



DR. C. L. MARLATT
EXPERT
ON TREE TROUBLES

DOCTORING SICK TREES



SPRAYING TREES



SEARCHING TREE FOR INSECT PESTS

Q the newer professions that have lately been created in connection with agriculture and kindred pursuits it is probable that none is more unusual or more interesting than that of tree surgery. Tree surgeon is the customary title of the expert who devotes himself to ministering to sick and in whether "tree doctor" would not be much as in with trees as with human as the surgeon that is need.

The tree doctor is, perforce, a specialist in his chosen field and it may be deeper one than the layman might, at first thought, suspect, and is well w life work and the life study of the that, "tree doctoring" within a limited of any farmer or other private just as gardening may be made a suc to being a fancy gardener. Indeed, the owner of any wooded land who desires to preserve the mature forest growth is all but compelled to delve into the lore on this subject if he does not want to employ a professional forester, and the farmer who wants to preserve the priceless heritage of the stately trees that surround and shade the ideally-placed farm house must do likewise.

One phase of tree doctoring that the layman can undertake almost as successfully as the professional is that embraced in preventive measures. With trees, as with all other growing things, the policy of the ounce of prevention is a wise one and moreover there are some wealthy men who own large estates in this country who employ tree doctors as the Chinese employ physicians—to keep them well rather than to cure them after sickness has set in. This "stitch in time" policy as applied to trees is particularly serviceable in the case of the insects, etc., which play such havoc with tree growth if left to carry on their depredations unmolested. It is always preferable and usually simpler to bar pests of this kind from the cherished trunk and branches than it is to banish them once they have gained a foothold.

Speaking of this responsibility in tree doctoring directs attention to the exceedingly varied activities that are embraced in the ministering to our sylvan treasures. There are numerous different methods of circumventing the caterpillars and other objectionable invaders, and there are likewise any number of prescriptions that may be tried out if the pests have taken possession of trees ere the alarm is given. Prominent among these latter remedial measures are the various forms of tree spraying for which special apparatus is now provided and apropos of which extensive experiments have been carried on to determine the most effective formula to be introduced as spray. Another branch of tree surgery deals with the intelligent removal of dead or diseased limbs of trees and the repair of damage done by fire, lightning, high winds, etc. And finally we come to the true surgery which in the case of trees, as with people, involves the removal of portions of the vital tissue; the termination of decay or disease; and the substitution of other substances—in the case of trees, concrete being a favorite medium for closing wounds and fostering the healing process.

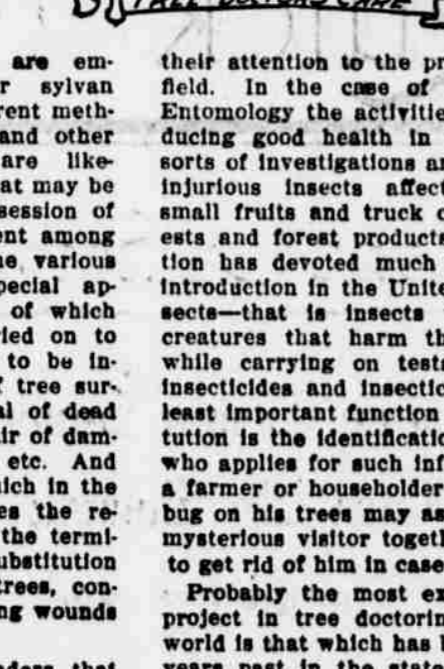
It might be supposed by many readers that tree doctoring would be restricted largely to the country and suburban districts, but such is very far from being the case. Indeed, it would seem as though the residents of our towns and cities prize their trees more highly and are willing to do more to preserve them than are the farmer class—and, perhaps, this is natural considering that tall, stately trees are much rarer in cities than in the rural districts. At any rate most of our large cities now employ one or more tree doctors to look after the trees in their parks and the shade trees on streets and boulevards, whereas it is becoming almost imperative for a man who aspires to the position of head gardener on any large private estate to have enough knowledge of alling or insect-infested trees to cope with the situation.

