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Pruning Apples For Profit.

considerable number of fruit growers, knowing that sunlight should be admitted to the centre of the tree to keep up production, to get highly-colored fruit in the interior parts, believe it necessary to develop a tree with an open centre from the point of heading. Immediately after the tree is planted they remove the central or main branch, and save some three to five branches radiating outward and upward from the point of heading. These three to five branches later become the main scaffold branches of the tree. This system of development does permit the entrance of sunlight and it results in a low-spreading tree, making possible economical pruning, spraying, thinning, picking, etc., but the trees are structurally weak and it is not uncommon to see main branches of bearing trees which have been trained in such a manner split out at the crotch. Furthermore, such trees are frequently more limited in bearing capacity than those trained somewhat differently.

The serious faults of the above system of training young trees may be avoided and at the same time the advantages may be retained if the so-called leader system of development is adopted. This system consists essentially of a central leader, extending upward to a height of six to seven feet from the ground and with six to nine main or scaffold branches distributed around and along the central branch from the point of heading to the top of the central leader. The leader is discontinued after the desired number of scaffold branches are obtained and the trees developed from that point essentially the same as an open centre one. Since it is not possible to get the desired number nor proper distribution of scaffold branches in one season, it is customary to select two or three of the scaffolds each year until the desired number is obtained. Two to four seasons are thus required to build the framework of such trees.

The scaffold branches of modified leader trees form strong crotches with the central leader or axis which seldom split. Pockets are seldom formed

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tion at an age of thirty years is more important than getting fruit on young trees two or three years earlier.

It would appear that moderate pruning of young apple trees is the safest practice to follow. It should result in the formation of a rather strong framework with scaffold branches well placed and should bring the trees into fruit production not more than one or two years later than no pruning. Surely the sacrifice of one or two years is not as important to the average fruit grower as is the building of a reasonably strong tree. Such a pruning should consist of rather heavy cutting back and thinning out at planting time; a removal of the longer growths originating from the central leader other than those intended for main scaffold branches and perhaps a tight heading back to balance the tree after the first season's growth; a similar thinning out but less heading back after the second season's growth; a light pruning after the third season's growth; and very light thinning out of the previous season's growth thereafter until the tree has borne two or three crops. The thinning should, for the most part, be confined to the outer parts of the tree so as to admit sunlight and keep all parts of the tree functioning properly. Very few of the smaller growths in the interior of the tree should be removed.

In case one is growing some filler trees in between the permanent ones, I would recommend no pruning after the second growing season because these trees will probably not be retained for more than twenty years and we want to bring them into bearing just as early as possible and, furthermore, we are not interested in the formation of a particularly strong framework.

Bearing orchards are frequently seen in which trees have been stripped of all fruiting wood except near the ends of the branches. In other words, all the fruit is borne out on the ends of the branches instead of being distributed throughout the tree. In many trees there is no fruiting wood within a radius of twelve to fourteen feet from the head of the tree. It is understood that a branch can support more apples if they are distributed over its entire length, than if they are all clustered about the ends, probably six to twelve feet from the main trunk. A scaffold branch should have several good lateral branches well spaced along its entire length, each lateral supporting its share of fruiting wood. Such a tree can support a given load to better advantage and carry a much larger crop of fruit. When pruning the young trees always leave fruiting wood if it is located where it will have a chance to develop. The tree will fruit earlier and heavier.

Fruiting wood may be developed in the course of three or four years in a tree in which the scaffold limbs are bare by the use of well situated water sprays by cutting them back from four to twelve inches in length to encourage the development of side branches. These in turn should be headed back the following year. After this, the heading back should be lessened to encourage the formation of fruit spurs. To make well situated water sprays, the outside of the trunk should be thinned about the outside to admit light sufficient to allow the development of fruit spurs and to color the fruit.

Pruning may be done any time during the dormant season. Possibly very slight preference should be given to late winter or early spring, so far as the trees are concerned, but if left until such a season the chances are very good that the work will not be completed because of rush of other farm practices. Consequently any favorable weather following the dropping of the foliage should be used for pruning.

Crude Oil to Kill Rats.

There is a remedy for the rat nuisance—one that is cheap and effective. If crude oil (petroleum) is placed in the runs, the rats will leave the vicinity. If they are caught in the runs, so that they have to breathe the fumes for an hour or more they will be poisoned. Meat that contains petroleum can be used as bait to catch this offensive rodent. Experiments proved that rats which ate meat treated with crude oil died in fifteen minutes.

Ships from time immemorial, have been infested with rats, and to these carriers of merchandise the rats owe their dissemination. The rats were formerly particularly destructive to cargoes of silk cocoons; but so effective is the crude oil remedy that one ship which had been carrying sugar, and as a consequence, whose bilge water was sweet and particularly attractive to rats, has been entirely rid of them. The remedy was applied after one cargo had been practically destroyed. The crude oil was added to the bilge water.

