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FARM AFFAIRS.

A WINTER LOSS

Correspondence of the Progressive Farmer.

The farmer is the only business man who finds the winter season one of enforced rest. Throughout the cold weather there is little for him to do except feed the stock and see that things are snug and in good order. The winter season is therefore almost a dead loss to him. He is making practically nothing while his living expenses, taxes and interest on money continue. He is a good deal like certain classes of factory operatives and laborers who are out of work about half the year. So accustomed to this enforced idleness have we become that we speak of the winter season as our time of rest, and look upon it as our right and reward for toiling through the summer. The farmer does work hard in summer, and he does probably more than his share of the work during these "rush" months when crops must be planted, cultivated and harvested. But that is no reason why he should have to rest all winter. It does not take six months to recuperate from overexertion of the powers in hard work. It is true that we need a let up from the severe toil of summer, but it would be better for all of us to distribute our work more evenly throughout the year. The modern tendency in farming is all towards this, and winter farming is now becoming something more than a name. We are learning that in order to make what we wish for it is necessary to labor in winter as well as in summer. At present the loss of winter strikes off a good deal of the profits of summer. How to change this is a problem that every farmer must face and study, for farming of the future will extend throughout the whole year.

Winter dairying is only one instance of how we are learning to employ ourselves through the winter and thus reduce the loss. Poultry raising in winter and early spring is taking on an entirely new phase because every man who goes into the business soon finds out that he must get eggs in winter, if he is to make a living. So poultrymen find their winters busier than their summers, and they turn the winter loss into a profit. The farmer who raises his winter vegetables and stores them for later markets also has his share of work to do in hauling them to market at the opportune moment. There are endless opportunities for making our winters more profitable and more enjoyable because we have work to do. It is bad for any man to be laid up all winter with little or nothing to do. Better get a lot of cattle or pigs and fatten them for the winter markets than spend the cold months in idleness. Work of the right kind is good for us, and we are gradually finding out how to put it to profitable use in winter as well as summer. The future of farming is largely wrapped up in the success or failure of winter farming, and the man who can only work in summer, and wants to rest in winter will surely fail.

JAMES RIDGEWAY.

"SIGNS" AFFECTING AGRICULTURE.

Signs of the Moon and of Insects—Fruit Growing in Central North Carolina—What is to be Done?

Correspondence of the Progressive Farmer.

I have heard of signs and luck from my earliest recollections—signs of good crops of corn, wheat and fruit crops; then of the signs of the Zodiac, of lucky and unlucky days. I know persons who are controlled by the signs of the moon in all farming operations. In order to cause corn and wheat to ear heavy and low to the ground, they put the seed in the ground on the dark of the moon; that is, from the last half moon on the decrease to the next half on the increase, the nearer the change the better. They contend that if grain is sown in the light of the moon it will grow tall and chaffy. Some moon worshippers go so far as to claim that the worm of a fence laid on dark of the moon will sink into the ground. They choose the dark of the moon to plant everything that grows under ground, such as potatoes, onions, beets, etc. But if they want cabbage to head large they want as near the full moon as possible.

They will not make sauer kraut when the sign is in virgo; they say kraut made then will be soft and smell bad, but if the sign is in the feet or head, the kraut will be hard and flinty and have no bad odor. As for the kraut, I made a lot last August when the sign was wrong and I never had better kraut. I think more depends on making and keeping it clean. Pick off all decayed leaves. Do not use any heads that are tainted with decay; cut fine and press rather than pound into a tight barrel, salt to taste; cover with either grape or cabbage leaves. Over these place some close fitting boards and cover two inches with salty water; place upon the boards a flat stone to keep the kraut from rising. Cover the top of the barrel with a tight cloth, dipped in a strong copperas water. This will help keep the maggot flies away. Set the barrel away under a shed or in an out house; keep it skimmed off and wash the slime off the sides of the barrel and the covering boards, until the scum ceases to form. Be sure never to let the salt water sink below the covering boards. Observe these directions and I will guarantee that your kraut will not stink but will be first class.

To keep your ground rail from sinking into the ground, place a stone under each corner. If you have no stones a piece of a rail will do just as well. If you have no pieces, make pieces by cutting up sound ones two or three feet long; they will do just as well.

Now one wishes corn to ear well and wheat to fill well. For corn, plant early in good ground, cultivate early and lay by early. For wheat, sow any time in October, that the ground is in a good dry condition. Seed on rather stiff, dry, well drained clay lands, well manured and in most cases the wheat will be fair in quality and the yield good. In all cases I prefer to plant or sow when the conditions of the soil or weather are favorable rather than to wait for the moon.