The U. S. Department of Agriculture and the state governments in many of our leading states now maintain special departments that devote

jured trees, and yet it is a question a more appropriate designation, inasmuch as it is more often the physical than the mental that is needed in his chosen field and it may be deeper one than the layman might, at first thought, suspect, and is well w life work and the life study of the that, "tree doctoring" within a limited of any farmer or other private just as gardening may be made a suc to being a fancy gardener. Indeed, the owner of any wooded land who desires to preserve the mature forest growth is all but compelled to delve into the lore on this subject if he does not want to employ a professional forester, and the farmer who wants to preserve the priceless heritage of the stately trees that surround and shade the ideally-placed farm house must do likewise.



INTELLIGENT PRUNING OF TREES



SHOWING RESULTS OF TREE DOCTORING

their attention to the problems presented in this field. In the case of Uncle Sam's Bureau of Entomology the activities are not confined to inducing good health in trees but extend to all sorts of investigations and experiments regarding injurious insects affecting field crops, fruits, small fruits and truck crops as well as the forests and forest products. This research institution has devoted much time and money to the introduction in the United States of beneficial insects—that is insects which prey upon those creatures that harm the trees—and is all the while carrying on tests and experiments with insecticides and insecticide machinery. Not the least important function of this government institution is the identification of insects for anybody who applies for such information. By this means a farmer or householder discovering an unknown bug on his trees may ascertain the record of the mysterious visitor together with hints as to how to get rid of him in case he is an undesirable.

Probably the most extensive and most costly project in tree doctoring in the history of the world is that which has been in progress for some years past in the state of Massachusetts. The object of this prolonged battle is to exterminate or hold in check the gypsy moth, which, with other kindred species, has threatened to destroy the trees throughout the Old Bay State, if not, indeed, throughout New England. In this fight millions of dollars have been expended, the experts employed by the state of Massachusetts working hand in hand with Uncle Sam's experts, headed by C. L. Marlatt, perhaps the greatest authority in the world. It is probably a trifle early to say that the fight has been won, but certain it is that much headway has been gained and doubtless the damage will be restricted to its present area.

in the world is this doctoring done so thoroughly as in the United States. The invention of special spraying apparatus began as early as the year 1880, and since that time each year has been the advent of new and improved apparatus. Some six or seven years ago the steam-power sprayer made its appearance and a little later there was evolved the gasoline outfit, which may be seen in operation today on so many farms and in many city parks. Where the poison charged liquid employed for spraying must be hauled some distance it is customary to resort to outfits of liberal tank capacity, and many of these range from 150 to 300 gallons. For spraying high trees it is necessary to use an elevated tower or platform built upon a wagon and with one man on the tower and two men on the ground spraying may be carried on with the greatest possible degree of efficiency. Of course, a good length of hose is essential—one-half inch being a popular size, and it should be capable of standing 200 pounds pressure per square inch.

Trees in towns and cities are naturally much more liable to such injuries as will later require the practice of tree surgery than are those in the country districts. The piling of building material against trees, the attaching of guy wires and the grading of streets or roads are all causes productive of injuries. Overcrowding by other trees, horse bites and girdling by wire labels are other sources of trouble. One of the worst of all, however, is improper pruning or tree butchery. As a matter of fact, intelligent, systematic pruning and tree surgery are very closely related.

Pruning requires a previous intimate knowledge of the habits of growth of trees, whereas surgery on the other hand requires in addition a knowledge of the best methods for making cavities airtight and preventing decay. The principle is much the same as that employed by the dentists who fill cavities in the teeth of human beings, and this caring for the cavities in trees is the only means of preserving affected specimens and saving to this and future generations some of the noblest specimens of woodland growth. The favorite mixture for filling cavities is composed of one part Portland cement to three parts of clean, sharp sand. After all decayed or decaying matter has been removed from the cavity the whole cavity is filled with this thin mortar, and then, when this has had time to become stiff, but not hard, there is applied a surface coat made of one part sand and one part cement and the surface is so faced as to exclude all moisture from the opening of the cavity.

