Soils and Crops

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SEEDING ALFALFA.

In experiments conducted at the Agricultural College at Guelph, it has been found that excellent results have been obtained from sowing alfalfa alone on a summer fallow in the month of July. When sown at that time on a moist soil, germination is rapid and the plants are enabled to make a good growth before winter. There is not apt to be a prolonged drouth after July.

By this method weeds are unable to produce seed in autumn and the alfalfa has an excellent opportunity to get well established.

Nitro-Culture Inoculation of Alfalfa Seed—To get the best returns from the alfalfa crop the alfalfa seed should be inoculated a few hours before sowing, with the alfalfa nitro culture.

When inoculated seed is sown the bacteria which constitute the culture are in position to enter the young roots of the alfalfa as they develop. On entering the roots the bacteria multiply and produce the characteristic nodules (little swellings) on the roots. The action of the bacteria when growing in the roots is to enable the plant to utilize the atmospheric nitrogen as a source of food supply. No plants other than the legumes (i.e., alfalfa, clovers, peas and beans) can do this, and these plants cannot do it without the right bacteria being present in the roots. Different species of bacteria are necessary for the different species of legumes.

Inoculation of alfalfa seed often means the difference between a good, vigorous, growthy crop and a poor, spindly light crop.

Alfalfa nitro culture (price 50c) may be obtained on application to the Bacteriological Department of the Ontario Agricultural College, Guelph.

Extract from a letter received from C. R. Worthington, Comox, B.C.:

"The inoculated portion of my alfalfa crop has flourished exceedingly and is making most luxurious growth, entirely crowding out the weeds, and showing a splendid color. The uninoculated portion has almost entirely died out and the few plants left were small and very pale. In fact, I have now plowed them up.

"I may say that about the time I sowed mine a good many neighbors did the same, but they did not inoculate. Their plots this spring, without exception, are a pitiful spectacle—weeds with a few sickly alfalfa plants left."

THINNING APPLES.

The reason for thinning the set of apples on a tree is to reduce the number of low grade apples. Inferior apples may be due to insect or fungus injury, over-production on a spur resulting in a lack of size and uniformity, or faulty pollination. The object of thinning therefore is to remove defective fruits and also some of those growing in clusters, so that the remaining apples will grow larger, of a greater uniformity and of a better color. It is important to have a good set of fruit, but it is impossible in general to expect a tree with a heavy set of fruit to mature a high percentage of first grade apples. One often notices a heavily laden tree producing remarkably uniform apples, and this is possible on a very vigorous tree growing under favorable conditions. In most cases, however, if the set is good, thinning of the fruit is necessary if the No. 3 apples are largely to be eliminated, as they should be. There certainly is little if any profit in inferior fruit, and the expense of thinning is offset by not having this fruit to pick and handle.

Thinning is done about the middle of July in Nova Scotia, or soon after the drop of ineffectively pollinated apples has taken place. This drop very often thins the apples adequately—in some cases too much—making it unnecessary to remove any but the deformed or diseased fruits. The second or third week in July, when the apples are one-half to three-quarters of an inch in diameter, is as late as thinning should be done, for at this time the drop has been completed and the remaining apples are beginning to receive the benefit of this removal. If the set is heavy the apples should be thinned to only one in a cluster; or in extreme cases some clusters might be entirely removed. It is sometimes claimed that fruits should be at least four inches apart; some growers say six inches, and others contend that eight inches is close enough. Tests made on Ben Davis trees at Kentville show that 23 per cent. of the apples were removed when the fruit was thinned to four inches apart, 22 per cent. when thinned to one fruit to a cluster, and 86 per cent. when thinned to six inches apart.

It is necessary to remove the fruit with a pair of small pruning shears made for that purpose. The work can be done rapidly and without any injury to the remaining fruit, which is impossible if the fruit is pulled off by hand. A light ladder such as is used for picking fruit is satisfactory. It is found that a fairly good job can be done in an hour on a tree likely to produce from eight to ten barrels.

One test made on Gravensteins with a heavy set of fruit gave results as follow:

	Trees thinned	Trees not thinned
No. 1	70.1 p.c.	42. p.c.
No. 2	23.8 p.c.	38.65 p.c.
No. 3	5.6 p.c.	16.13 p.c.
Culls	.5 p.c.	3.22 p.c.