I would advise the same in reference to all such things as potatoes, beets and onions. For Irish potatoes and onions choose the lightest and loosest soil that you have. Plant your potatoes at such a time that the tops will burst through the ground after the last killing frost (if you know when that time is). But if you only have a garden patch and the tops are well above ground, and there is likely to be a killing frost (of that you must use your own judgment, cover the tops either with straw, litter or dirt. When all danger is over uncover.

Sweet potatoes can be raised if planted in any time of the moon. Bed about the first of May; set plants in well-prepared sandy land not too rich. If you have no sandy land plant on yellow clay or mulatto lands. These are best.

A neighbor once observed, This is going to be a good year for corn. I enquired, Why? He replied, Wasps are plentiful. There was a fine crop of corn made. Last year a light crop of corn was harvested and wasps were scarcer than usual in this section. Now, what relation do wasps bear to a good corn crop? It is simply this: A long wet and cold winter and spring, kill out wasps, bees, hornets and many other insects. A long wet winter and spring prevent the proper preparation of the soil. The wet weather leaches out the fertilizing properties from the soil and the ground is rendered sour. Hence a scarcity of wasps and bees is really a bad sign for a good corn crop.

I have often observed an apple, pear, plum or cherry tree to have a second crop of blossoms. By this sign many predict a death in the owner's family. This is a true sign of death—not of a human being, but of the tree itself. Some two or three years ago nearly all my cherry trees of the Morello variety bloomed in September. Now they are all dead. Of about twenty large trees I have not a single one living. In the year of their blooming the crop of cherries was plentiful, but inferior in quality. The trees then shed their leaves and then there were blooms and a partial putting forth of leaves, not from the buds on the twigs, but from the terminal bud. What caused the decay and death of the trees, I am at a loss to know. The Heart cherries have not been affected.

When I took possession of the place whereon I now reside there was a thrifty apple and peach orchard. In the middle of the orchard there was a row of "Prior's Red." Each season the trees budded and bloomed as the others on each side of it. The leaves, soon after obtaining their growth, would begin to yellow and be flecked with dark rusty and black spots. Trees altogether never bore a bushel of apples during their whole lifetime. The disease, if such it is, has spread over most of my contiguous orchard. Many trees have died prematurely. None of those attacked mature the apples perfectly, the apples being of inferior quality and size. If this disease keeps on spreading and there is a succession from year to year of killing frosts it will be little worth while to plant orchards.

I have seen printed a prediction that there will be a bountiful fruit crop this year. Of this there is no certainty. Our climate within the last 55 years has undergone a change. In 1837 on the cold Saturday in February the peach crop was killed in the bud; the apple crop was uninjured. There was no miss in a fruit crop till 1845 when the entire crop of fruit was destroyed in May. Five years later all was killed; then no clean miss of a fruit crop till after the war. For the past 30 years the fruit crop has oftener failed in this part of the State than otherwise. It has generally been destroyed about the 5th of May. The indications are that the trees will bud and bloom late this year. Should the peaches bloom in April, the fruit will nearly all drop off before it matures.

Owing to the scarcity of fruit for the past few years, it may be that the codling moths may not be so numerous. However, should they increase from year to year, as they have done for the past ten years, those who attempt to raise fruit will be compelled to resort to spraying their orchards. Nurserymen will have to introduce a stock of trees of smaller growth; this they can readily do by grafting from fruit-bearing twigs, using the terminal buds, thus producing early-bearing trees, which will check their growth. Peach trees can readily be headed back every year. Then the trees can be sprayed. But with our collosal trees 25 to 30 feet high, spraying cannot be done. Should the seasons so change, however, that the frosts will not kill our fruit and our nurserymen introduce trees that will grow smaller and our fruit growers or farmers use spraying machines and apply insecticides, then and not till then, can good marketable apples be raised in this section.

Fruit growing here will not pay so long as killing frosts happen so frequently.

B. F. WHITE.

Alamance Co., N. C.

The meeting of the State Directors of the Farmers' Mutual Fire Insurance Association, consisting of one representative from each county branch of the Farmers' Mutual Fire Insurance Association of North Carolina, called for March 15th has been changed to Thursday, March 22nd, 1900. Every county branch is earnestly requested to be represented in this meeting. The future existence of the organization upon it. The meeting will occur in the office of Mr A E S Lindsey, Fayetteville street, opposite Metropolitan Hall, Raleigh, at 12 m. March 22nd.

Every Subordinate Alliance should take care that all records, accounts vouchers and minutes be preserved as valuable contributions to Alliance history.

THE USE OF ENSILAGE.

Correspondence of The Progressive Farmer.

