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# SOILS AND HOOPS

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## ADVANTAGES OF THE SILO.

One of the chief advantages of the silo in many cases it enables the farmer to store the pastures and the weather conditions. Never a spring sacrifice have to be made in the condition of the stock as well as the pastures, by emptying the silos at too early a date. The feed becomes exhausted, hay and silage is relatively dear to purchase. There is nothing for it but to keep the stock. If one has a silo that bulky crops will be preserved and the available supply of feed for the winter months is greatly increased. It would be difficult to estimate accurately the increase of stock that can be carried on a given acreage by the addition of a silo and the growing of silage crops. The advantage lies, not so much in keeping a greater number of animals, but in keeping better those that one has.

Where corn can be grown at all successfully, there is no other crop equal to it for the making of silage. Before deciding that this crop cannot be grown satisfactorily, a careful test should be made, because corn has been so improved in recent years that the experience of the past does not justify a decision for the future. If, however, it is proved that corn of the earlier varieties is not a success, then one can fall back on a mixture of oats, peas, and vetches, or sunflowers, or on such crops classified as clovers.

For cattle feeding, roots were for many years the succulent winter feed used. With the introduction of the silo and the growing of corn, it was soon learned that labor cost was greatly reduced. Besides this, there is the advantage of better thrift in ensilage fed cattle, as well as reduced labor in preparing the feed. Pamphlet No. 95, "Silage and Silo Construction for the Maritime Provinces," records that steers fed ensilage at the Fredericton Experimental Station, made a profit of \$15.82 more per head than those fed on roots as the succulent portion of the ration. The advantages of the silo are equally great for dairy cattle. At this season of the year when next winter's stock rations must be provided for, it is well to consider whether or not one can afford to be without a silo. Even under the best systems of feeding the profits are little enough. By the use of silage, greater profits are undoubtedly possible, whatever crop is to be grown for the silo.

There are certain essential factors

## HOGS

One has had a great deal to say in times past about the efficacy of good pastures on the economical production of live stock. It is a subject well worthy of frequent discussion, and it is just as important with regard to hogs as with any of the other domestic animals.

The ancient pig sty with its tiny proportions, its filth and queening occupants, is, or should be, a thing of the past, so far as commercial hog production is concerned. It is as unnatural for a hog to be confined for long periods in close quarters, as for a man to spend all his life in the house. The evil effects of such treatment may be overcome largely by careful attention to exercise and diet, but it is neither desirable with man, nor profitable with hogs.

In a state of nature hogs roamed the woods and the prairies seeking what they might devour. We have no records of their suffering from intestinal worms and lice, and hog cholera was unknown. We put rings in their snouts so they cannot root up our nice meadows, and then feed them tankage to replace the worms and grubs, and mineral mixtures to replace the mineral elements which their ancestors were in the habit of rooting in the earth for. We even cut down all the trees, because they interfere with the plow or the binder, or with our distorted aesthetic sense and build artificial shades, that our hogs may enjoy protection from the heat of the sun, which nature demands they should have. Perhaps, some day, we will employ osteopathic hog doctors to exercise their muscles, and import celery and head lettuce to keep them in health, but, to date, we are still depending upon plenty of range and good pastures to fulfill this requirement.

The best of all forage so far discovered is alfalfa. Clover is a close second, and on rich land rape gives excellent returns. Fall-sown rye or June grass comes earliest in the spring, oats and peas are very good for the older hogs about June 1. Sweet clover promises to take a position among the best hog forages. Soybeans are greatly relished for fall food, and up-to-date practice calls for growing them extensively with corn that is to be hogged off.

Many experiments have shown that the most economical gains from growing pigs come from the use of abundant forage in combination with approximately one-half of a full feed of grain. They also show that the acres thus utilized are often the greatest

necessary in silo construction. These are strength, smoothness of interior, and durability. Of the popular types, the stave silo is the most easily and quickly erected, and when given a permanent roof and the hoops kept tight in the summer, it is fairly satisfactory. The concrete silo with walls reinforced by half-inch rods, has the advantage of being permanent. This silo is perhaps the most popular where it can be afforded. It can be constructed by ordinary farm labor. Cement blocks and vitrified tile are also found satisfactory. These several styles of silo are described, and complete instructions for the building of the stave silo, with illustrations, are given in the pamphlet in question, available at the Publications Branch of the Department of Agriculture at Ottawa.

## DID YOUR CLOVER KILL OUT THIS SPRING?

If it did, you had better write the Department of Chemistry, Ontario Agricultural College, Guelph, for directions for taking a sample of your soil to discover the reason. Reports from some districts this year show a good deal of winter wheat and clover killed out, states the Department of Chemistry, O.A.C. This is highly undesirable and can be prevented by the use of lime and acid phosphate applied with the crop on which the clover is seeded. In some cases lime is not necessary for the soil is not acid, but where acidity occurs lime is very essential. Phosphorus is a great root farmer and the strong, deep-rooted clover and wheat plant that withstands the alternate freezing and thawing of spring weather to a circular sent out this spring to the twenty-five co-operative experimenters handling our Lime Phosphate Experiment, the majority report that the clover on the half acre which received crushed limestone and acid phosphate in the fall of 1922 is in perfect shape, while in many cases the untreated section did not winter nearly as well and in one or two cases will have to be plowed up.