From the above it will be seen that where the fruit is thinned, there is a great increase in the percentage of No. 1 fruit, many of the No. 2 apples going into that grade, and that the No. 3 apples are almost entirely eliminated. The fact that the No. 2 apples are raised to No. 1's accounts for the small loss in bulk from the thinning; in some cases no loss is evident. In the experiment outlined above the reduction in bulk was only 1.67 per cent. In the Ben Davis thinning experiments the No. 3 fruit was reduced by 18 per cent. and the No. 1's and No. 2's increased 20 per cent. over those from similar trees not thinned. In Starks the No. 3's were reduced 12 per cent. and the No. 1's and No. 2's increased 16 per cent. In Greenings the No. 3's were reduced 10 per cent. and the No. 1's and No. 2's increased 15 per cent.

If thinning were to be generally practiced much time would be saved in the handling of the crop on the farm and in the packing house, and any expense attached to the operation would be more than offset by this saving.—Experimental Farm Note.

THE RAVAGES OF THE POULTRY RED MITE.

Few keepers of poultry realize the full extent of the injury done by red mites. With the warmer weather the mites flourish and multiply until the poultry buildings become infested with these pests, and the harm is done.

The red mite is the most dangerous of the external parasites that attack fowl, and if allowed to spread unchecked, far worse losses might accrue than breeders imagine.

These parasites are most injurious to young chicks and brood hens. The persistent loss of young chicks and the failure of hens to bring off good hatches are often due to the irritation caused by the unsuspected presence of the red mite.

The attacks of hoards of mites weaken and predispose the fowl to many maladies, as well as materially reducing the yield of eggs.

Some prominent scientists are convinced that the bite of the mite is venomous and that even worse disaster might result than merely weakened condition brought about by the sucking of the blood.

Undoubtedly many cases of disease and debility occurring in the late spring, summer and autumn are directly attributable to these pests; therefore information that will render easier their recognition and extermination should be of interest at this season.

Many people are unaware of the presence or appearance of the mite. They may not visit their poultry houses at night and the parasite is nocturnal; it dislikes light. The adult is seldom found on the fowl in the day time, but emerges from the deposits of filth and dirt that have accumulated in the cracks and crevices of the house and fittings, and climbs to his roosting victim to gorge himself with blood.

In cold weather the mites are practically dormant, and are seldom seen, but the advent of summer will bring them forth in their myriads, and unless vigorous methods are taken to check their activities, in some cases the death of the infested fowl will follow, or the whole flock will become generally anaemic and unproductive.

The presence of the mite may be readily detected by a close examination of the roosts and nest boxes. The practice of running one's hand along underneath the roosts once a day is advisable, as some parasites will adhere and can be seen and felt distinctly.

Immediate extermination is vital, and steps should be taken at once to rid the building of all material that will harbor and protect the mites. Fittings should be removed, dirt and filth brushed out with a stiff broom, and the inside of the building and furniture thoroughly saturated with a powerful germicide by means of a spray pump or brush.

Some of the coal tar by-products used as sprays vary in efficiency when used in economical strength solutions; but where the mites are evident in small batches and only in places, these insecticides may be applied with a brush in their full commercial strength.

A five or ten per cent. solution of carbolic acid is very effective, but not without danger as a spray. It can, however, be recommended if proper precautions are taken.

The most economical and effective preparation is a five to ten per cent. solution of coal oil and soap suds, which should be applied twice with an interval of two or three days between applications.

Give the dairy cows access to water at all times. If the source of water in the pasture lot is a stream, precaution should be taken to see that it is not converted into a mud puddle by the cows standing in the water. It is better to have the water in a clean tank.

My Favorite Flower

I was sittin' on the v'randa t'other evening, sort o' dreamin'
Sort o' pondering on the beauties of this world we're livin' in.
Of the posies God has give us just to beautify our livin,'
Hollyhocks and sweet alyssum, brier rose and jassamine.

An' I tried to pick my favorite in the beds that Martha'd planted.
Tried to wonder which I'd cling to if I had to make a choice.
Phlox is mighty pretty growin', and there's somethin' in a pansy
Smilin' upward at a feller, seems to bid his heart rejoice.