Another successful winter of feeding with ensilage makes one feel like adding another note of praise to this winter food. Properly raised and fed there is no better friend for the dairymen or cattle raisers. As much harm probably is done by improper feeding as anything else. Some seem to arrive at the conclusion that because the ensilage is good for cattle that nothing else is required, and so they sell all their hay and grain and feed ensilage exclusively. No restricted diet like that could for long produce good results. While I am willing to contend that ensilage would prove as good a single diet food as anything we raise on the farm, it would be unsafe to feed it without other rations. Hay, straw, and grain, and even winter vegetables fed with it regularly or occasionally would keep the animals in better condition and stimulate their appetites so they would desire more. We must always consider this latter in any winter feeding. If the rations fed dull the appetite of the animals, something else should be fed. A change in diet is sometimes more essential anything else.

Besides forming a good winter food that the animals like, the ensilage enables the farmer to sell more of his grain and hay. In a winter like the present ensilage comes in particularly good because grain and hay are both in demand at good prices. The farmer with a well stocked silo can dispose of most of his hay and grain, leaving just enough to carry him along with the ensilage until summer. The result of this is that he will winter his stock in good condition and sell his hay and grain at a big profit. A good diet with ensilage as the basis is to feed the latter twice a day, with a little corn stover or straw in the morning and at noon, and a little hay at night. This gives variety enough to keep them in excellent health, and they thrive off the mixture. The corn stover and straw are not very nourishing, but they help to improve the digestion of the whole mass. From thirty to forty pounds of ensilage a day make a good ration. At this late day one can readily calculate how long an acre's produce will last. From twelve to fifteen tons of corn ensilage can be raised to the acre, and on the same land not more than three tons of hay can be harvested. The difference in favor of the corn ensilage is so pronounced that there is little room left for doubt.

JAMES S. WILSON.

HOME-MIXED FERTILIZERS.

The fertilizer manufacturers have been for many years telling us that the value of their goods depended upon the amount of nitrogen, phosphoric acid and potash they contained. We believe they were right. Now it remains for us to find out if we cannot obtain these elements more cheaply than by buying their manufactured goods. And also we ought to learn if we cannot obtain them and mix them in just such proportions as are needed by our soil and the crops we intend to grow. It is easy for the farmer to buy his materials now with a guarantee of just the elements they contain, and just the amount of each element. It is but a schoolboy's task to figure out how much of each to use to make a fertilizer rich in the one that he thinks he needs the most of. Does he want one rich in potash? As muriate of potash is one half actual potash, 400 pounds in a ton would give him 200 pounds of potash, or a fertilizer 10 per cent. potash. Does he want phosphoric acid? Acid phosphate is usually more than 12½ per cent. phosphoric acid, but we will call it that in round numbers, and 1600 pounds in a ton would give him 10 per cent. of that element. Perhaps he needs no more nitrogen in his soil if he has been plowing under clover, or cow peas, or soy beans, or has kept his land well manured with stable manure. But if he needs nitrogen he can buy blood or tankage or any of several other nitrogenous fertilizers, and learn just how strong they are, and reduce one or both of the others to add that. He will have to mix it, but he will probably find that he has economized by so doing, as he will have less freight agent's commissions and other charges which are paid on the manufactured goods. Some who have tried it say they get as good fertilizers at one half the cost.—American Cultivator.

WHAT AGRICULTURE OWES TO CHEMISTRY.

An Able Essay of Special Interest to Farmers, Delivered by Mr S A Vest, of Forsyth County, at an Oratorical Contest of Leazar Society of A & M. College, Raleigh, Feb 23d, 1900.

It is hard to find any evil that is all evil. The general fall in price of agricultural products has worked hardship on the pocket-book of the farmer, but it has been of great educational value to him, and in the end, may prove also of financial value. For the widespread depression in price put, not only the farmers, but scientists all over the land to studying the economic production of crops as that subject was never before studied.

If the farmer is to live as he once lived, indeed, I may say that if he is to live at all, one of two things must come about: either the price of farm products must go up or the cost of production must come down. Both sides of this alternative are being carefully considered. Only a few weeks ago an association of farmers met here in Raleigh to devise means to raise the price of one of our staple crops.

The chemist, however, is now and has been working at the other horn of the alternative. He has been bending all the energies of his science in an effort to cheapen the cost of production. This he has striven to effect in three ways: First, by showing the farmer how to maintain or preserve the fertility of his soil; second, by teaching him the best and most economic way of feeding his crop and thereby to increase materially the yield per acre; third, by directing the farmer how to protect his crop from its most dangerous foes.

The science of agriculture is almost entirely the creation of chemists. Before the days of Liebig agriculture was purely an empirical art. No exact information had ever been obtained concerning the composition of crops, the nature of the soil, the food of each plant, the function of artificial fertilizers. Only a few facts had previously been learned in a blind, blundering sort of way. But Liebig and the three score and ten chemists, who have followed him in the laboratory and who have made the literature as well as the science of chemistry, went to work to change the empiricism into reasonable and scientific exactitude.

