintaining peace and harmony in the Association.

YOUR HELP NEEDED

Beginning with the January, 1949, issue of the Green Thumb we plan two new features. One probably headed, "GOOD GARDENERS," which will take the place of the "ORCHIDS" series of this year. This will consist of notes about the noteworthy practice of some gardener, be they estate owner or helper. Will you please let me know of these people and the good things that they do?

The other feature will probably be headed, "GOOD GARDENING," and will consist of seasonal notes similar to those that we once ran under the head of "THE EXPERTS SAY." This will take the place of "THE WEEK-END GARDENER" of this year.

Please send in a sentence or paragraph about any seasonal garden suggestion that you think worth while.

GEORGE W. KELLY, Editor.
THE GREEN THUMB

BROADLEAF EVERGREENS

Clair Robinson

THE plants generally referred to as evergreens are of two kinds; the coniferous, cone-bearing plants with narrow needle-like leaves, that everyone is familiar with; and the broadleaf plants with smooth flat leaves that produce their seed by berry, or otherwise, instead of a cone.

The Oregon grape or Mahonia is a beautiful example of the broadleaf kind. It will average four feet in height, is heavy branched, and has large shiny metallic leaves that turn to shades of red and bronze in autumn. The new growth in summer is a lighter shade of green, giving the plant a pleasing effect. In spring, clusters of yellow bloom are followed by dark blue fruit. Oregon Grapes are best moved in late spring, with a fair sized ball of earth, and do best when planted in an east or north exposure. They are good when planted with other evergreens, making a showy contrast. Used with Pfitzers or other spreading evergreens, they will make such a grouping more interesting. These plants may be grown in full sun but in such a location will lose their leaves in autumn. When given plenty of water, fertilizer, and cultivation, they will be admired in your garden.

Pyracantha or Firethorn is another good broadleaf evergreen with small leaves and open foliage. Following the white blossoms, clusters of bright orange-red fruit remain all through the winter. The Firethorn grows long shoots, making a good trailing plant under windows and over doorways. It can be kept trimmed to a low bushy form and is a good companion to other evergreens. It should be moved in spring with a good ball of earth and, like the Oregon Grape, it will be happiest in a north or east exposure.

Euonymus patens sieboldiana also needs a shaded location. It has rich green foliage and beautiful orange berries. Given some support this plant will serve as a pillar at the side of a building. Euonymus radicans grows in either sun or shade but is at its best in shade. It is bushy in form and sometimes the leaves are slightly variegated. Euonymus vegetus, an evergreen vine, has orange-red berries, needs support and will grow up to thirty feet high. Euonymus Kewensis is a prostrate growing evergreen vine with small dark green foliage; a splendid plant for rock gardens or ground cover, and does well in any location.

We have so few broadleaf evergreens which are happy in Colorado, that I am going to mention English Ivy as one. This is a very beautiful evergreen vine that should be planted in a shady location and will remain green when other varieties have shed their leaves.

Consult your local nurseryman about these broadleaf evergreens. He has made a study of them in regard to the unusual growing conditions here in Colorado. A call to him will reward you with helpful advice on the growing of these plants.

If your planting needs something different to make it more interesting, plant some of the broadleaf evergreens this spring. You will like them.

VERDANT VERSES

MY PARAGON

O God, make me as clean as a tree,
Wind-swept, rain-swept and strong;
Make me as natural, happy and free,
Looking up all the day long.

Help me to branch out as far as a tree,
To settle my roots deep and firm,
To shelter all things that depend upon me,
As the tree shelters me from a storm.

Let me awake with fresh life in the spring,
After a winter of sleep;
Then I'll be ready to take a new fling
At Fate, — and my own counsel keep.

Katherine Paull,
Littleton, Colorado.
mayflower, twin flower, pirolla (wintergreen), partridge berry, hepatica, trillium, clintonia, etc. A little taller are: solomon’s seal (true and false), baneberry, Indian cucumber, bracken and many varieties of fern—Boston, Interrupted, Maidenhair, etc.

The shrubs and shrub-size bushes associated with the hardwoods are chiefly hazelnut, thimbleberry, blueberry and striped moosewood. The trees in the top story are as varied as the plants below. The principal species are: rock maple, soft maple, white and yellow birch, beech and poplar, black and bird cherry, white ash, ironwood (hop hornbeam), basswood (though rarely). All through this type of woodland there are clumps of white and red pine, spruce, balsam fir and an occasional hemlock.