The gases produced by the evaporation of the crude oil are very inflammable when present in large quantities, but the amount necessary to use about barn or outbuildings would not endanger the property.—M. A. C.

It is said that Philip, one day having consulted the oracle at Delphi, received the answer, "Make coin thy weapons and thou'lt conquer all." He boasted that he had carried more places by money than arms; that he never forced a gate till after having tried it with a golden key; and that he did not think any fortress impregnable into which a mule laden with silver could find entrance.

Does an uncomfortable feeling assail you sometimes when the thought of flaming buildings flits across your mind? Do you often sense a feeling of relief when, driving home, you see in the distance your house and barn still standing where you left them, cool and whole?

I suspect we all have this uneasy experience at times. It lends to every farmer a keen, personal interest in the cause and prevention of destructive farm fires. The most common causes of fires are lightning, defective flues, defective lamps and lanterns, bonfires, steam threshing engines, spontaneous combustion, carelessness with gasoline, matches, fireworks, and cleaning compounds, kindling fires with kerosene, open gas flames, defective electrical wiring, and overheated stoves and furnaces.

When you have read this list, the natural remedy for each cause will probably suggest itself to you. Were it not for the tremendous loss of life and the staggering loss in property each year, I would stop here and say nothing. The property loss in Canada in 1921 was something like \$3 per person, or about \$25,000,000. Compare this with your personal property tax and then ask yourself how you like to pay it, for you pay it in insurance premiums.

Of the fires that originate on the exterior of the building, fully 80 per cent. are preventable by lightning rods and fire-safe roof coverings. Simple, is it not? Compare the causes with the remedy and draw your own conclusions. If the entire exterior of the building is fire-proof in addition to lightning rods, practically all danger from outside sources will be stopped.

Inside fires are not so easily coped with on account of the careless manner in which a large majority of our frame houses are constructed. If all chimneys were built upon solid foundations, and were lined throughout with fire-clay liners, and a separate flue were provided for each opening—that is, one each for furnace, kitchen range, fireplace, auxiliary heater, etc.—there would be very few fires from this cause. Safe chimneys would prevent about 10 per cent. of farm fires. Along with safe chimneys go safe stoves and furnaces. Overheating almost always occurs in bitter cold weather, and generally because of an undersized heater. In buying a furnace, always insist on one large enough to do the work. Furnace men, in competition, may try to sell an undersized furnace in order to best their competitor's price. Do not be misled. Your comfort and safety are much more valuable than a few dollars.

How many times in a year do you pick up a newspaper and read the gruesome story, "Kindled Fire With Kerosene; Mother and Child Burned to Death; Residence Burned?" The only solution to this is simply don't do it. Be careful when using gasoline and cleaning compounds, benz-

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How to Avoid Fires

zine, or other highly inflammable and explosive fluids. Do not use them near (not in the same room) an open flame, lamp, stove, fireplace, or other source of ignition.

Open-flame lamps of whatever description should never be on swinging brackets that allow them to come in contact with your wall surfaces, curtains, window shades, garments, or other flammable material. Store matches in safe containers, out of the reach of small children.

Always have electrical wiring done by competent persons. Be sure that all circuits are properly fused, and that there is a large cut-out switch.

A small hand fire-extinguisher in the kitchen, hall, upstairs hall, basement, garage, and one or two in convenient places in the barn may be worth their weight in gold some day. The chemical should be renewed at intervals, as directed by the makers.

Never go away and leave small children alone in a house with all doors locked. This practice has resulted in the loss of many a young life. Do not store automobiles, motor trucks, tractors, or gasoline engines on a barn floor. These should always be stored in a building somewhat away from other buildings. Fire-proof garages are not a necessity, but are extremely desirable. Gasoline kept on hand in large quantities should always be placed in underground storage tanks or in a small building far enough away from all other buildings to avoid fire.

Why His Buildings Last.

John Hollet, a farmer well known to the writer, has an inexpensive method of keeping his farm buildings, some of which are forty years old, in good repair. There is not a swayed ridgepole nor a sunken corner in the bunch.

"My method of building protection, begun many years ago, has been a fixed habit ever since," Hollet explained recently. "Each year I take a few days to go over every building. Equipped with nails, a level, rule, and a flashlight, I commence at the foundation. I test with the rule and level for low corners and sagged floors. Then I measure to see that corner beams and studs are in good condition. I make my way carefully over the inside framework, ending my inspection in the attic and along the rafters. The chimney I examine closely, for a great deal of my work is found there.

"When any defect in the frame is noted, I repair it at once. Often a new brace is the remedy. Loose timbers are tightened with nails. In major troubles a lifting jack is used. Trap doors through the ceiling and in the chimney casings make it easy to get about. There are pulley hooks in the attic for raising heavy pieces.

