RURAL AND SUBURBAN

SHOULD WE TILL, PASTURE OR MULCH THE ORCHARDS?

When the trees are planted, and every year thereafter, the home orchardist must decide between tillage, substitutes for tillage, and sod. Which shall it be? A satisfactory solution of the problem means food and drink to the trees. The tillage problem is the most important one that the home fruit grower is called upon to solve. Neglect of tillage and injudicious tillage ruin more fruit trees than all their insect pests, all their diseases, and all butcher pruning. This is a fact, readily proven by observation, not merely an opinion.

How Tillage Saves Soil Moisture

Everybody can see that plowing and harrowing the soil prepare it for the plants, and that frequent stirrings thereafter kill the weeds that would rob the plants of food and drink. But stirring the soil does far more good than killing weeds. It saves moisture; it makes a "soil mulch." Beneath the mulch of decaying leaves and branches in the forest you will find moist soil, even in the driest season. Beneath the strawy manure beneath the rows of strawberries the soil is moist. In drought, you hunt for angleworms beneath the chips of the woodpile—it is moist there. Lift up a board of a large flat stone and notice the moist soil beneath. All these are mulches. Anything that is put between the soil and the air, and so checks the evaporation of water from the soil, is a mulch.

One of the best mulches, and usually the cheapest, is the soil mulch. A surface layer of soil, made loose and dry by frequent stirring, keeps the soil moisture from escaping, like the leaves, the straw, the stones. Prove this for yourself during a "dry spell" by digging in tilled ground and in untilled ground. This moisture the plants need, especially fruit plants. Hence it is sometimes necessary to till, even though there is not a weed in sight—to save water. Covering the soil all over with rocks or boards, or leaves, chips, or straw would accomplish the same purpose.

Tillage also makes the ground more fertile. Much of the plant food in the soil is like the nutriment in flour to you and me. It is not in digestible and palatable form, and so it is useless to us for the time being. Tillage lets in the air, which acts upon this raw plant food—"cooks" it, so to speak—and makes it palatable to the plant. It also puts the soil in better texture, making it more mellow and finer, so that the plants have more feeding area. Hence it is a common expression, and a true one, that tilling a soil may be equivalent to fertilizing it.

The desirability of tilling fruit trees in general calls for no more convincing proof than that which any observing man may gather for himself by examining a hundred or more orchards in almost any section of the country. Usually, but not always, it is the owner of the sod orchard who says, "fruit growing doesn't pay." Usually, but not always, it will be noticed that the sod orchard drops its leaves during the summer drought, has the most windfalls, harbors the most pests, nourishes the most "fungus." Facts like these establish beyond dispute the general desirability of tilling fruit trees. There are some cases, however, where equivalent results can be secured more advantageously by other means; cases where tillage is positively harmful. "Tillage of fruit trees pays," is the general rule, applicable in most instances. "Sometimes sodding, pasturing or mulching fruit trees is better or is more exjedient than tillage" is the exception to the rule.

Sod Orchard on Rich, Moist Land

When the soil of the home orchard is exceptionally rich, and quite moist, the trees may sometimes be left in sod. Especially on bottom lands and alluvial soils. The chief reasons for tilling an orchard are to supply moisture and to increase the fertility of the soil. If the soil be rich, and sufficiently moist at all times, there may be no need of tillage for these two purposes. In fact, tillage may be harmful in such a case because it may supply the trees with more moisture and more food than they need. If the trees are productive and vigorous without tillage do not disturb them. Keep such trees in sod and pasture or mulch them. It is rarely advisable, however, to leave fruit trees permanently in sod, even under these conditions. Usually it is best to plow and till the land for one season every two to five years, and then put it in sod again; especially after the trees get into bearing and grow less luxuriantly. This sweetens the soil, puts it in better texture, lets in the air, promotes germ life, and sets at work all other agencies that make the soil congenial to plants.

Trees on Steep or Rocky Land

Fruit trees may occasionally be left in sod when they are on very rocky or very steep land. It is not wise for the amateur to plant on such a site, if he can avoid it. If he cannot it is certain that a home orchard under such conditions is far better than none at all. Care should be taken to keep the ground stirred for a few feet around the young trees during the first two or three seasons at least.

Care of Trees in the Yard.