If seeding is done with spring grain it is good business to use acid phosphate at the rate of at least 300 pounds per acre, and preferably 400. If the soil is acid, lime is also necessary to give a strongly rooted clover and alfalfa which will carry it over the first winter—the most critical period of the life of the plant.

## POULTRY.

The mite is the poultryman's worst enemy. It multiplies by millions, feeding upon the fowls from the time they settle upon the perches in the evening until they leave them next morning. Spraying the perches may destroy great numbers, but thousands are left to hatch out new colonies at once.

The best method I have tried to get rid of the pests is to provide two sets of perches. The round ones have blocks nailed upon each end, to prevent turning upon the supports. About every two months these perches should be removed and replaced by the other set. This can be done, even in cold weather, by simply shifting the fowls to their day quarters.

I remove each perch carefully so as not to dislodge any of the mites. Then I spray around the supports and clean up generally. After that I replace clean perches and allow the fowls to return undisturbed. The infested perches have boiling water, with a liberal quantity of kerosene and spirits of turpentine added, poured over every inch of them. Then they are placed on end against a tree or fence, some distance from the poultry house.

## Leak-Proof Concrete.

Leaks in concrete tanks often result from imperfect bonding of concrete poured one day and that poured the next. If you have a "caky" tank the chances are—unless the walls have cracked from too little re-enforcing—that the leak occurs at just such a place.

There are several ways to prevent this. Any concrete job should be carried through as quickly as possible. But if it is impossible to finish in one day do not smooth off the last fill. Spade down the sides to remove all air bubbles, then prick the soft surface with the point of a trowel or shovel. The rougher this surface the better it will bond.

When concrete work is to be left for several days, stick a strip of tin in the mortar with half of its width showing. Then, even though the surfaces do not bond, the joint will be water-tight.

When new concrete is to be added to concrete which has been poured a long time ago, first clean the surface with a stiff brush and water. If the surface is very smooth, roughen it with a hammer and chisel. Before pouring the new concrete be sure that the old is soaking wet. If desired a coat of pure cement can be added.

## THE CHILDREN'S HOUR

### WISHING.

Do you wish the world were better? Let me tell you what to do; Set a watch upon your actions, Keep them always straight and true;

Rid your mind of selfish motives, Let your thoughts be clean and high; You can make a little Eden Of the sphere you occupy.

Do you wish the world were wiser? Well, suppose you make a start By accumulating wisdom In the scrapbook of your heart. Do not waste one page of folly; Live to learn and learn to live. If you want to give men knowledge You must get it ere you give.

Do you wish the world were happier? Then remember day by day Just to scatter seeds of kindness As you pass along the way; For the pleasure of the many May oft-times be traced to one As the hand that plants the acorn Shelters armies from the sun.

### THE ORIGIN OF THE PLEIADES.

Because they had no books from which to read, nor any great thinkers to write books for them, the Indians who lived here in North America before we came devised legends about the wonders of nature. These legends were handed down and the young people would sit in the wigwams or long houses and listen during the long winter evenings to the stories told by old men and women about how the stars came into the sky, what caused the trees to grow, why the animals were cunning, and all such things that we too ask our parents about, when we are little boys and girls.

One legend told by the old Huron people long before even Cartier came to this country, about the origin of the Pleiades, is very quaint. The Pleiades is a group of seven stars which we may see almost any bright night high up in the sky. The Indians say these were seven very bright and clever little Indian boys who once upon a time lived here on the earth. They were expert dancers, and whenever a feast was held or a celebration given by their family, the

even brothers were called upon to dance for the company.

One time they were celebrating the harvest by the many usual dances and feasts of thanksgiving, and the seven boys were dancing in a giddy whirl just like the dry leaves, that, falling from the trees are carried around and around by a playful breeze. The boys became hungry and stopped their dance for food, but their people were so busy enjoying themselves that they took no notice of the boys, and when they asked for food, they told them to dance for it.

Clapping hands, they whirled away again while the old men beat time on the deer-skin drums. But as they danced they cried to each other "We are so hungry! We must have food!" Just as they said these words a good spirit which was passing beckoned them, and they found themselves being whirled up off the ground following this spirit without any effort on their part. Higher and higher they ascended. When their people saw them rising up to the tree tops, and going even beyond them as high as birds may fly, they called frantically to them to come back, promising to give them all the food they wished.

However, the little boys did not hear them, for their eyes were on the lovely sky land where they saw all the beauties of the cloud-world. The good little spirit fixed them there forever and turned them into seven beautiful bright stars and they were very happy, and never again were hungry for food.