It should be noted in conclusion that Providence has provided us with the best tree doctor in the form of that familiar and unappreciated bird, the woodpecker. The woodpecker is easily the most useful of all the seven hundred varieties of birds to be found in the United States and it is largely because of his constant search for and warfare against the four hundred different varieties of insects that prey upon our trees. The woodpecker is not merely a tree doctor, but is actually a tree surgeon because his most energetic quest is for those insects that injure the tree internally and to which access can be gained only by means of the unique equipment with which nature has provided the woodpecker and from the employment of which he derives his name. As a rule the woodpecker makes only shallow holes so that his work may properly be dignified as tree surgery that leaves no scars, which is not the least of its advantages.

also tends to carry away more waste material. Pimples and black-heads show that the waste material is not being carried away properly but is being left to clog the pores. Sometimes this accumulation of waste material is due to lack of cleanliness. The waste material is left on the skin and clogs the pores so they cannot perform their work. Sometimes the fault is due to poor circulation or to diseases of the excretory organs. If one organ is incapable of performing its work, the other organs must of necessity do more than their share in trying to aid it. If the kidneys and bowels are not carrying off their share of the waste material of the body, the skin is burdened with an extra amount to be disposed of. Sometimes it is unable to

do this and the waste material is left to accumulate in the skin. Sometimes (and if we may judge by some we meet on the street, we might say oftentimes) the skin is so coated with impurities in the shape of powder, enamel and other preparations that it finds it impossible to work at all. If we would exercise the skin a little more and coat it a little less, we would have smaller need for the coating. (Copyright, 1910, by W. G. Chapman.)

The Resort Prospectus.
"Going to run daily excursions this year?"
"Oh, yes."
"I notice you don't advertise a gorge any more."
"No; I made it a ravine instead. Some people thought a gorge meant a lot to eat."

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DANIEL AND HIS COMPANIONS

Sunday School Lesson for Sept. 10, 1911
Specially Arranged for This Paper

LESSON TEXT.—Daniel 1:8-20.
MEMORY VERSES.—8, 9.
GOLDEN TEXT.—"It is good neither to eat flesh, nor drink wine, nor anything whereby thy brother stumbleth."—Rom. 14:21.

TIME.—B. C. 605-4. The third year of King Jehoiakim (Lesson VII). The accession year of Nebuchadnezzar, when Daniel was carried captive to Babylon. The next year is called his first year.

PERIOD.—Three years, B. C. 605-4-603-2, on Nebuchadnezzar's return to Babylon after defeating the armies of Egypt.

PLACE.—Babylon on the Euphrates. Before his captivity Daniel lived in Jerusalem.

PLACE IN THE HISTORY.—2 Kings 24:1-6; 2 Chron. 36:5-8. Jeremiah and Habakkuk were prophesying at Jerusalem when Daniel was carried away, and Ezekiel was his contemporary in Babylonia, but not in the city of Babylon. He was on the river Chebar, southeast of the city.

At the time of this lesson the two great world powers were in deadly conflict. The Egyptian army under Necho had marched toward Babylon as far as Carchemish on the Euphrates. On the other hand Nabopolassar with the assistance of the Scythians had conquered the Assyrians, and destroyed Nineveh, the capital, B. C. 606. The Babylonians marched up the Euphrates and met the Egyptian army at Carchemish, and defeated them. Nabopolassar, king of Babylon, sent his son Nebuchadnezzar on to Jerusalem, who besieged that city. Jeremiah speaks of the siege as in 604, Jehoiakim's fourth year, probably in the early part, so that a difference in the period covered by the Babylonian and the Jewish years would account for the variation. The last part of 605 is treated as Nebuchadnezzar's accession year, and 604 his first year as king.

At this time Nabopolassar died and Nebuchadnezzar hastened back to Babylon, taking with him a number of captives including Daniel and his three companions, from royal or princely families, either as hostages or persons whom he could train for his official service.