A third reason for keeping the home fruit trees in sod is that of expediency. The home grounds may be so small that no definite area can be set aside for the orchard; the fruit trees must be in the yard and a part of the general planting. From my point of view, fruit enthusiast though I am, a lawn about the house contributes far more to the home than a few fruit trees can ever do. Do not, therefore, needlessly sacrifice the lawn to the trees; plant them right in sod if necessary. You may expect them to be somewhat less satisfactory than if they were tilled, and you should plan to manure them highly and perhaps water them in dry weather; but all this trouble is better than having bare, ugly tilled land near the house. Yet there are thousands who plant fruit trees directly in front of the house and give up all the pleasures of a lawn for a few bushels of fruit. The fruit can be bought, but the lawn cannot. Save the lawn, the fruit trees on the side or in back, stir up a little circle of soil around them when they are young, give them liberal dressings of manure, and a drink in thirsty weather.

PICKING VANCOUVER ISLAND STRAWBERRIES

Sodding to Check Growth

The three cases noted above are, in my opinion, the only ones which call for a more or less permanent sod in the home orchard. But there are cases where fruit trees can be sodded temporarily to advantage; when they are growing too rapidly, for instance, because of excessive fertilizing or heavy winter pruning, or from other causes. The permanent remedy for this condition, naturally, is to fertilize more judiciously, or prune lightly, perhaps to summer prune a year or two. But sodding the trees may be used as a temporary corrective until the equilibrium is restored. To illustrate: If your tilled pear trees are growing luxuriantly, and hence are in danger of being attacked by blight, it might be wise to sod the orchard a year or two, or at least to neglect tillage until the trees make a less vigorous growth.

Pasture With Cattle, Hogs, Sheep or Hens

Assuming that the home orchard is to be left in sod, there are still other questions to be settled. The grass may be cut for hay; the orchard may be pastured with cattle, hogs, sheep or hens; it may be allowed to fall to the ground where it grows, and return to the soil; it may be cut and either allowed to lie where it falls or gathered up and placed around the trees. Each method is successful in some places. Cutting orchard grass for hay, however, is rarely profitable. The grass sucks tons of moisture and stores of plant food from the soil. If the sod is pastured the plant food is mostly restored to it in the droppings of the animals, and less moisture is lost because the grass leaves do not get large. If the grass is cut for hay, however, the plant food in it is carted away, and the soil is dried out by evaporation from an immense leaf surface.

Cow pasturage of the orchard is pretty generally condemned. It is undoubtedly good for the cows, especially in the season of windfalls, but hard on the trees. The ends of the branches are sure to be browsed more or less and the compacting of soil around the trees by the animals is often very injurious. Hog pasturage is much better. Hogs do carry on a sort of makeshift tillage, for selfish ends, and make what passes with some people for a soil mulch. Of course it does some good, but it is not to be compared with the mulch of horse-leg tillage for saving soil moisture. If corn is dropped in crowbar holes here and there the tillage operations of the hogs will be more zealously performed. This is expedient, of course, only on a small area. Hog pasturage makes the orchard look unkept, and should not be tolerated close to the house; but it is often the most expedient method of handling a small home orchard, especially if it is rocky, and the soil is strong.

All things considered, sheep are the best animals to turn into a sod orchard. They graze the grass close, so that little soil moisture is lost by evaporation from the leaves. They do not compact the soil seriously. Their droppings are widely distributed. If the orchard site is hilly the droppings enrich the knolls where the animals cluster at night. Sheep injure the trees but little. Some of the best New York orchards are sheep pastured.

Home orchards pastured with any of these animals secure the advantages of having the wormy or diseased windfalls eaten by the stock, and the droppings enrich the land. However, it would not pay to pasture an orchard for these reasons only. Spraying controls insects and diseases far more cheaply and more effectively than any kind of stock pasturing, and the orchard can be fertilized more uniformly and more economically from the manure pile, fertilizer bag, and leguminous crop.

Poultry and the home orchard often make an excellent combination. The poultry stir the ground considerably, fertilize it, and take an interest in the solution of the insect problem. There is reciprocity. The fowls need sunshine, shade, a range, scratch bed, grass and grit; the trees need scratching and fertilizing. Poultry seem to be especially valuable in the plum orchard; no curculio playing 'possom escapes them. Which animal to use for pasturing the home sod orchard is mostly a question of expediency. Before you decide this, however, go over the whole subject again and see if it will not be better to till the orchard after all.