Then my eyes a-rovin' round me, lighted on a bunch o' clover,
Snuggling down there by the gateway where the medder path goes through
Just a noddin' so persuadin' where the evening light was fading,
An' I says, "Of all the posies, Mr. Clover, I choose you."

An' I'm thinking here this evening, that when I am called up yonder,
An' my body's in the church yard, sleepin' in that last long rest,
That a bed of purple clover, on my grave a wavin' over,
Would of all the flowers growin', sort o' suit my spirit best.

—LeRoy W. Snell.

How We Use Cement

REPAIRS LEAKY ROOF.

A chimney on a lean-to at the back of one of the houses where we lived caused considerable inconvenience to the ladies by letting the water run down every time it rained. I mixed up a batch of cement (about a fifty per cent. mixture), just thick enough to trowel handy, and placed around the chimney and well out on the shingles. It has not leaked to this day, and that was eight years ago.—Geo. B. Clink.

REPAIRED OLD TANK TWENTY YEARS AGO.

I have used cement for foundations under buildings, for floors and mangers in horse and cow stables. For making abutments, for setting windmill derricks, for well curbings, for walls, for making cisterns, and am going to make cement manure pits for my barns.

An idea which my wife suggested to me twenty years ago has since materialized on a great many farms. My galvanized stock tank leaked in many places. I could not get a new one just then, so mixed up a rich cement and plastered it inside. When it dried I found I had mended my tank and it will do service for many years yet. —W. G. Bracebridge.

MAKES GATE POSTS SECURE.

I use cement to hold my gate and corner posts in place. This is how I do it: The post hole is dug and the post put in position. I then pour in about two pails of cement, drop in a layer of stone, then another layer of cement and stones, and repeat until the hole is filled. If the hole is made the proper size this will not only keep any post in place but will make braces unnecessary.—Walter Anthes.

BUILDS RAT-PROOF CORN CRIB.

A few years ago I constructed a corn crib and for sills I used two six-inch channel steel beams thirty feet long, placed on four cement pillars. I placed sills four and one-half feet apart and used cement for floor. I used lumber to support my cement until it was set. I placed five three-quarter-inch rods through sills to keep them from spreading and the teeth bars from an old spike harrow to reinforce the cement. I bolted two-by-four scantling to top of sills to toenail my studding to, and cement comes to top of two-by-four's, which makes cement eight inches thick at sides and five inches thick in centre, as I arched my form three inches. My crib is ten feet high and have had it full and it holds up perfectly. I have never seen a rat head coming through it, either. I have also cement floor in all my stables and find them the cleanest and best conservers of manure of any floor I have ever tried.—T. C. Stearns.

Early and Late Hatching—Winter Egg Production Compared.

Some people have the idea that late hatched birds will give a heavier production during January and February and counter-balance the start which the early hatched had made in November and December, remarks the Superintendent of the Lennoxville, Que., Dominion Experimental Station, in his annual report, but the results of an experiment conducted for three years at the station prove that this is not the case. At that station, pullets hatched in April, 1921, laid at 150 days of age, while pullets hatched in May of the same year did not commence to lay until 173 days old. Twenty-five each of early and late Barred Plymouth Rocks were used in the test. The total number of eggs laid during the four months, November-February, by the early birds, was 1,668, and the average profit per bird $2.83, compared with 1,124 by the late hatched, with a profit of $1.70. The early birds were hatched between April 7 and 15 and the late between May 1 and 10. In 1922 even more favorable returns were secured, the eggs laid in the four months being, by the early birds, 1,798, at an average profit of $3.73, compared with 1,068 eggs at an average profit of $1.75 by the late birds. The average profit per bird for the three years was, early $2.51, and late $1.44.

