

Health of Trees Lies in Roots

Soil Conditions Should Be Studied to Insure Sturdy Growth, Says an Expert

All trees have roots, declares Dr. E. Porter Felt, in the N.Y. Times. Few persons see them and most ignore them. It is an easy way of dealing with a possibly troublesome condition. Roots develop with the stem and branches, or even a little before. This is easily seen in seedlings. The root grows downward and the top upward, and both develop at first from the store of nutriment in the seed. The roots are of equal importance with the tops. They usually extend as far from the trunk as the branches. The tree depends upon the roots to provide its mineral nutriment and the moisture for the sap, which later carries life-giving materials to all parts of the tree.

Root development is limited largely by the character of the soil, the available moisture and the extent of the feeding area. A heavy, impervious, saturated soil means a weak root system, a poorly developed top and slow, unsatisfactory growth. A reasonably fertile soil with a moderately uniform supply of moisture and an ample feeding area makes possible an abundant root development, a luxuriant top and rapid growth. All gradations are to be seen between the two extremes.

Fine Root Called Most Vital

Strange though it may seem, the more vital, active part of the root is not found in the larger parts, useful though they are as support to the trunk, but in the minute feeding roots stretching out into new soil and absorbing mineral solutions and moisture.

The fine roots are comparatively inefficient unless they are well clothed with root hairs. A delicate growth possibly a fourth of an inch in length or less. They push out from the tips of the smaller rootlets and, coming in close contact with the particles of soil, extract a maximum of nourishment and moisture. They are most useful in moist to rather dry soil. Extended droughts with a consequent ash dry soil and withering root hairs means a serious reduction in these essentials for tree growth. In a general way the number of leaves and the vigor of growth is proportional to the abundance of tiny root hairs. Protect them.

One of the major evils of the closely clipped lawn is that it reduces the supply of humus and brings about conditions favorable to a rapid drying of the surface soil. This results in a greatly reduced number of root hairs and a corresponding lack of vigor in trees. It is more pronounced in wet soils, where the feeding roots are necessarily near the surface, owing to their inability to grow in saturated soil. A good root system means a good tree. Feeding produces abundant root hairs and vigorous trees.

Drought Warning Given

Drought injury, as has been pointed out, is most severe in low, poorly drained soils where the water table is near the surface. Even a relatively small reduction in the soil moisture means the exposing of roots, accustomed to near-saturated conditions, to the drying out common in soils which are practically dry. These effects also are very evident on light soils where the lay of the land is a rapid run-off and the texture of the soil is such as to permit the ready escape of the water. In addition, there are literally thousands of trees, many of them magnificent specimens, growing in relatively shallow soil or where the drying out process is accelerated by closely clipped lawns and the consequent absence of the normal amount of humus.

It is well known that agricultural crops resist drought much more successfully when in a rich soil.



Tom—"Well, I've decided to pin my faith to that girl."
Dick—"Charitable resolve. No woman I know needs something pinned to her more than she."

Lady Manageress—"You say a shirt is missing. What were the laundry marks?" Customer—"Serrated collar and cuffs, and two holes burnt in the back!"

Small Boy—"I don't think the man next door knows much about music." Mother—"Why not?" "Well, he told me this morning to cut my drum open and see what was inside."

FASHION HINT

"How to make my old short skirts conform to the new length was a problem to me until I hit on this plan. I dropped the hems; and as the part that had been turned under was darker than the rest, I redyed the entire dress, after having bleached the goods, following directions in the Diamond Dyes package.

"I used Diamond Dyes for the redyeing, of course. I have dyed many things with these wonderful colors. They have saved me many dollars and have never failed to give perfect results—smooth, even colors—fast to wear and washing. Friends think my things are new when I redye or tint them with Diamond Dyes. They do give the most gorgeous colors!"
Mrs. G. G. Lewis, Quebec.

Spirit of Poetry

I shall outlast the night, the stars and death,
For lo, I am the everlasting breath
Of all that was, is, and shall ever be
Of Beauty's self. Eternal harmony
My essence is and secretly I dwell
Not only in tall banks of asphodel
But wherever life yearns to some high
emprise
There is my still, enduring paradise.