Where the stands of evergreens are purer there is less underbrush. A thick mat of needles covers the earth and this acidity prevents any great amount of forest flora. There are, however, to be found mosses, trailing ground pine, wood sorrel, pipsissewa, Indian pipes, as well as toadstools and fungi galore.

In the clearings open to the sun, along the edges of the wood roads and in swampy hollows within the woodland borders a long list of shrubs, grasses, berries and flowers can be found—each in its season. Willows, alders, steeplebush. Cattails, wild oats. Strawberries, raspberries, blackberries. Dandelions, violets, woodlilies, buttercups, cowslips, yarrow, bottle gentian, goldenrod, asters and “others too numerous to mention”!

**WHAT’S A MING TREE ANYWAY?**

Have you a gnarled, old pygmy tree for a table decoration? Is it a couple of hundred years old, and does it spring from the hoary temple of the Ming Dynasty?

Some of us became curious and tried to find out more about it. Our Editor, with uncanny intuition traced it down to an Eriogonum—close relative of our Sulphur Flower. He was right. Somebody else recognized it as a manzanita, close relative of our Kinnikinnick. And he was right. That may sound like a politician’s compliance. Or like a freak of nature. The latter comes close to the point.

A “Ming Tree” is neither tree nor Ming. Here is the recipe: Take a picturesque branch of the native California manzanita (Arctostaphylos manzanita or related species), the more crooked the better. To it, tie, or wire, pads of Alpine Buckwheat (Eriogonum ovalifolium, or related species), in such a manner that they will imitate the foliage of the “Ming Tree.” Use any appropriate die or color to make the whole look both aged and “recently alive.”

The important thing is to supply a solid base, and a price tag, not below twenty-five dollars. And there, my horticultural easy-mark, is the secret. What was it, Barnum said? (Of course, we must pay for “art” and ingenuity in arrangement.)

A recent innovation is to supply the germ of life. If the whole tree is inserted into a burl of redwood, and then placed in water, you may have the rare satisfaction of seeing it sprout. Only you won’t get new little Ming Trees, only redwood sprouts.

Now for a more serious note. If you realize that this Alpine Buckwheat grows at an extremely slow rate, and is found in only restricted spots—do you see what might happen to it in a short time if “Ming Trees” are sold at lower prices? That, my friend, comes down to the matter of CONSERVATION.

M. WALTER PEisman.
DOWN WITH THE SAP!

M. Walter Pesman

In fall, sez Hiram, "the sap goes down, and in spring the up comes up. And if you don't believe it, you jes' try to tap a sugar maple in fall, instead of spring."

So that's it, and that's all there to it. Or is it?

Hiram sez
"The sap goes down"

Well, exacting scientists do not seem to agree with Hiram. They have proved that this "sap" goes both up and down in both spring and fall. They can show that there is some movement of sap even in midwinter, but it is part of the life process of the tree.

What's more, they do not seem to be satisfied with the word "sap" itself. It is too vague a term; that vagueness leads to misunderstanding, they say.

There are two kinds of sap. There is the very watery solution that is taken up by the roots and used in the leaves,—and there is the concentrated "plantfood", such as sugar, that is prepared in the leaves and that must be transported to the rest of the tree.

Roughly speaking, this watery raw material must be carried up through a trunk or a tree, to the leaves, and the fabricated plantfood, consisting of organic materials in solution, is carried in the inner layer of a tree, the xylem or bast tissues. So that there is a dual system of transportation in a tree trunk: the raw sap comes up through the wood, the prepared plant food goes down in the bark (bast or phloem).

The proof? Way back in 1772 an experiment was made by a certain Steven Hale,—a simple experiment, which anyone can try over. He removed the bark all around a tree,—ringing it,—and found that its leaves did not wilt. But they would wilt when the wood was cut, wilt quite rapidly. In fact, a tree will keep alive all during summer in spite of being ringed.

That shows clearly enough then, that the watery sap,—the raw material so to say, flows up through the wood to the leaves. According to Hiram's simple theory, it would be easy enough for the "sap" to go down again through the same "plumbing system", when fall calls a halt to the tree's activity.

It's not so simple. What does happen is that a little movement of the crude material continues even during winter,—yes, up,—and that there is no downward movement in a ringed tree to feed the roots. Result: a dead tree next spring.