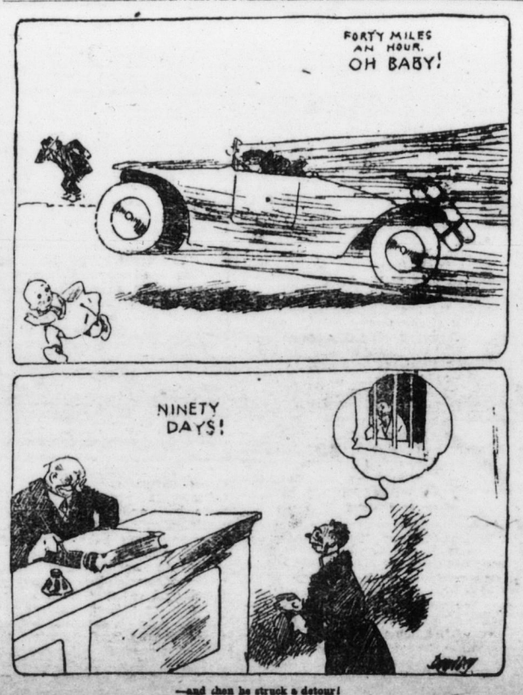
The fact that electric lights were used to even up the length of daylight to the hours of darkness on the pens in this test makes it quite possible, the Superintendent thinks, that a greater difference would have been noticed against the late hatched had lights not been used. The results of the experiment indicate that pullets must be hatched early enough to become fully matured before cold weather sets in, if the most profitable production is to be expected during the winter months.

For the Busy Farmer.

It is the opinion of good growers that potatoes can be sprayed to advantage with a 4-4-50 spray of Bordeaux as soon as the plants make a fair showing above the ground.

A light application of some readily available fertilizer such as nitrate of soda, will help the growing vegetables in the garden if the ground is not in a very fertile condition.

The comparatively few farmers who are giving something of the same attention to eggs that they have given to commercial milk, find that the market returns are more satisfactory than where the eggs were gathered in the "good" old-fashioned way.



—and then he struck a detour!

—Cleveland Plain Dealer.

DAIRY

It is not advisable, in fact, dangerous, to allow cows to drink from stagnant pools regardless of their size. Stagnant water soon becomes contaminated with dangerous germs that are not only likely to cause sickness in the herd, but infect the milk and make it unfit for human food. I can cite an instance where a whole family was taken sick as a result of cows drinking impure water.

While I have plenty of fresh cool water running through my pasture I also have a large cement tank in the yard at the barn where my cows can obtain all the water they need. I notice just before my cows go into the stable at night they go to the tank and fill up on water. They seem to like the water from the well the best.

A Source of Reliable Clover Seed.

During recent years red clover seed produced in the Dryden district of New Ontario has been giving exceptionally good results wherever used through Canada. The findings of farmers have been confirmed by growing tests carried out at the Central Experimental Farm, Ottawa, and at Branch Farms elsewhere in the northern latitudes. The success attained by this seed has created an active demand for it, especially from the better class farmers of Ontario. During the past season the local Co-operative Association of Seed Growers at Oxdrift, consisting of some seventy active members, cleaned and sold for Canadian consumption some $30,000 of clover seed.

In order to safeguard the identity of approved seed from northern Ontario, official inspection is to be given selected local clover fields during this season. The work of inspection and certification will be carried on jointly by the Ontario Department of Agriculture, the Federal Department of Agriculture, and the Canadian Seed Growers' Association. Canada imports millions of pounds of clover seed annually, much of it coming from warmer climates and therefore less suitable for Canadian conditions than the New Ontario seed. This new policy, which was decided on at a meeting held at Oxdrift on June 15, should not only assist in further developing clover seed farming in New Ontario, but also assist the Canadian farmers in obtaining a thoroughly reliable class of clover seed.

THE CHILDREN'S HOUR

OUR FEATHERED FRIENDS—THE BOBOLINK.

BY LEREINE BALLANTYNE.

Perched on the fence, pouring forth his song of ecstasy, the bobolink can be seen any summer's day near a hay or clover field. He is a rollicking fellow with his patchy coat of yellow and black turning perhaps to snowy white near the tail. His vest is black, and a bright yellow spot marks the base of his head. Near by his wife is no doubt brooding upon her nest woven of grasses and concealed upon the ground. She is more faded looking, with almost an olive tint, but the streaked back and crown and buffy line over the eye are distinctive.

The Bobolink spend his summer in Canada, where he is welcomed as an irreproachable bird who charms us with his song, and whose bad habits have yet to be discovered. During the early part of the summer his food consists of injurious insects, and later this is mixed with weed seeds, so that he is indeed a great friend to the thrifty farmer.