I am ideal beauty and my fire
Lives in the flaming of each bright desire.
I am the breath of what has never
been
But strives to be. My own beloved kin
Aer they who seek me to the utter-
most—
A white and quenchless host.

I am the rhythmic essence of the soul
of things,
My swift, impalpable wings
Overshadow him who dares the gate.
That opens for the initiate;
And he on whom I breathe the immortal
breath,
He seeks the final door and laughs at
death,
And he shall exult be from friend and
home—
Comrade of dreams—immortally to
roam;
Yes, he shall seek some lonely un-
named thing
At the far edge of his bright wander-
ing.
And over his unfound quest the un-
spent flame
Shall irradiate the name
Of Beauty—fire undying of the soul—
Itself the seeker and itself the goal.
—Mary Siegrist.

"Saw Teeth" on Razors Is Popular Myth

Everybody knows that stropping a razor makes it shave better, but nobody, not even the steel experts, seemed to know just what stropping actually did to the bad edge, states Popular Science Monthly. The theory all ways had been that the tiny "saw teeth" were bent out of line when the razor was used and that stropping merely bent the teeth back into line again. Photomicrographs clearly show how erroneous this belief has been. They show, for example, how the cutting edge, originally a wavy line not at all saw tooth in character, is bent over by contact with whisker stubble.

The steel fibers are both bent over and crushed backward.
The generally accepted theory that a razor removes the beard by virtue of its "saw tooth edge" is a myth, an optical illusion. This and several other remarkable facts in connection with razor blades was revealed by J. G. Pratt, expert microscopist and photomicrographer of the United States Bureau of Entomology, at Washington, in a set of marvellous photomicrographs.

The job took several months and required the making of hundreds of experimental photographs and an unforeseen investigation by Pratt of the peculiarities of steel. What appears to be saw teeth actually are lights and shadows upon the coarse grinding just below the actual cutting edge.

With the magnification to 1,000 diameters, the "saw tooth edge" straightened out into an unbroken line, and 2,000 diameters the grain of the steel was visible, as were also variations in the edge caused by the texture of the steel and the processes employed in grinding.

Scotland Yard Tales

The discerning detective is always liable to make a coup in the Sherlock Holmes manner, allows Frederick Perter Wensley, celebrated detective (in "40 Years of Scotland Yard"), but in such cases it is essential that there should be no loophole. An early experience of Wensley's taught him a lesson. A series of burglaries had been committed, all much in the same fashion. At a house where one of them had occurred, Wensley found on the window sill a very curious fancy button of foreign make.

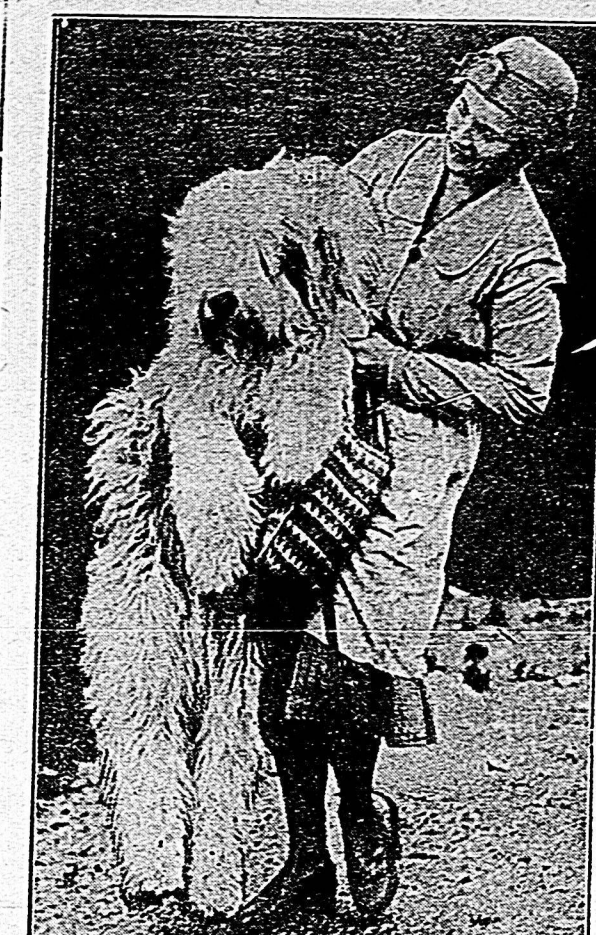
A few days later he met a known criminal wearing a waistcoat adorned with similar buttons. One was missing. The man was arrested and duly brought to trial. This was in the days before prisoners were entitled to go into the witness box on their own behalf. After the case for the prosecution—in which the button figured largely—had concluded, the judge asked the prisoner, in the usual way, whether he had anything to say.

