



AGRICULTURAL.

The Right Way to Kill Trees.

The most of the nourishment of our trees is derived from the soil by means of the system of roots. There are plants which can exist solely in the air, deriving all their nourishment from the air by means of their leaves. In tropical regions this class of plants is very numerous, very many of the orchis family being of this habit. These plants have no roots proper, but what are regarded as roots are merely means of attachment to the bark of trees and stones and other objects. Still another class of plants are true parasites; these have what answer to roots, which penetrate within the bark of other plants and draw their nourishment from the juices elaborated by the organs of those other plants. But these are divided into two classes: Those that have green foliage, by means of which the stolen sap is further elaborated and undergoes certain changes, and those whose foliage is not green and perhaps live wholly off the sap sucked from the nurse-plants. But in the case of by far the greater part of plants and nearly all of those familiar to us, the roots are necessary to the life of the plant. Destroy these and the plant dies, root and branch. This is the principle on which we proceed when we root up noxious weeds. But in the case of trees this process of uprooting is impracticable. Can the roots of a tree be killed without being uprooted?

Let us examine the process of the growth of plants and the nourishment of the roots. It is a fact that the roots of trees require constant nourishment—they grow as tree grows. The nourishment and growth of the roots come from the same organs as the growth and nourishment of the stem, viz.: from the leaves. If, then, you prevent the nourishment of the roots you kill them. It can be demonstrated that the material of the growth of trees come from the leaves, descending, usually, between the bark and the wood. During the season of greatest growth this descending sap becoming organized into vegetable tissue, forms that mucilaginous coat by means of which the bark is readily separated from the wood. A portion of this new tissue forms a new layer or growth of wood, of which one is formed each growing season or year. Another portion goes to form a new layer of bark to keep the proper thickness of that substance.

If a wire be made tight around a limb or the trunk of a tree, as the tree increases in size it will be observed that it will bulge out more below than above the wires. If any twig, which has leaves upon it, is cut off in the growing season, just below a leaf, if no sprout is allowed to grow, it will perish down to the next leaf. If a cut be made through the bark into the wood, if it heals up, it will be noticed that the new wood will form above and not below the cut. The circulation upward is in the pores of the wood; this is the crude sap going up towards the leaves: this crude material is elaborated in the leaves and green parts of plants; and then, in a condition to form vegetable tissue, descends, in the case of trees having bark, between the bark and the wood.

To kill the roots of trees, this nourishment must not be allowed to reach them. If the bark and a portion of the wood be cut through entirely around the trunk, it will generally kill the trunk of the tree, but may not kill the roots, because those, having a store of nourishment laid up, may throw up shoots, and by these unfolding leaves the life of the root is maintained. But if it can be so managed that the rising sap shall not be interfered with during one entire season, and the descending sap prevented reaching the roots to nourish them, the tree was continued to grow a season, making its usual demands upon the roots, thereby exhausting them, without their having means of being nourished, and the result will generally be that the whole tree will perish, root and branch, the following year.

Care must be taken to allow no suckers to grow from the roots; if any make their appearance, they must be destroyed early or the plan will be defeated. The right time to girdle trees to accomplish the desired object of killing them to the roots is in the spring of the year, just before the growth commences, or soon after. The girdling must be complete so far as the bark is concerned. Indeed it is better to

scrape the soft, white filaments of bark off with a knife, so as to be sure that no means remain for the sap to descend, as will be the case if care be not taken. For it not unusually happens that the bark is not all removed when trees are girdled. It is easy for the thin, mucilaginous coat to escape a carelessness of removal. The course, rough bark has no relation to the circulation of the sap of the tree. It is the soft coat next the wood. And it is often the case when a valuable young fruit tree has been barked by a horse, or maliciously by a person, that there remains all that the life of the tree requires in the filamentous, mucilaginous coat, if it is only prevented from drying up from exposure to sun and wind. This may generally be done by wrapping the part with a cloth saturated with grafting wax, if it is attended to in time. A coating of fresh cow-dung applied and wrapped with heavy cloth will do quite well in most cases.

In the case of girdling trees for the object referred to, to kill the roots as well as stem, not only must care be taken to remove all of the bark, but at the same time too broad a band of bark must not be removed or the wood will season and the ascending sap will be stopped, thus killing the tree above but not the roots. No rule can be given which will meet all cases. In the case of some trees to remove the bark for the space of an inch would be sufficient, but for some trees it would not be sufficient, because the descending sap will, in some instances, be diverted to the wood, and will descend through it. This is the case with the dogwood, persimmon, and others. It will, therefore, always be safe to cut the wood to some extent carefully all around. In the case of the silver poplar, often a troublesome tree on account of suckering, it will be necessary to cut the wood to the depth of half an inch or more. In all cases the band bared of bark must not be sufficient to allow the wood to season. The willow, on account of its soft, porous wood, will not readily season, and if the wood is not cut, the bark should be peeled off for a considerable distance.—Cor. Indiana Farmer.