The Advantages of Mulching

If a sod orchard is not pastured it should be mulched. The grass may be cut one or more times a season, thus mulching the soil. This is preferable to letting the grass grow up and die down. It also helps to keep noxious weeds from gaining a foothold in the sod. Practically all is returned to the soil that was taken from it except the moisture. This method is found to be satisfactory in sod orchards that produce a rather heavy growth of herbage.

The alternative is to gather the cut grass and spread it around the trees. One objection to this is that the feeding roots of a bearing tree are mostly out between the rows, not beneath the branches, so that a mulch around the trees does not help much. Then, again, there is greater likelihood of the trunks being girdled by mice in winter. Where the herbage of sod orchards is scanty this method is often satisfactory. In most cases both are decidedly preferable to taking the grass away for hay.

There is no uniform difference in results between mulching and pasturing. Which practice should be followed, after it has been decided to sod the orchard, depends more on expediency than anything else, except that land may be pastured that is too rough or rocky to be mown for mulching. In all sod orchards that are not on strong soil it must be remembered that more fertilizing will be needed than if they were tilled, since tillage increases fertility.

Do Not Plant Young Trees in Sod

If the man who is about to plant a home orchard is as busy as he ought to be, he will be inclined to give ear to the advocates of mulching and of pasturing. It is so much easier to let a hog root for you than to follow a harrow through switching branches. But wait—there is one more argument. If there is one orchard in a hundred that might profitably be kept in sod when of bearing age, there is not one in a thousand that can profitably be left in sod when the trees are planted. Sod is usually injurious, often ruinous, to young trees. It is a question of moisture more than of food. There are some who claim that the grass actually poisons the soil for the growth of trees, by means of secretions from its roots, but this is not generally accepted. When the trees are well established in the soil, after a few seasons, it may be found best to seed down the orchard; but rarely is it advisable to do so at once. Till the soil for two or three seasons, anyhow; or put in a hoed crop, which will necessitate tillage, not a sown crop, like grain, or at least work up the ground for several feet around the tree. The safest way is to start off with tillage wherever possible, whatever may be the system of orchard management adopted later on.

No man who has seen a thousand or more orchards, and found the neglect of proper tillage so almost universally associated with unsuccessful fruit growing, could help being an advocate of tillage, wherever it is expedient. The actual methods of tilling fruit trees, and associated problems, like cover crops, cannot be discussed here; the object of this article is to present the reasons for and against tillage, and the substitutes.

You may call to mind many sod orchards that bear large crops of good fruit. How do you know that they would not bear bigger crops and finer fruit if tilled? There is only one way to determine that. In solving the tillage problem for yourself be guided, not by my advice, nor the advice of anybody else, but by the conditions of your soil and the growth of fruit-bearing of your trees. Do not till or perform any other orchard operation because it pays in general; do it only when sure that it will pay in your particular case.

If your trees bear well, grow well, and you feel satisfied that they are doing their best, don't disturb them. But if they are not doing well, they are not happy in their environment; something is wrong. What is it? Insects? Diseases? Bad pruning? Starvation? Lack of water? They need a shaking up; and probably there are two or three things out of joint. Carefully study the tillage problem. It is at the foundation of successful fruit growing and is a common stumbling block to the amateur.

SUMMER COMFORT FOR FOWLS AND CHICKS.

The baby chicks of early spring are now nice youngsters that scratch and rustle a great deal of their food supply, and yet they have not entirely outgrown our care. The hot summer days are almost here, and some protection from the sun's heat must be provided for the poultry, young and old. If one is so fortunate as to have trees in the yards occupied by the birds, then the shade question is settled without any effort on our part, but if there is no natural shade some device must be a substitute for trees and shrubbery. Frames built on posts placed in the ground in the yards, the top covered with boards, old pieces of carpet, canvas, or indeed anything that can be stretched across them, make shady places where the fowls or chicks can escape the burning rays of the summer sun. If the ground is spaded up beneath these covered frames the fowls greatly enjoy rolling in the loosened soil.

We know the excessive heat causes thirst, and how refreshing and grateful is the draught of water fresh from the well. The water that has set in the pail for some time does not answer our requirement.

The poultry grow thirsty even as we do, and the poor birds are often neglected until they really suffer for the want of water. Three times a day at least during the hot weather, should fresh, cold water be carried to each yard, the vessels washed out and refilled. Place the drinking vessels in the shade, and watch how eagerly the fowls crowd around them. The houses and brooders should always be kept clean, and disinfected at regular intervals, but especial care should be taken to often remove all the droppings and fouled litter from the floors during the summer weather. Dirt and filth is the breeding place of lice and mites, and these pests have power to make chicks or matured fowls so uncomfortable that their lives are made a misery to them.