As if the tree were trying to rush aid to the starving roots, a bulge is often noted just above the cut ring.

And the fact is that such a tree may be revived if a timely bridge is made over the ring,—a bridge of small twigs, inserted both above and below the ring.

Until recently, everybody in plant science was happy in the idea that there is a simultaneous movement up and down,—the crude sap going up through the so-called tracheids of the wood (or xylem), the prepared plant food going down from the leaves through the cells which constitute the bark, bast or phloem.

After about 1920 dissension arose among scientists and it led to more and new experiments on these sap movements, as to exact location, speed and the forces causing them. A standard work on "The Translocation of Solutes in Plants" by O. F. Curtis, reports a number of these new experiments and theories. After all is said and done, no important general reversal of previous findings was proved necessary. A few interesting items follow.

1. While large quantities of starches and sugars are found in the wood regions, they are not carried upward through the wood tracheids; all transportation of this prepared food is through the phloem (or bark phloem),

2. The upward transportation of nitrogen (and ash content) is interfered with by ringing; it seems that phloem is selected as the "common carrier" for these salts. That contradicts the theory that all salts are carried through the wood, with the water stream from root to leaf.

3. No evidence was found that solutions or water normally move backward through the wood. So the general rule still holds: "crude sap goes up through the wood".

4. What bothers present scientists considerably is the force that causes the flow of sap and also the speed of movement, in spite of friction and gravity. After all, it takes a lot of...
ower to reach the top of a giant tree a hundred feet and more. Many theories are proposed: osmosis, root pressure, capillarity, even electric potential differences (the latter for the distribution of hormones). Wow! If these learned terms floor you, look at the end of this article for explanation.

5. There are no continuous open tubes in the phloem (bark) cells, and yet there is movement through them, articularly of prepared food going own the stem. How? The best guess, so far, seems to be in the streaming of the protoplasm, (living goo) of the plant itself. It passes right through the sieve-like walls of these phloem cells, and movement is a natural phenomenon of living protoplasm. Here then is a field of experimentation that is still wide open. Much observation is needed, and microscopic research.

From all the inquiry already made we can now form a pretty accurate picture of what is going on in a growing tree. Starting with the roots, we find large quantities of water, together with some materials, being taken up from the soil, and transported—through the woody part of the trunk, the xylem—to the leaves. Leaves are the food factory of the plant: the rude material brought in by the rachis of the wood, is used, together with carbon dioxide taken in through the leaves. With the aid of sunlight, complicated organic matter is fabricated in the leaves: plant food. Some of it is used in the growth process itself. In any case it has to be transported from the leaves to other parts, mostly down of course. And his transportation system is the xylem, or bark.

As fall comes on, the "factory" becomes less active. Finally the leaves drop, excessive food is stored away in wood, roots, and fruit; even some of the transportation tubes are plug-

ged up with starches and other food. But since water continues to be given off by the twigs, and since some green matter in the twigs continues to produce a little food—the dual transportation system keeps on functioning. This is especially true in a dry climate like ours, and in bright sunshine like ours.

"Waal", sez Hiram, "I told you that the sap comes up in Spring". All right, let's leave it go at that: the most spectacular movement is that sudden speeding up of the upward stream, and the change of insoluble stored-up food into sugars and such in solution.

P. S. For Hiram's benefit are the following explanations:

Osmosis is the force that draws water, or a less concentrated solution, into a denser one, through a somewhat porous thin wall.

Hormones are substances formed in living organisms having certain stimulating effects, such as growth, etc.

By Capillarity, or Surface Tension, a liquid in a narrow tube may be raised above its "normal" level.

Tell us what YOU would like to see printed in the Green Thumb.

THE WEEK-END GARDENER

SAY Mom, didn't the leaves go off the trees in a hurry this fall? Winter may come any week now. Let's see what needs to be done while the weather is good. The elm trees do look bare, and so black and dirty. What's that? The black on the elm trees indicate that they are full of scale. I'll call one good spray man right away and have him put them on his list for a dormant oil spray. Do we have any other scale on the place, Mom? Oystershell on the lilacs and cotoneaster. O.K. Tell him to hit those shrubs too when he comes. Maybe we should have him check the big maple to see if the maple scale has come to this part of town yet.