Preserving Wheat in the Shock. The great loss of wheat from germination during the unprecedented wet weather of the past month brings the subject of its preservation after it is cut into prominent notice; and although a discussion of the subject now may not help to save the present crop, it may do some good in the future. The only object in shocking wheat is to preserve it from getting wet during the dry process which it must undergo previous to being hauled into the barn or put in stack. But the manner in which much of the wheat is shocked would lead us to conclude that the only object was to get into bunches more convenient for loading. If there was no danger of rain, this would be the object principally, and the loose, spreading, uncouth bunches we so often see would answer the purposes. Wheat properly shocked will stand a great deal of rain, for a long time, too, without much injury. This has been demonstrated the present harvest. An intelligent farmer from the southern part of the State, where they have suffered most severely from wet weather, told us that well-shocked grain he had examined was not growing—except the caps—while the adjoining field was ruined, perhaps, by careless shocking.

What is usually bound in sheaves too large to shock well, and a good shock cannot be made with loosely bound sheaves. If the sheaves are made small, and tight bound, they shock better and keep out the water better, and if they get wet they will dry out more readily than large sheaves. Every farmer almost knows how to shock wheat well enough, perhaps, but they do not always do it well, very often this most particular part of the work is intrusted to boys or help, whose only object is to get it done the easiest way.

Early-cut wheat will stand more exposure to wet weather than that cut later, for germination cannot commence until the grain is mature, and wet weather delays the process of maturation, so that in many instances early-cut wheat, well shocked, has passed through an extended wet spell before it matured and came out wholly uninjured.

Germination requires a certain amount of both heat and moisture at the same time, and the efforts of the farmer should be directed toward preventing a union of these conditions. When damp, foggy, hot weather occurs, wheat will sprout in the shock sometimes when it would not if opened out. At such times the air is saturated with moisture, and it seems to penetrate everywhere. Mildew will gather on clothing, books, etc., in ill-ventilated rooms. When such weather prevails, the shocking of wheat fails to

protect it from the moisture, while it is favorable to the product of heat, and the two conditions necessary to germinating the grain are present in the shock.

A very small portion of sprouted wheat spoils the "grist," as the starch, the most important material for bread-making purposes, is converted into sugar. Hence, the caps and sprouted portions should be separated as well as possible from the part not sprouted. In many cases the caps-heaves will be all that contain germinated grains, and these should be thrown off and gathered in by themselves. Sprouted wheat makes good food for stock, and where the quantity is not too great, it can be threshed with oats or rye which the farmer intends to feed to his own animals.—Ohio Farmer.

The Corn Crop. That the United States are to have this year an abundant crop of corn, all reports agree. An increased average of eight per cent. has been planted, and the crop (although backward in the spring) is now getting on finely, and promises a good yield. The cautious Agricultural Department reports for July indicates almost an average yield of corn, and since the date on which that report is based were collected, the conditions in nearly all parts of the country have been extremely favorable for increasing the yield. With cheap and abundant food, the facilities for fattening beef and pork will be increased, thus giving cheap provisions. We may, therefore, anticipate an abundant stock for the coming season, and in addition to breadstuffs, can consequently spare large quantities of pork, beef, lard, butter, cheese, and other similar articles for our customers in Europe, and thus equalize the changes, which will go further towards improving the finances than all the pet notions of the fancy farmers.—Nashville Courier.

Submerged Corn. A reaper named Smith, who had a hundred acres submerged in Upper Bayou, yesterday took a skiff and went out to where the water had been standing for more than a week, four or five feet deep. Mr. Smith pulled off two ears of corn—average ears, just maturing—and brought them to the city, and placed them on exhibition, and to the astonishment of the examiners of the corn, it was discovered to be perfectly sound. The probabilities are that one half of the crop will be saved where the water has not covered or reached the ear. There are probably thousands of acres along the river bottoms similarly situated, and this fact, in the midst of general discouragement, is certainly a hopeful sign.—Evansville Courier.

HOUSEHOLD HINTS.

Valuable Recipes. APPLE TEA.—Pour boiling water over roasted sour apples, and let them stand until the water is cold; this is a very palatable drink for invalids. CREAM SPONGE.—Break one egg in a teacup, fill up the cup with sweet or sour cream; one cupful of sugar, one and one-half cupfuls of flour, one spoonful cream tartar, and one-half spoonful of soda. RICH ICE CREAM.—Take twelve lemons; squeeze well, and strain their juice upon as much fine sugar as will absorb the juice, then into this pour, very slowly, yet stirring very fast all the time, three quarts cream.