"Well," he replied, "all I want to ask the gentlemen of the jury is this: Did they ever see a button with two shanks? The shank of the button I lost is still on this waistcoat I am wearing. The button the police produced had a shank."

The man was acquitted. As he left the court he jeered his head triumphantly at Wensley.

"Thought yourself clever, didn't you? I was too clever for you that time."
The explanation was that, while on remand, he had induced a friend to procure a similar button for him, and, breaking off the shank, had sewn it on his waistcoat.
"Such a thing could not happen now," adds Wensley, "for the waistcoat would have been taken from him and made a court exhibit."

A Dog and a Half



An old English sheep dog and the owner, Mrs. Keith Gibson, arriving for the Crystal Palace, London, kennel club show. A prize winner by all appearance.

Conifers

Topping the upthrust of a mighty crag
Triumphs the cypress; it must
crouch and lean,
Push desperate roots through fissures
deep, unseen,
Sprawl prone to humor sea gales,
Yonder snag,
Of trunk forked like t' antlers of a
stag,
Pictures the future of these noble
trees
When storms at last have scourged
them to their knees
And wrested from them that resplendent
flag.

Gigantic redwoods lord it in the North
A group of lonely pines, the South-
lands boast.
Comparing their high peers is little
worth.
All hail the conifers—a gallant host!
Here—duted, carved, in their singular
way—
The famous cypresses of Monterey!
—Julia Boynton Green, in "This
Enchanting Coast."

"Air Policemen"

A new innovation in traffic control is now being tried in Great Britain. The "sky patrol" has several advantages over the policeman in cars or on point duty. They can soon see, for instance, the threat of a traffic block. At the first sign of one they will signal the news to the men on the roads—with the result that a stream of cars is diverted and a hold-up avoided.

They can also report cases of dangerous driving or "hugging" below them—and an offender is likely to receive the surprise of his life when he learns, on being brought to book, that his downfall has been caused by the innocent-looking plane which has lately been hovering over his head.

Grandma: "Didn't your father know I was coming?"
Johnny: "No, gran. Mother kept it from him—he hasn't been feeling well lately."

Duckett: "They say you married Nancy because her aunt left her a fortune."
Drakett: "That's a lie. I'd have married her just the same whoever had left it to her."



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CHILDREN CRY FOR IT

Ling Production Shows Increase

Many Valuable Uses Found for Fish of Ugly Appearance

The value of production of the fisheries of Canada last year was \$47,758,920, this total being made up of \$41,451,577 from sea fisheries and \$6,307,343 from inland fisheries. In this connection, and with a view to angling the variety of edible fish caught in Canada, the possibility of establishing a market for the large quantity of ling or burbot found in the Dominion has been engaging the attention of the Game and Fisheries Department of the Ontario Government.

The ling (Lota Maculosa Le Sueur) is the only member of the cod family found in fresh water. It is widely distributed throughout the Great Lakes and is also found in the other large lakes of Canada. Its average weight is somewhere in the neighborhood of from two to five pounds, but specimens weighing 10 pounds are not uncommon. It may be caught in the same manner as whitefish, herring and lake trout, viz., with gill nets, hooks and pound nets.

As a result of careful experiments ling has been found to be a palatable fish, and if a market can be secured after an educational campaign pointing out its value and suitability as food, this would doubtless be the best way of ridding Canada's lakes of excessive numbers of the species, to the advantage of lake trout, with which it competes directly, and of more desirable species, such as pike, pike-perch, herring and whitefish, upon which it preys.