The names of the four young princes were all compounded with the name of God. Daniel—God is my judge; Hananiah—Jehovah is gracious; Mishael—This is as God; Azariah—Jehovah is a helper. Their new names were compounded with those of royalty or of idols. Daniel was named Belteshazzar, favored of Bel or Belis, the great Babylonian god and goddess. The custom of changing names continues up to this day; any change from Mohammedan to Christian, or the reverse, being accompanied by a change of name. These four were selected from among the captives on account of their noble descent, talent and promise of ability, to be trained in the language and literature of the Chaldeans, to be trusted officers.

When these young men were selected for their future career, several things were appointed for their training, like the training of young men now in professional schools, after college graduation. Their names were changed, as noted above, so that, at least officially, they would be in harmony with the administration, and not known distinctively as Jews. They were to be trained in court customs and ways, doubtless with other young men of heathen morals and religion. They were given luxurious foods such as the king ate, and costly wines such as the king drank.

Now here was a strenuous test of the faith, the courage and the self-control of the young men. The eating of the king's food would be a breaking of the Jewish law as to food, and thus be a repudiating of the religion of the true God. The dietary would almost certainly comprise articles of food, such as the flesh of swine, hares, etc., which the law interdicted to the Israelites.

The young men were greatly favored by having a friend at court. God had brought Daniel into favor and tender love; had made him to find kindness and compassion. God had made Daniel lovable, giving him attractiveness of person and wisdom of mind; moreover, the Holy Spirit had doubtless moved directly upon the heart of Ashpenaz, turning him toward Daniel. All true love and friendship are inspired by God.

Said Daniel to Melzar: "Give us pulse to eat." Rather, vegetable food in general; there is no reason for restricting the Hebrew word used to leguminous fruits, such as beans and peas, which is what the term "pulse" properly denotes. "And date to drink instead of the wine." They began the simple life.

The result of the test was better physical condition, countenances fairer, fatter in flesh. The simple life brought better bodily health, more beauty, greater strength and activity, all that was needed for the best work and the highest joy, of which the body is capable.

Every trainer in athletics in all our colleges throughout the land will confirm this fact, and acts upon it.

Therefore stood they before the king, were the personal advisers, and among the leading officers of the kingdom. All officers and servants stood when in the presence of the monarch. He found them ten times better than all the magicians and astrologers. The magicians were the learned class, the scribes, the priestly class. "The astrologers," reasoners from the stars, were the scientific men; versed in magic, and occult science.

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RENEWED INTEREST IN LIFE

Something Really Happened at Reception, and Old Attendant is Encouraged.

The guests at Mrs. Arthur Mize's tea yesterday afternoon detected an odor of something burning. They looked at each other knowingly and said: "Poor Mrs. Mize, something is burning up in the kitchen." But the odor grew stronger, and at last one woman said: "It smells as though feathers are burning." Then suddenly one woman screamed: "Mrs. Chaliss, look at your hat!" Sure enough, Mrs. Jim Chaliss had, perchance, standing near a lighted candle, and the egret on her hat was on fire.

The guests had a great time putting out the fire. The egret was what the insurance men call a total loss. An Atchison woman who has gone to thousands of receptions says the burning of the egret yesterday is the first time she ever knew anything to really happen at a reception. She has given up going because nothing ever happened, but now will start in over again.—Atchison Globe.

To Cheer Her Up.
An old Scotswoman, who had put herself to considerable inconvenience, and gone a long way to see a sick friend, learned on arriving that the alarming symptoms had subsided. "An' hoo are ye the day, Mrs. Crawford?" she inquired in breathless anxiety.

"Oh, I'm quite weel noo, thank ye, Mrs. McGregor," was the cheerful answer.

"Quite weel!" exclaimed the visitor, "an' after me haein' come sue far to see ye!"

The Brute.
"Men are such rude things," said the supercilious girl.

"Has any of them dared to address you without an introduction?"

"No; but in a crowd one got his face all mixed up with my hatpin and never even said 'excuse me.'"