APPLE CUSTARD PIE.—Beat tart well-flavored apples and stew until soft, then run through a colander; add to each pie one-third of a cup of butter, one-half cup of sugar and three well-beaten eggs. Flavor with nutmeg and bake as a custard pie. HICKORY-NUT CAKE.—Take one-half cup of butter, one and one-half cupfuls of sugar, two cupfuls of flour, three-fourths cupful of sweet milk, one cupful of hickory-nut meats, two eggs, or the whites of four, one teaspoonful cream tartar, and one and one-half teaspoonfuls of soda. RICE MUFFINS.—Take one-half cup of rice, boiled soft; add to this three spoonfuls of sugar, a bit of butter the size of an egg, one pint of sweet milk, one-half cup of yeast, two quarts of flour and a pinch of salt; let it rise over night, if necessary; add in the morning a little soda.

SALT RISING FOR BREAD.—Take three tablespoonfuls of shorts or flour one pinch (between thumb and forefinger) each sugar, salt, soda and ginger; mix with hot water to a thick batter, set over night and keep warm. This is called pinch yeast. Take of these two teaspoonfuls to one quart of batter mixed in the usual way, and set to rise; when risen, mix your dough and work it well. TO PRESERVE CITRUS.—Pare and cut in small slices, not exceeding a quarter of an inch in thickness; remove all the seeds, weigh, and when put them in alum water for two or three

hours; then pour the alum water off, and boil in alum water for two or three hours; then pour the alum water off, and boil in clear water until you can pierce them with a straw. Then make a syrup, allowing three-fourths of a pound of sugar to a pound of citron; place your citron in this syrup, and cook same as you do any other preserves. Just before taking from the stove, slice two or three lemons (according to the quantity of preserves you have); let them cook a minute longer, and they are ready for use or to put away. If cooked to strong, the preserves will become candied after awhile.

(Continued from first page.) "To the traitors! that means us!" said the prisoner, raising his eyes to heaven and shrugging his shoulders.

"Yes, it means us," repeated John. "Where is Craeke?" "At the door of your cell, I suppose." "Let him enter then." John opened the door; the faithful servant was waiting on the threshold. "Come in, Craeke, and mind well what my brother will tell you." "No, John; it will not suffice to send a verbal message; unfortunately I shall be obliged to write." "And why that?" "Because Van Baerle will neither give up the parcel, nor burn it, without a special command to do so."

"But will you be able to write, poor old fellow?" John asked, with a look on the scorched and bruised hands of the unfortunate sufferer. "If I had pen and ink you would soon see," said Cornelius. "Here is a pencil, at any rate." "Have you any paper?" for they have left me nothing." "Here, take this Bible, and tear out the fly leaf."

"Very well, that will do." "But your writing will be illegible." "Just leave me alone for that," said Cornelius. "The executioners have indeed pinched me badly enough, but my hand will not tremble once in tracing the few lines which are requisite." And, really, Cornelius took the pencil and began to write, when through the white linen bandages drops of blood oozed out, which the pressure of the finger against the pencil squeezed from the raw flesh.

A cold sweat stood on the brow of the Grand Pensionary. Cornelius wrote— "My Dear Godson, "Barn the parcel which I have entrusted to you. Burn it without looking at it, and without opening it, so that its contents may forever remain unknown to yourself. Secrets of this description are death to those with whom they are deposited. Burn it and you will have saved John and Cornelius De Witte. Farewell, and love me. "CORNELIUS DE WITTE "August 20th, 1672." John, with tears in his eyes, wiped off a drop of the noble blood which had soiled the leaf, and, after having handed the dispatch to Craeke with a last direction, returned to Cornelius, who seemed overcome by intense pain, and near fainting.

"Now," said he, "when honest Craeke sounds his old coxswain's whistle, it will be a signal of his being clear of the crowd and of his having reached the other side of the pond. And then it will be our turn to depart." Five minutes had not elapsed, before a long and shrill whistle was heard through the din and noise of the square of the Butenhot. John gratefully raised his eyes to heaven. "And now," said he, "let us off, Cornelius."

(Continued next week.) NEW ADVERTISEMENTS. RUFER'S HOTEL AND Restaurant. (EUROPEAN PLAN.) OPEN DAY AND NIGHT. ROOMS AT ONE DOLLAR A DAY. Fifth St. bet. Main and Market, LOUISVILLE, KY. PHIL. T. GERMAN, AMERICAN WEDDING, Proprietors. MENDEL & KAHN, CROMWELL, KY. Wholesale and retail dealers in Staple & Fancy Dry Goods, GROCERIES, CLOTHING, Boots & Shoes, And everything usually kept in well-regulated mercantile establishments. They buy their goods for CASH and get them at BOTTOM PRICES, hence they are enabled, by doing an EXCLUSIVELY CASH business, to undersell any house in Ohio on any day.

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