A Food and Fertilizer

During the past few years the University of Toronto and other centres have been making a thorough study of the possibilities of ling as a food, as fish meal or fertilizer and as a source of liver oil. From an economic viewpoint, of course, the use of ling as food is the most important, and until recently the consensus of opinion on the North American continent has been against it, possibly on account of the fish's forbidding appearance. The fact remains, however, that in Europe the ling is considered to be a "delicately flavored fish" with an excellent market, and the liver and roe have always been looked upon as delicacies. In the United States, through a campaign conducted by the Bureau of Fisheries, a market has been established, and during the war it was obtainable in Canada, but as soon as the scarcity of meat came to an end no further attempt to continue the market was made.

In 1928 some interesting experiments in the cooking of ling were made by the Department of Household Science of the University of Toronto, and the outcome was that fried ling was found to be "palatable, juicy, and had a delicate flavor." Fish loaf made from boiled ling was "just as edible as that made from cod." Fish cakes had "a fresh, delicate flavor and were as good as, or superior to those made from cod."

From the commercial viewpoint, there appears to be a possibility of creating a market for ling livers. They are of large size, being about 10 per cent. of the round weight of the fish, and some excellent recipes for canning and cooking have been prepared. These show how the livers may be prepared as soups, stews, liver loaf, and as fillings for tomatoes. Investigation into the marketing of ling livers in dietaries, with particular regard to anemia, are being carried on in the Toronto General Hospital.

Ling Liver Oil

Since ling is a relative of cod, it was considered that the liver oil might serve medicinally as cod liver oil. Oil was, therefore, extracted, and the yield, color and taste were found to compare favorably with cod liver oil. "The prospect for future marketing of ling looks bright, and without doubt this fish can be turned into a source of profit to the fisherman. Its edible qualities can no longer be disputed, and as an added source of profit the liver oil might be manufactured while the liver itself may find a profitable market. The Cinderella of the fish world, disguised because of its homely appearance, should take its proper place among the recognized profitable commercial fish."

In the above words, Mr. Hugh D. Branton, M.A., of the University of Toronto, sums up the result of his investigations into the profitable use of ling or burbot.

In the Same Boat

A girl, calling on a friend, seated herself at the piano and entertained the little daughter of the house, aged eight.

When she glanced round the listener was looking at her round-eyed.
Thinking that her music was thoroughly appreciated, she played a very difficult piece as a finale, closing her performance with a crashing discord. The little girl looked up innocently.
"I can't play that tune, either!" she said sympathetically.

"How wonderful is death!" muttered the recruit.
The officer turned like a flash. "Who said that?" he demanded.
"The culprit smiled wanly as he replied "Shelley, I believe, sir."

Poetry on Parade

The Guards recently received as a recruit a young man of education and culture who had failed to make good in other vocations. On his first day on the parade-ground he was utterly exhausted by several hours of marching up and down.
"Stand at ease!" ordered the officer at last.
"How wonderful is death!" muttered the recruit.
The officer turned like a flash. "Who said that?" he demanded.
"The culprit smiled wanly as he replied "Shelley, I believe, sir."

The Exception

A small man was holding forth on humanitarianism.
"My friends," he said, "you should never in any circumstances strike a child. I've brought up six boys myself, so I know what I'm talking about."
"Six boys!" exclaimed one of the audience. "And do you mean to say you haven't laid a hand on one of them?"
"Never," declared the lecturer, "except in self-defence."
There is a remedy for everything except some of the remedies.

Owl Laffs

Passerby (running into house after hearing screams)—"If you don't quit beating your child I'll call the police."
Man's Voice (from within)—"This ain't no child. It's my wife."
Passerby—"Oh, pardon me. I'm so sorry I intruded."

A little girl who had been left to watch the soup was presently heard to sing out: "Oh, mother, come quick, the soup is getting bigger than the pot."
First Siamese Twin to Second Siamese Twin—"Well, well, well, fancy meeting you here! It's a small world after all!"

Hostess—"Are you really a bank examiner, Mr. Tomkins?"
Mr. Tomkins—"Yes, madam, I happen to be."
Hostess—"Then I hope you will have time to examine baby's bank. No matter how much we shake it, nothing will come out of it."

The lack of money also is the root of a good bit of evil. Rival suitors for the hand of a modern girl often run neck and neck. There must be some difference in pills; every now and then someone gets hold of the wrong box, and the undertaker is called in. Prospering may be just around the corner, but nobody has as yet succeeded in locating the particular corner. We have no quarrel with those who can't, but we have unlimited contempt for those who won't.