In the autumn his coat takes a more sombre hue becoming ochre with the brown stripes of the female. His song, too, is not so sweet, and then he joins flocks of his species where they frolic in the marshes till the cold days of fall warn them to seek a warmer climate for the winter. Then it is he completely loses his northen identity and protection, for in the south he is known as the Ricebird whieh settles upon the crops in thousands and causes decided damage. There he is sold often when shot. Whatever his faults are in the south, however, he is loved as a very useful bird and one of our sweetest singers in the north. So you see he leads a sort of double life.

The brain is the most variable in size and quality of all the parts of the human body.

Does it pay to spray potatoes? Last year in over 400 demonstrations well-sprayed potatoes showed an increase of seventy-four bushels per acre, and the use of disease-free seed resulted in an increase of sixty-nine bushels per acre.

Making the Best Use of Experimental Farm Seed.

Many farmers this spring will have obtained seed grain of special breeding from either the Central Experimental Farm, Ottawa, or from one of the Branch Farms or Agricultural Colleges throughout Canada. From the former institution alone samples of seed grain, varying from two to five pounds each, were sent to 15,676 farmers who had applied for same. In the case of most of the other institutions, considerable quantities also were supplied. These samples, if carefully handled, be they small or large, may form the basis of a supply of superior seed for the farm and sometimes for the neighborhood. A word regarding the handling of the foundation plots should be of some value.

First of all the grower should aim to propagate this seed so as to obtain therefrom the greatest quantity of high class seed for use the following year. The first consideration therefore should be the *seed bed* and the second the *method of seeding*. While it is now too late to consider these points this year, a reference to them may be of value later.

The seed bed should be well prepared, well drained and in a high state of fertility to obtain maximum returns. It is a good plan to regard the foundation plot as a garden which usually receives a little extra treatment. As to the method of seeding, it is found that by sowing thinly, greater gross returns are likely to be realized than by sowing at the usual rate. In other words, one can afford to be extravagant of land in order to secure the greatest possible increase from the seed sown. Before commencing operations, however, care should be taken to see that the seed drill is absolutely clean. Precaution should also be taken to see that the plot is isolated a sufficient distance from the poultry house to prevent injury by fowl.

Since there are many ways in which other kinds of grain may find entrance into the plot, it is advisable that the growing crop on this plot be watched carefully and all foreign plants removed by hand before or during harvest. In ordinary practice a few heads of barley or wheat or even other kinds of oats in a plot of oats are liable to increase in the crop and since they are not wanted by people who are looking for pure seed, it is well worth while to remove them.

Investigation has shown that grain which has been allowed to mature is likely to be more productive than grain which is cut on the green side. It is recommended therefore that the foundation plot be allowed to become thoroughly mature before harvesting.

The harvesting and threshing of the plot should be performed carefully so as to prevent contamination, all machinery being thoroughly cleaned before beginning operations. The seed should be put into bags, covered bins or boxes immediately upon its removal from the thresher. Care should be taken also when cleaning the seed to see that the fanning mill as well as the containers in which the seed is to be kept do not contain kernels of other kinds or varieties. The clean seed if not sufficient in quantity for the spring sowing requirements should be multiplied with the same care as that exercised the first year.—L. H. Newman, Dominion Cerealist.

Feed Tomatoes for Large Fruits.

Plant fewer vines and feed them during the summer and get larger fruits and have them set better, is the advice of an experienced grower. The first feeding he did last summer was with nitrate of soda when the plants were set out. The fertilizer was dusted around the plants in a narrow circle, but did not touch the stems by an inch all around. A couple of weeks later another light dusting was given in a larger circle. This fertilizer is cheap, and five pounds will feed a family garden tomato patch for several years.

When the buds begin to show, a complete fertilizer, ready mixed, can be used to better advantage, or bone meal may be substituted for the nitrate of soda and applied in the same way but in wider strips. Once a month is often enough to use it. This will make the vines set better. The nitrate of soda will make vine growth, and is so quickly available for the plants that it starts them off very strong, and then the other fertilizers will finish the fruit. It takes so little to do the work that the cost is insignificant compared with the better fruit and the larger crop, and tends to make it earlier as well. Staking and pruning outside branches will help along the same lines.—Agnes Hilco.

Had Stopped, Too.

In vain did he wait to meet her,
The clock in the steeple high
Had stopped; he wailed: "She's done the same—
She's stopped with that other guy!"

Nobody has more poor relatives than a scrub bull.