Come out here Mom, and show me where you wanted that lath house planted. That old honeysuckle bush is just growing too fast. I'm going to get a notion to haul out some of that soil that has so much lime in it and replace it with some good soil and mix plenty of manure with it. I'll measure the space and figure out the material needed tonight.

That old hawthorn bush is just growing too fast. I'm going to get real hard-hearted and take it out so a few of the nicer shrubs will have a chance. Something is always growing too fast, or else dying.

The ground is still not frozen out in this sunny part of the garden. I've a notion to haul out some of that soil that has so much lime in it and replace it with some good soil and mix plenty of manure with it. I'll bet that the Ninebark and Flowering Quince will have a better color when they get their roots into some good soil again. I can't replace the soil around our maple tree, but I can get the tree man to treat the soil under it to correct the chlorosis.

That's right I did promise to drive you to the hills once more if the weather was still good. O. K. get your bonnet. Let's go.

THE GREEN THUMB

IN DECEMBER

By all the sages' garden rules
At this time all my garden tools
Should hang, sharp, shining rows,
Ready and waiting for the end
Of winter snows.

I WISH THEY DID!

Fertilizing should be complete,
Mulches should cover tender feet,
Composting leaves should be begun,
(We shouldn't burn them—no, not one!)
And Christmas shopping should be done.

How? Goodness knows!
I WISH I DID!
—MAUD MCCORMICK.

Tell us what YOU would like to see printed in the Green Thumb.
introduced Mr. Leroy Hinman, Supt. of Denver Parks, and Mrs. John Evans, our president, who presented and accepted this new botanical reserve. Mr. Ed. Wallace had painted a fine sign to mark this area and this was set up in one end of the room to give atmosphere. He had also dug up and potted a few Colorado Silver Cedar trees which added to the odor and atmosphere. Later the sign was taken out to the area and set up. This area contains 240 acres lying just north of the end of Stapleton Drive on Genesee Mountain. It includes some of the meanderings of Beaver Brook and some steep hillsides. In addition to some of the finest specimens of Cedar trees there are typical groups of all the common plants native to this altitude. While the City of Denver will retain title to this land, they are setting it aside as a permanent botanical reserve. Here will be preserved the native plants in their natural surroundings.

ON account of lack of cooperation on the part of the weather man the scheduled dedication ceremonies for the new Botanical Reserve were held indoors at Horticulture House. Mrs. Paul Timm had prepared one of her famous picnic dinners, so this was brought into Horticulture House and served while it snowed outside. Following the lunch Mr. S. R. DeBoer

Above: View of the James Peak group from Stapleton Drive.
Left: Campfire girls working on the trail.
Below: Typical Colorado Silver Cedar tree.

COLORADO SILVER CEDAR BOTANICAL RESERVE DEDICATED
About three miles of the Beaver Brook trail, which was established by the Colorado Mountain Club and the City of Denver in 1909, winds thru his reserve. Work parties from various interested groups will rehabilitate the trail this fall and next spring. We would like to see the area accessible to those who appreciate such nature but not made too attractive or the casual picnicker. Some beautiful views await the hiker over this trail.

The original trail led from Windy saddle on Lookout Mountain for a distance of about 9 miles west, ending up at Hosa Lodge. Some of the rail has since become obliterated, but now that it will be accessible from the west end, it is sure to be used more.

There are many other areas over the state which should be included in this series of Botanical reserves. Last fall there were the first three areas dedicated near Colorado Springs. This Colorado Silver Cedar area is the fourth.

Until botanical love gives way to the dawn of garden standards a spear of grass and the fairest flower are of equal rank. How next to impossible to visualize, the Columbine, the state flower of Colorado, from its botanical description. Through horticulture must come the real discovery of Rocky Mountain flowers.

D. M. Andrews.
A DREAM COME TRUE

Beverly E Finch

If you are one of those who have had dreams of owning a mountain retreat, or one by the seashore, let me tell you how my dream became a reality. When first the desire to build a cabin in the mountains presented itself to me several years ago, during the Depression as a matter of fact, it seemed impossible of fulfillment, for financial and other reasons. But in its prenatal state the idea must have been a sturdy little youngster, from the violence and persistence of its kicking and demand for recognition. And as persistence nearly always wins if it is kept up long enough, so it was with this little fellow. Faith, persistence, and fulfillment have always gone hand in hand, but in any enterprise the first must be put to work in order to bring forth the last. I realize now that faith played an important part in developing this little drama.