"The barn and outbuildings are gone over easier, because the frame is entirely uncovered. A close inspection usually shows something in need

of repairs. Windstorms spring and loosen the braces, and after a damp season the floors require nailing. The foundation also needs watching. Making my repairs promptly, I can do without a carpenter, and the expense is slight.

"I estimate that my annual tour of inspection has saved me at least \$400 in repair bills since coming to the farm. I am careful to keep the surface of my buildings well painted, but I have learned by experience that paint is a poor camouflage if the framework is neglected.—E. E. Couzens.

Waterproofing Leather.

Take the heel of an old rubber boot and chop it up fine. Put two or three tablespoonsful of common lard into a dish, allow it to melt and come to a boil over a hot fire. While boiling, add the chopped rubber to the lard, and allow to boil until the lard has absorbed all the rubber it will. Take from the fire and let cool just enough so it will not burn the leather. Then give the shoes or other leather article a thorough coating of the rubberized lard and set aside for a few moments. The preparation will quickly be absorbed into the leather, after which give a second application, heating the preparation again if it has cooled. Shoes treated thus will be almost entirely waterproof for a month or six weeks. It is also a good plan to add a little neat's-foot oil to the hot lard, though this is not necessary. I have tested this method.—E. C. W.

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School Children Form Music Club

Some little time ago the writer listened to a very practical address by a teacher of music in the schools. In preparing her talk she said to her pupils, "Do you like your music hour? If so, give your reasons. If not, why not? I assured them," she said, "that I wished them to tell me truthfully and that I was quite as anxious for the negative as for the affirmative reasons."

Four "no's" were:—
"I do not like music because we have to learn many songs by note, which is very hard for me."

"The reason why I do not like music so very well is because we don't sing enough songs like 'Old Black Joe' and others."

"Because I cannot read notes and do not like to sing."

"Because I cannot read notes very well."

Some of the "yes" replies were:—
"The reason I like music is because I like the kind of songs we sing. Another thing, we don't have to read the notes always as we did in the lower grades."

"Because we have learned to sing so many new, beautiful songs."

"I like music because the hour is a period of relaxation."

"I didn't care for music last year but I do now, because our teacher takes such an interest in us and explains the songs so well I have a new idea of music."

"Because it gives me an hour to forget everything else. It's one enjoyment everyone can afford."

"It helps me to enjoy concerts and good music of all kinds, and it also is a pleasant pastime."

"Let me be misunderstood," continued this speaker, "let me state before going farther that the pupils in my classes do intensive work in notation a portion of each period. My contention is for a division of the time between the study of songs by notation and other forms of musical activity."

"Music appreciation and the study of orchestral instruments can be introduced. I have also found the organization of music clubs an excellent plan. Each class so organized has a president, vice-president, and secretary-treasurer, two others acting with those constituting a program committee. The club meets once in two weeks, during the class hour, and after a brief business session, a twenty or twenty-five minute program is given by members of the class.

These variations in the type of recitation not only serve to maintain interest, but also to develop an eagerness to do intensive study when required.

"Not all the children mentioned the use of notation as the reason for liking or disliking the music hour, but that subject was noted in enough cases to give proof that from the pupils' standpoint the theory advanced is true. And I contend that the music lessons must be made attractive from their standpoint if we expect to maintain their interest. Psychologists and many of our leading educators agree with me in expressing the belief that if we are able to retain interest through the adolescent period, we can, in a large majority of cases, be assured of an interest in music for the balance of their lives."

The Dairy.

Dairymen practice different methods in handling the dairy herd during the winter months. Some confine their cows to the stable continuously, while others follow the practice of turning their cows out daily for exercise. I have practiced both methods, but I am convinced that turning the cows out once or twice daily for a short time gives the best results.

Up till four years ago I practiced keeping my cows stalled a greater portion of the time during the winter months. I had thought that it increased production cost to expose the herd to cold weather, especially if stalled in a warm basement barn. However, after following the practice of close stabling for a number of years I am convinced that there are certain evils which follow the practice.

Consistent vitality and milk production suffer from close confinement for any length of time. I have found this to be true in handling my dairy herd. While my stable is spacious, well-lighted, ventilated and kept in a sanitary condition, my dairy cows showed the effects of this treatment at the milk pail.

I practice turning my cows out for a short time twice daily, morning and night. If the weather is severe I do not allow them to be out fully long enough to get what water they want to drink, and while the stables are being cleaned. If the weather is mild I allow them to stay out from thirty minutes to one hour.

I do not consider it an advisable practice to overdo this matter of outdoor exercise. The cows should not be turned out in the morning and exposed to the cold chilling winds for several hours. About sixty per cent. of the food consumed by a dairy cow is used in her maintenance. It is too expensive to attempt to warm the barnyard through the dairy cows. To produce maximum returns for food consumed she must be well cared for.

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