The first work of the chemist was to determine the nature of the crop and the relation which it bears to the soil in which it grows. One great fact established by this investigation was that the greater part of the weight of every crop is the product of the synthesis which takes place between carbonic acid and water. This being true, we see at once that both soil and atmosphere must be regarded as environments favorable to the production of organic matter. Hence one of the most important problems of agricultural chemistry is a determination of the conditions which favor the largest production of organic matter in any instance.

Chemists all agree in finding that the Creator has supplied bountifully all the elements essential to perfect plant growth except three. These are nitrogen, phosphoric acid and potash. It is true that these three elements are widely distributed, and, in some form or other, are almost omnipresent, but for them to help the plant two things are necessary: First, they must be in the place needed; second, they must be in the form or condition needed. It matters not if the air is filled with nitrogen, if the plant cannot use aerial nitrogen. This it cannot do any more than the thirst-dying sailor can use the sea water around him. If the fertility of land is to be kept up, these three requisites must not only be supplied, but must be furnished in best form; for soil exhaustion is only another name for the using up of one or all of these three. Hence the farmer who would not run down his land must have a care here. He is not the best farmer who makes large crops, pays his bills, and lives in comfort, but he is the best farmer who does those three and at the same time keeps unimpaired or adds to the fertility of his land.

Now the chemist set to work to aid the farmer in doing this last important work. As a result of his studies the problem seems now largely to narrow itself to one, as already stated, of keeping the soil supplied with nitrogen, phosphoric acid and potash in the right proportion: and in available form.

Then the question arose, How can this best be done? After years of patient toil the chemist offers two answers to this all-important question. They are these: First, by peculiar action of certain leguminous plants; second, by feeding with properly-prepared commercial fertilizers.

The restoration of nitrogen to the overcropped, or washed away soil was and is the most serious question to the chemist and to the farmer. When we recall that long ago chemists ascertained the fact that about four-fifths of the atmosphere is composed of nitrogen we are inclined to think that the chemist had his gold mine, or rather nitrogen mine, at his door. But the question was to make some trap cunning enough to catch this elusive element, some store house tight enough to hold it, and some machine effective enough to apply it to the soil.

The first step taken in the solution of the question was taken when some queer little bumps now called nodules, were discovered on leguminous plants. Analysis showed that these nodules were inhabited by bacteria that had the wonderful power of extracting inert nitrogen from the air. Here was the trap. Then it was found that these plants took this nitrogen and so combined it with other elements that ordinary plants could use it. Here was the store house. If then these legumes would, when planted and cultivated, deposit in the soil the combined nitrogen that they had so provided, then the mechanical application was secured. Experiment proved this true, and the most useful fact ever made known to the agricultural world was demonstrated. By a judicious rotation of crops based on this principle, a sensible farmer can reclaim the poorest acre ever turned out to grow broomsage, and keep his land forever fertile.

The German chemists have recently discovered another practical application of this principle. They found that they could successfully cultivate these useful bacteria and transplant them on the legumes, and so increase fertility. They are now raising swarming families of nodule bacteria and selling them into plant slavery under the name of nitrogen. If some chemical genius can just show the way to one more advance, and make these bacterial nodules grow on cotton, corn and wheat, the world could hardly hold the crops that would grow.

The second great contribution chemistry made to agricultural science was when it taught how to make and use commercial fertilizers. There were to supply artificially and extraneously the same three elements that the legumes supply naturally. Of course, this process is more expensive, but it is probably faster. The first commercial fertilizer factory ever established was set up by Sir John Bennett Lawes at the suggestion of the great chemist Liebig. Liebig, knowing that bones had long been used to impart fertility, first suggested that if the bones were ground and treated with sulphuric acid, the plant food contained in them would be made more quickly available. This, of course, was the origin of the modern commercial process by which phosphoric acid is now obtained from phosphate rock. To chemists also the agricultural world owes the discovery and proper working of the immense deposits of potash salts at Stassfurt, Germany. These mines furnish the world's supply of potash salts in the shape of crude kainit, purified double manurial salt, or high grade sulphate of potash.

To these scientists the husbandman owes his various processes of getting the nitrogen for his fertilizer. This is obtained from nitrate of soda, from gas works and from refuse animal matter. So to the chemical worker is due the suggestion to make the fertilizer, the knowledge of how to mix it, the direction where and how to get the ingredients, and subsequently formulae for application to different crops.

In a recent very clearly written book, Seton Thompson shows by example the many dangers that beset the rearing of any wild bird or animal, and graphically paints the foes lurking by night or stalking by day for any unwary animal. But the life of no animal is sought more persistently than disease seeks the life of the growing plant. For various reasons, fungous pests, insects, pests without name, rank, lineage or respectable standing have infinitely multiplied of recent years. Nor in getting the new ones did we part from any of the old ones.

[CONTINUED ON PAGE 8.]