Few there are who do not more or less yearn for the freedom of the out-of-doors, away from places and employments that restrict our longing for the beauty and bigness of nature. In my personal experience I have met only two people who did "not care for the mountains." One said she was afraid of them; the other that there were too many ticks and ants! But this class is so definitely in the minority we can pass them by without notice. The hosts that travel our mountain highways give ample proof of the many who do "care."

The Idea

Everything starts with an idea, be it a mousetrap or a Boulder Dam. The universe itself was first an idea in the mind of the Almighty, and man is ever His imitator.

It is possible that my dream would never have seen the light of day had it not been for the promoters of the particular mountain homesite property where my cabin was finally built. I was one of a group invited for a trip to the site, with lunch included, gratis, on a gorgeous day in June—the month which starts so many enterprises on their way. I fell in love with a plot among towering pines on a rather steep, sunny slope overlooking a stream which meanders casually thru a beautiful valley, and on this slope, as faith gradually overcame my many doubts and fears, was where my cabin idea eventually evolved into a reality and to which I gave the name River Bend.

Above: The Cabin.
Left: One of the flowers found on Mrs. Finch's property as painted by her.

Ways and Means

Many problems to retard my hopes and test my faith presented themselves, but one by one each was solved. That first summer I wanted to be near the site of my prospective home as much as possible, but hotel rates were beyond my means. I had a two-weeks vacation coming to me; I happened to own a swinging porch bed; and a
friend offered me the use of a small hillside—the plot which is now a permanent bed in one corner and from then on slept indoors (with something a feeling of relief I must admit) where there were neither lions nor miniature hurricanes to disturb my peace and safety.

That first summer I made no attempt to do any interior finishing, but was content to have a roof over my head and a place to cook my meals—in fact a home in embryo. It was three years before my cabin was anything like completed, and much of the interior I did myself. But step by step my dream has taken on a concrete form, giving me a thrill with each step, and now I look forward to a week-end of joy and freedom each time I plan a trip to my mountain roost, sometimes with a friend or two, and sometimes to seek soul refreshment in solitude, the magnificent solitude of “... those who bide where mountains rise, Where yearning earth draws closest to the skies.”

If you are one who does a lot of wishful thinking about the cabin you would like to own some day, remember this, that “some day” is like tomorrow in that it never becomes today. Now is the only time there is. After ten years or so you will wish you had put your faith to work and plunged in as I did so that you might be knowing the joy of fruition and fulfillment where otherwise a void would still exist. And remember too that a cabin can be built out of the substance of faith as well as any other “thing that is hoped for.”

If you really want a cabin, make a start, for nothing was ever finished without a beginning.

Do you have a friend who might enjoy the Green Thumb? Tell them about it.

**A WEED GARDEN**

By F. Binkley

WHY not a dry border, planted with natives that thrive on scant summer rains of the foothills? This somewhat obvious idea came to me when I was watering a drooping garden and gazing with envy at a nearby hillside, untended and yet pleasantly covered with attractive plant forms. A dry bank at the end of the garden accommodated a variety of these plants before long, and justified itself as a flower border instead of a weed patch.

_Yucca glauca_ provides creamy spires in early summer, and its leaves stay green all year. A good barrier plant, as is the cactus, it is better than any spoken word for keeping small boys and their dogs off the bank. Yuccas, old favorites for the garden, and here in Colorado we may dig the roots from waste land. They take their own good time about blooming, however. Prickly pear is a gleaming mass of yellow blossoms for a while, and in autumn has pretty red fruits.

Pink-flowered _Geranium fremontii_ sends its root very deep, and blooms through the summer. Prickly poppy, _Argemone intermedia_, an annual, has silvery leaves and floppy white flowers. _Liatris_ offers purple spikes in late summer, while wild _Yarrow_ from the field and its horticultural sister, _Achillea_, The Pearl, continue the white of Argemone. Other composites, in yellow and blue, are yet to be moved to the bank.