Bride—"You mustn't expect me to give my girlhood ways up all at once."
Groom—"Certainly not, my dear. Go on taking allowance from your father just as if nothing had happened."

Nurse—"Are you going to give my patient something to slow down his heart action?"
Doctor—"Yes, an elderly nurse."

Mother—"Mabel's young man has taken offense at something. Have you said anything to him?"
Father—"Not a word. I haven't seen him since I mailed him last month's light bill."

To-day, I believe in to-day. It is all that I possess. The past is of value only as it makes the life of to-day fuller and freer. To-morrow depends upon the present—I must make good to-day. It is no distinction merely to possess money. The tribute of respect which cannot be measured in dollars is paid by our friends and neighbors to the man who honestly earns.

Frank—"What is happy, love?"
Ted—"The beginning of a dog's life."

'Bout the only thing impressive about a skating rink is its seating capacity.

Fashion Note—Girls don't object to two-piece bathing suits as long as they don't have to wear both pieces at the same time.

Young Wife—"Oh, Tom, it's just about a year since our honeymoon, when we spent that glorious day on the sands. I wonder how we'll spend the first anniversary?"
Tom (gloriously)—"On the rocks."

One scantily-clad flapper asked a football player if the team didn't get cold trotting around the field without any stockings on. People who carry glass bottles never should sit on stones. It must take a lot of thought to pick a party leader that all factions of the party can't be mad at.

A young man of seven was visited by a girl of four, whom he was instructed to entertain while his mother served tea to her parents downstairs. He made some efforts to display his toys, but her interest was centred in a plaything of her own which she had brought with her—a mechanical figure on wheels which rang a bell when pulled along with a string. He watched her with it for a while, made another futile effort to show off something of his own, and then turned to his nurse. "Don't they think of the cleverest things for these young kids nowadays?" he remarked.



Reduce the Acid

SICK stomachs, sour stomachs and indigestion usually mean excess acid. The stomach nerves are over-stimulated. Too much acid makes the stomach and intestines sour. Alkali kills acid instantly. The best form is Phillips' Milk of Magnesia, because one harmless dose neutralizes many times its volume in acid. For 50 years it stands with physicians everywhere.

Take a spoonful in water and your unhappy condition will probably end in five minutes. Then you will always know what to do. Crude and harmful methods will never appeal to you. Go, prove this for your own sake. It may save a great many disagreeable hours. Be sure to get the genuine Phillips' Milk of Magnesia prescribed by physicians in correcting excess acids.

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"When I enter this workshop," announced the progressive employer, "I expect to see every man doing his task cheerfully. I shall be glad to receive suggestions from the staff as to how that can be brought about."
Next day he found this tip in the "Suggestion Box": Take the rubber heels off your boots.

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for CHILBLAINS

Be generous with the Minsal's, rub it over the feet, rub the feet with warm water. Rub the ointment in well often.
What a relief!
29
MINARD'S
"KING OF PAIN"
LINIMENT

IN BED WITH BACKACHE

"Two years ago I suffered with severe pains in the small of my back, and could with difficulty hold myself upright. At times I had to go to bed for a week at a time. I went to and from hospital for 3 months, and they certainly did me good, but they did me they could not keep giving me medicine, but that I needed complete rest for 6 months, away from my children. I could not bring myself to be parted from the children, so I did not go to hospital any more. I started using Kruschen Salts and have had no trouble with my back since."—Mrs. V. Kruschen contains vital salts that go right down to the root cause of backache. Soon after you start on Kruschen, the sharpest pains of backache cease. As you perceive with the "little daily dose" of Kruschen twinges become less and less frequent, until finally you hardly know what an ache or pain is. Then, if you wish, you'll prevent the possibility of a relapse by continuing the tiny, less-less pinch of Kruschen every morning.

Keep on your Feet

4 MORE ACTIVE DAYS



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TOO bad! Sick again... doubled up with cramps. The boys were nice... awfully patient.
But it was so embarrassing... everybody in the office knew that she "wasn't well."
Then a girlfriend told her what to do. You need Lydia E. Pinkham's Vegetable Compound. It's a wonderful medicine to use during these "trying times."
It keeps you up. Drives away those blues. Keeps you on your feet. Won't you try a box of the new tablets?

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