Many a flock of poultry is very uncomfortable in their quarters at night, because the houses are closed up too tight. Windows and doors should be thrown open, and it would be even better if perches could be placed in an open scratch shed, and this made their roosting room. Nothing is so beneficial to our poultry as pure, fresh air, and if we shut them in close, stuffy houses we will soon see their health impaired, and the poultry anything but a profitable investment for us. The chicks in the brooders also need to have their brooder houses well ventilated, else disease and death will deplete the flocks. These hot days, even the baby chicks just placed in the brooders will need very little lamp flame at any time of the day, and during the hours when the sun's heat is most intense the lamp flame may be turned entirely out.

It is so easy to overheat, and even smother chicks in the brooders, at this time of the year. Last year I had a nice little bunch of baby chicks in a brooder, and one day being invited to the home of a friend, I left my chicks in the care of a girl working for me, giving her the most careful instructions in regard to them. When I came home I was told that the chicks were found all stretched out on the floor of their brooder, seemingly lifeless, when she visited the brooder in the afternoon, when the heat was most intense. She was greatly frightened and threw the brooder doors wide open, and then doused the chicks with cold water. Strange as it may seem they all revived, but the experience was never overcome, as these chicks did not grow as fast, or have the health of my other chicks. It is very seldom I intrust my work to others, for it is very difficult to find a person not personally interested in the fowls and the work that will give them the same care I myself give them. Visiting is not conducive to successful chick raising, and indeed I do not find much pleasure in an outing when there are duties at home requiring my personal attention. A feeling of anxiety is ever present when away from home if I have young chicks there. If we are engaged in poultry raising we must sacrifice our own desires and inclinations oftentimes if we expect to make a success of the work. When the summer heat is so great we often feel more like resting in the shade than working with and for the fowls and chicks, but it is our duty to make them comfortable, and we should find pleasure in the thought that we are not shirking that duty.—Mattie Webster in Poultry Success.

THE PEARL ARCHILLEA.

The Pearl Archillea (Achillea Ptarmica, var. The Pearl), probably gives more satisfaction than any other white-flowered hardy perennial plant that blooms during its season, says M. G. Kains, in Garden Magazine. If you want bouquets you may cut without stint. If you want a sombre spot lighted up, it is just the thing. Its profusion of little, fulldouble flowers, jostling one another on the tall, stout stems, form a veritable snow bank from midsummer to midautumn. If you love flowers, but have no time to fuss with them and are therefore looking for a plant that is perfectly hardy, easy to propagate and cultivate, seek no further. The Pearl is a pearl indeed.

It does not insist that the soil be of some special quality, very rich, or in prime condition. It does not refuse to give a reasonable handful of blossoms, even when the ground is damp and cold and should be drained. Weeds and neglect are impedimenta over which it rises in triumph to shame the negligent gardener, not you! But to have it at its best, give it a dry, moderately fertile soil, a sunny situation and such ordinary care as you give to perennial phloxes, bleeding-hearts and larkspurs. You will not regret the attention, being amply repaid by the greatly increased vigor of growth.

Nothing is easier to propagate. All you need to do is to buy, beg or otherwise obtain a clump from some neighbor in the spring. Break this up into pieces containing a few shoots with roots attached and plant these smaller clumps in permanent quarters. In a year or two they will have full possession of the allotted space and you need only to restrain them from encroaching upon the preserves of other plants. Like quack grass, the underground stems are long, white and jointed and turn up at the tips to form aerial stems. So if you cannot get an adequate supply of plants make cuttings of the underground parts, grow them in a greenhouse, a hotbed, or even in the house like other common slips, and transplant them to the garden. From then on they require only an occasional weeding and stirring of the surface until they occupy the ground. Could anything be easier?

TWO GOOD LIMEWASHES

No. 1.—Twenty pounds of lime (unslaked), three pounds common salt, one-half pound alum. Slake the lime with boiling water until the consistency of the wash is similar to thin cream. To increase its antiseptic properties add one-half pint of crude carbolic to each bucketful of wash.

No. 2.—Slake lime with water and add sufficient skim milk to bring to the thickness of thin cream. To each gallon add one ounce of salt and two ounces brown sugar dissolved in water.