_Artemisia frigida_, delightful in spring for mats of curly, velvet foliage, makes a two-foot growth of soft gray fernlike leaves. Another aromatic _Artemisia_, with white-felt leaves on wand-like stalks, is a nice accent, marking the turn of the path in the dark of the night. Vigorous competitors, the Artemisias had to be limited in their invasions of plank boundaries sunk into the soil.
CHRISTMAS TREE CONSERVATION

EVERT J. LEE, State Forester

WITH the tremendous strides being made in Colorado in the actice of soil conservation, on both irrigated and non-irrigated lands, and the people in nearly all walks of life backing sound conservation practices, it is hard to understand why many owners of beautiful forest land, particularly in the Douglas Fir stands, will permit unskilled labor and people not interested in anything but amighty dollar to go upon their lands at Christmas time and all but destroy the area of the young reproduction. And why, after the land has been cleared of all the 15 to 25-year-old trees, will some of the same owners permit cutting the tops from larger and older trees as well as tipping of all boughs, thus rendering the tree practically useless, is it beyond the comprehension of a conservation-minded person.

This information may startle some of you readers of the "Green Thumb"; if you are likely to say, "They can't do that because there are laws which prohibit such practices in our forests."

This sort of tree cutting even if it is secure trees to add cheer to thousands of homes at Christmas time is detrimental to future wood production and if continued will have a serious effect upon valuable watershed areas. You are also likely to say—once there are laws which prohibit such destruction to forest lands, why don't the men whose job it is to enforce these laws do something about it?"

In your last statement you would be right. There are such laws to protect forests growing on government and State lands and I assure the men entrusted with the management of these forest lands are doing a fairly good job on some 7,875,000 acres of commercial forest lands under their jurisdiction. This is evidenced in Colorado by the fact that less than 25% of the Christmas trees cut annually come from publicly-owned lands and the other 75% come from approximately 1,951,000 acres of commercial lands in private ownership.

When you stop to consider that only 5% of the total area of commercial forest lands in the state are stocked with Douglas Fir and that we have been and will continue for some time to secure our annual supply of Christmas tree stock from less than one hundred thousand acres of these lands, is it any wonder that Christmas tree dealers are becoming quite concerned about where the next year's supply is coming from? It also may answer the question as to why each year more and more trees are being shipped in from other states.

I wish it were possible to give you with some degree of accuracy just what the Christmas tree business is and the green bough business means to the land owners and retailers of the state. But, to attempt to do this, would be only a guess because to date there has been no way of checking the number of trees sold except in a very few towns and cities which have ordinances requiring that trees sold within corporate limits must be cut under rules of Forest improvement. There is no way of checking the tons and tons of green boughs cut from our Douglas Fir stands annually; nor is there any way of checking the many thousands of trees cut by trespassers in the mountains and hauled out in their private cars.

Such ordinances are on the books of Denver, Colorado Springs, Longmont, Fort Collins and Boulder. The number of tags of approval issued to cutters delivering trees to dealers in these towns varies from 77,000 to 100,000 annually. It is estimated that less than 20% of the trees cut go to these places. It is quite evident that should a cutter or dealer in any other than the above-mentioned places in the state choose to sell trees cut in any manner, he may do so because there is no state law which would prevent him. Nor are there any state
I believe most foresters will agree that there is a definite need for an expanded educational program which will enable all of the people to have a better understanding of the State's forest and watershed problems.

At the present time, very little is being done in the way of actual on-the-ground assistance to forest owners and it is quite reasonable to assume that in order to encourage better forest management practices, it will be necessary to render the same service to the owners of forest and watershed lands in their problems as we do to the owners of the irrigated and non-irrigated farm lands mentioned in the beginning of this article.

It is my sincere hope that at some future date this sort of a program will be possible and I sincerely believe that once some type of forestry program is made state-wide and the advantages of such a program are made available to woodland owners and others, the majority will be anxious and willing to cooperate, since it will enable owners of forest land, to derive more revenue from their lands by increased production thru proper cutting and reforestation methods.

There are always a few selfish people who with little or no regard for others, would pay little or no attention to the methods used as long as it was to their interest, and it may be necessary, in order to control this situation, to strengthen our laws of forest protection in the State just as there are laws necessary to protect the average citizen from the thug and crook.

In any event, if we are to continue to keep our forest and watershed lands in the highest state of productivity possible, to make certain that our valuable water and timber resources are retained for future generations, some type of a good sound forestry program in the State is a vital necessity.
SPEAKING OF TREES

From National Arborists Association

No single part of Nature has influenced man's living so completely as the stalwart tree. He looks to trees for comfort, protection, peace and hundreds of useful products, lumber being the principal one. Too often we take trees for granted and fail to find that when we want them most we've destroyed them with neglect.