Important to Mothers.
Examine carefully every bottle of CASTORIA, a safe and sure remedy for infants and children, and see that it bears the Signature of *W. D. Hoagland* In Use For Over 30 Years. Children Cry for Fletcher's Castoria

A Resulting Ambition.
"The English are a queer people, aren't they?"

"In what way?"

"I suppose it is a London man's day dream to become his knight mayor."

Stop the Pain.
The hurt of a burn or a cut stops when Cole's Carbolicaine is applied. It heals quickly and prevents scars. See and feel by druggists. For free sample write to J. W. Cole & Co., Black River Falls, Wis.

Suitable.
"Those dress uniforms have a lot of frogs."

"Then they ought to look well at a militia hop."

His Inspiration.
Wagner told where he got his inspiration.

"It was from the garbage cans being emptied at night," he confessed.

The next time you feel that swallowing sensation gargle Hamlin's Wizard Oil immediately with three parts water. It will save you days and perhaps weeks of misery from sore throat.

The only way in which a man can have the last word with a woman is to say it over the phone, and then hang up.

BEAUTIFUL POST CARDS FREE
Send 2 stamps for five samples of my very choice Gold Embossed Birthday, Flower and Motif Post Cards; beautiful colors and loveliest designs. Art Post Card Club, 701 Jackson St., Topeka, Kansas

If a man tells a woman she has a musical laugh she will fall for any old joke he may get off.

Mrs. Winslow's Soothing Syrup for Children teething, softens the gums, reduces inflammation, allays pain, cures wind colic, &c. a bottle.

Many a man doesn't realize that he married an angel until she begins to do the harp act.

THE KEYSTONE TO HEALTH IS HOSTETTER'S STOMACH BITTERS

TO STRENGTHEN INVIGORATE TONE AND REBUILD THE ENTIRE SYSTEM
You need the Bitters at once. Try it. It never disappoints.

PARKER'S HAIR BALM
Cleanses and beautifies the hair. Promotes and preserves growth. Never falls to the roots. Gray hair to its youthful color. Cures scalp diseases. Hair falling out, and all its troubles.

THE ASHLAND NEBRASKA FLOUR MILL FOR SALE
Write N. Z. SNELL, Lincoln, Nebraska

THE SKIN AND COMPLEXION

"Oh, had some power the gift give us To see ourselves as others see us."
—Burns.

How surprised some of us would be if we did possess this gift, and how quickly we would hasten to make some changes!

Every person's skin is a law unto itself, and what is beneficial to one may not be so to another. You never saw two persons who looked exactly alike, nor two persons who did things in exactly the same manner. So it is with the skin, no person has a skin that is exactly like another's. How foolish it is, then, to expect the same treatment to agree with all skins! Certainly an oily skin requires different treatment from one that is inclined to be dry. Exactly what agrees

with a given person's skin only can be discovered by experiment. So if you find your complexion improving under a given treatment, do not change your methods because some one else recommends a different treatment.

There are a few directions that will seldom disagree with any skin. Usually it will be found beneficial to bathe the face at night with hot water to remove all dirt; then massage with good cold cream. In the morning all that is necessary is a quick rub with cold water. Do not be afraid to rub the face a little. The skin needs exercise as well as any other part of the body. How often it is neglected! Pinching or rubbing the skin tends to draw a greater supply of blood to the parts massaged. This increased circulation brings extra nourishment with it and

also tends to carry away more waste material. Pimples and black-heads show that the waste material is not being carried away properly but is being left to clog the pores. Sometimes this accumulation of waste material is due to lack of cleanliness. The waste material is left on the skin and clogs the pores so they cannot perform their work. Sometimes the fault is due to poor circulation or to diseases of the excretory organs. If one organ is incapable of performing its work, the other organs must of necessity do more than their share in trying to aid it. If the kidneys and bowels are not carrying off their share of the waste material of the body, the skin is burdened with an extra amount to be disposed of. Sometimes it is unable to

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