Do we place too much sentiment or importance on shade trees? Look out for the answer. You will see children at play in a shaded lot sheltered by a gnarled oak or friendly elm; a church lawn festival or society garden amid a group of trees like kindly hosts gathering folks about them; the man of estate viewing proudly his well-groomed trees; and the harsh structural lines of a factory softened by the beauty of trees. At any home, any place, any where, along highways or in forests, trees are a living part of man, an earthly possession that provides cool comfort from the blazing sun. They ask only our affection and care in return.

In a practical sense shade trees serve as barriers to soil erosion, act as dust collectors along streets and highways, muffle noise in traffic areas, and for home owners and realtors increase property values.

Trees have served man since the beginning of time. Leaves of the fig tree clothed Adam and Eve in the Garden of Eden when they first discovered their nakedness.

The winter garden needs cool temperatures, ventilation and plenty of sun for the attractive display of bloom.

INDOOR BULBS

Failure of bulbs, planted indoors for winter gardens, to make lovely flowers is usually due to fast growth, reports Charles M. Drage, Extension horticulturist at Colorado A. & M. College. On the other hand, when the results are spindly top growth, no flowers at all or poor ones, and scanty roots, the temperatures have been too high.

"Avoid temperatures above 70 degrees, and keep the bulbs away from steam pipes or radiators. Keep them near windows where there is light and it is cooler. The enclosed porch or sunparlor is ideal for flowering bulbs.

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AN APPEAL FOR A PARTNERSHIP WITH NATURE
Reprinted by Permission from “The Garden Path”

IT IS our responsibility to know and to practice the conservation measures necessary to prevent further damage and ruin. We can actively foster the conservation program in our communities. Each gardener can start immediately in her own garden. Reverence for the soil we cultivate, coupled with the realization that it is our great heritage, will make us willingly return to the land the elements removed by our crops. Give the best you have to the earth, and it will give the best it has to you. The finest legacy we can leave our children is a fertile piece of land, whether it be a town flower garden, a vegetable patch, or a well-husband farm.

We submit the following suggestions in the hope that they will be helpful in establishing your partnership with Nature:

Specific Conservation Measures for Your Flower and Vegetable Garden:
1. Plan surface drainage to prevent soil erosion if land is sloping.
2. Plan layout of borders and rows across rather than with the slope of the land.
3. Make terraces if land is on a hillside.
4. Small walls and grass strips will hold soil.
5. Make use of ground covers to stop erosion; mulch flowers and shrub borders the year round.
6. Use both manure and commercial fertilizers annually.
7. Run one or more compost heaps, saving all waste plant material not diseased or gone to seed, and all leaves, for compost builds up organic material for the garden.
8. Plant those things which do well on your type of land.
9. Do not over-plant, for that exhausts soil fertility.
10. Remove nature crops promptly to prevent impoverishment of the soil.
11. Use shallow cultivation; mulch summer and winter; control pests.
12. Grow cover crops in the fall and turn them inwardly in the spring especially in vegetable and cutting gardens.
13. Plant berry-producing shrubs to attract and feed the birds. Select a variety of shrubs so that there will be food for all four seasons.

“We pass this way but once. Let us beautify the path as we go, so the world may see which way we went.”

GOODWILL SEEDS
Pinyon Pines may yet grow in Switzerland—if the pinyon nuts sent to the Botanic Garden in Berne this week take hold. Our Shrub Maple (Acer glabrum) may adorn the Botanic Gardens of Norway and Sweden; Colorado Mountain Ash may show its gorgeous berries in the Biological Institute in Wijster, Holland.

Through contacts made last year by M. Walter Pesman on his study trip to Botanic Gardens in Europe, the Colorado Forestry and Horticulture Ass'n. now has correspondence with a number of such institutions. Seeds, collected in our region, are being sent abroad. In return we may expect similar courtesies from them as soon as our Arboretum materializes.

Among seeds sent thus are: Mountain Ash, Maple, Native Barberry, Mahonia, Utah Juniper, Colorado Juniper, Buffaloberry, Pinyon Pine.
Why Don't We Grow More Primroses, Florence Arnett... Apr. 12
Chrysanthemums Thrive in High Mountains, Benjamin Draper..... May 12
Two Long-Blooming Perennials, Jesse M. Newcomb... July 13
A Favorite Combination of Perennials, Frances Binkley... Nov. 28
PESTS AND DISEASES
Insect Enemies, Paul N. Morrow... Mar. 11
Dutch Elm Disease Found in Denver... Apr. 6
Dutch Elm Disease... May 10
Colorado Spruce Gall Aphid, Paul N. Morrow... May 18
Watch for Red Spider in Your Evergreens, George M. Fisher... June 24
Aspen Leaf Spot... June 31
Remember the Chestnut... July 7
He Has No Enemies—So He Lost His Shell, Richard Headstrom... May 29
Rose Snout Beetle, Mrs. G. R. Marriage... Aug. 13
Safety in Vegetable Garden Insecticides, Armin Barteldes... Aug. 26
PHOTOGRAPHY:
How Time-Lapse Plant Photography is Done... Apr. 14
See Plants Grow... June 4

PLANT ZONES:
Observations on Winter Trees of the Western Slope, Mary B. Plaisted... Feb. 23
Some Plants for Landscape Use in the Mountains... Feb. 27
Horticulture in the Grand Valley... Mar. 5
Hardy Plant Material for High Altitudes, Mrs. H. E. Combs... May 12
Chrysanthemums Thrive in High Mountains, Benjamin Draper... May 15
PRUNING:
Trimming, John W. Swingle... Mar. 10
ROCK GARDENS:
Rock Garden Plants, Lorene Smith... Sept. 27
ROCKY MOUNTAIN HORTICULTURAL CONFERENCE:
Rocky Mountain Horticultural Conference... Jan. 3
Report of Conference... Mar. 27
ROSES:
Accent Your Garden with Roses, Florence W. Myers... Jan. 6
Winter Maintenance, K. N. Marriage... Jan. 27
Modern Trends in Rose Growing, R. G. Allen... Nov. 19
Time-Lapse Pictures of Roses... Dec. 3

CONSERVATION AND ARMSMAMENTS
How pitifully inconsequential conservation is considered in the realm of national defense is evidenced by the sums appropriated for each of these necessary elements by the Congress. It might amply be paraphrased "Billions for guns, thousands for trees."

It seems like a rather cockeyed philosophy to build billions of dollars worth of planes, ships and guns, and to train thousands of soldiers and sailors, while at the same time the very things these billions are being spent to protect are being despised, burned up or washed away for the lack of men and money desperately needed to assure the stability of the nation.

Our forests are being butchered at an unprecedented rate; uncontrolled rivers are washing away irreplaceable arable land by the millions of tons per year, while the great despiser of forests, fire, burns millions of acres of precious timber, and bares priceless watersheds to the fury of the elements. Surely these enemies within our borders are as insidious as those three to five thousands of miles away. Without our national resources we have nothing to protect. When will a wise Congress match billions for armaments with a billion for conservation? It had better be soon—From "Trees," July-August, 1948.
Oh, give me a bit of the great outdoors
Is all that I ask of you,
Where I may do whatever I like
And like whatever I do.

Where the sky is the boundary up above
And the earth is the measure below,
And the trail starts on where the sun comes up
And ends where the sun sinks low.

Where the wind blows sweet as a baby's breath,
And the sun shines bright as its eyes,
And the showers come and the showers go
As the tears when the little one cries.

And the brook runs merrily through the glade,
Singing its gladdening song,
And the pine trees murmur their soothing sighs,
Still bearing that song along.

Yes, carry me back to the lake's white shores
With its deer and its lily pad,
Where the loon calls out to the moonbeams bright
Through the mist on the waters sad.

Oh, let me hear the elk's far cry
As it sweeps through the forest deep,
Where the silence hangs as over the dead
At rest in eternal sleep.

I'll pitch my tent by some lonesome pine,
By the rippling water's edge,
With the great outdoors as my garden,
And the willows round as my hedge.

And surrounded by pretty flowers,
That perfume the gentle breeze,
I'll idle away the whole long day
In the shade of my old pine trees.

And I'll watch on yonder mountain
The colors change with the day,
And I'll follow each shadow creeping
So silently on its way.

And then I'll give thanks to God above
And in gratitude I'll pause,
And I'll love, not hate, each care that comes
In that great big home—Outdoors.