### O.A.C. Semi-Centennial.

Visitors to the Semi-Centennial Celebration of the Ontario Agricultural College on June 12th and 13th will have an opportunity of meeting many noted agricultural authorities. The Canadian Society of Technical Agriculturists have arranged a lecture program that covers in a general way the field of agricultural science. A number of the lectures in each section will be given in a way that will be appreciated by the layman farmer. Such topics as Inheritance of Milk Production, Minerals in Animal Nutrition, Bovine Tuberculosis and Abortion, Forage Crop Improvement, Dusts and Dusting in Crop Pest Control, Factors in Co-operative Marketing, etc. Twelve lectures have been arranged for the forenoon of each day.

There's many a slip 'twixt the seed and the silo. It takes a farmer to be the true optimist.

## Home Education

"The Child's First School is the Family"—Frederick.

### A Question of Endurance—By Ora A. Clement.

"Yes, Janet is going to learn music," said Janet's mother, "even if I do her nearly to death to make her practice."

"Doesn't she like to practice?" asked the friendly neighbor, who was making a call. "The first half of her hour she practices very well, but almost every day she begins crying after thirty minutes are over, and I frequently have to punish her to make her finish the hour."

"You don't mean to say that seven-year-old baby practices for a steady hour each day?" The motherly eyes of the older woman were very bright as she asked the question.

"Indeed she does," the child's mother answered emphatically. "If there is one thing more than another that I cannot endure it is dilly-dallying about something. When a thing is begun, I want it finished before it is left."

The caller was silent for a moment, and when she resumed the conversation it was to introduce another subject. "Did you enjoy the lecture Prof. Mozer gave before the club yesterday?" she queried.

"It was interesting, and he is a pleasing speaker, but I did wish he could have made his lecture shorter. After four o'clock, when I felt that I should be at home getting dinner started, I could not keep my attention on the lecture at all. My mind was somewhere else, and I could scarcely sit still."

"It was a long program, and I can imagine how you felt," the neighbor agreed. "It is very hard to force one's attention when the mind is busy elsewhere."

"Well, I simply can't do it." The younger woman was very positive.

"When I have lost interest, I might just as well leave the meeting for all the good I get from what is said afterward. I don't remember a word of it."

The caller's brown eyes twinkled knowingly but kindly, as she said very gently, "I am sure that is more or less true of us all. Especially it is true of our little folks. Did you ever hear it said, Mrs. Martin, that a child of Janet's age cannot concentrate his attention for more than thirty minutes at one time? The average is less than that."

"It is not a child's fault that it cannot concentrate. It is Nature's way of insuring normal, all-round development. It is as natural as it is beautiful for children to go flitting happily from one thing to another like butterflies, and it is well to train the little ones to apply themselves to work and study by giving short tasks which can be finished within a half-hour. Longer tasks exhaust a child's power of concentration and use up nerve force. Furthermore, nothing is gained by continuing them after interest and attention are lost. But I was going to ask how you enjoyed Miss Valse's solo."

So again the subject of discussion was shifted and Janet and her lessons were not mentioned.

But the motherly neighbor was pleased the next day when, after a painstaking, if jerky, rendering of Pixie Valse with some finger exercises as a finale, the Martin's piano was quiet until Janet had had a long romp with the Jones twins, after which it tinkled methodically and cheerfully for thirty minutes more with no accompaniment of sobs.

"That is much better," she said to herself. "I only hope I did not offend Janet's mother."



The only Canadian nurse who lost an arm on the field is pictured while attending a recent convention of the Ontario Amputation Association.

## THE SUNDAY SCHOOL LESSON

JUNE 8.

### Ezekiel Encourages the Exiles, Psalm 137: 1-6; Ezekiel 34. Golden Text—I will seek that which was lost, and will bring back that which was driven away. — Ezekiel 34: 16.

Ezekiel was a priest of the temple in Jerusalem, who was carried captive to Babylon in B.C. 597, when the Chaldeans first took Jerusalem, 2 Kings 24:10-16. Five years later he was called of God to be a prophet to his fellow exiles in that far-off land.

Before the final destruction of Jerusalem in B.C. 586, he had the task of rebuking false hopes and speedy deliverance and restoration, and endeavoring to justify to the exiles the doom of their beloved city, chs. 1 to 24. After the fall of the city he bears to them messages of hope (see chs. 33-39), and portrays in bright colors and with an architect's exactness and fullness of detail, the rebuilding of the city and temple and reconstruction of the national life in a golden age of the future. His ministry continued for a period of rather more than a score of years.

Psalm 137 presents a vivid picture of the exiles in Babylon, their homesickness, their passionate love for the city of their fathers, and their hatred both of their Babylonian conquerors and their treacherous and heartless Edomite neighbors.

Chapter 34 of Ezekiel is the "chapter of the Good Shepherd." Compare John, ch. 10. The prophet denounces the evil rulers of Israel as false shepherds. They have been utterly selfish, caring only for their own enrichment and the satisfaction of their own desires: "Woe be to the shepherds of Israel that do feed themselves! should not the shepherds feed the sheep?" Ezekiel believes that rulers should care first and before all else for the well-being of the people, and especially for the weak, the erring, and the needy. He declares that Israel's princes have not done this. They have fattened themselves, but they have not fed the sheep, and they have no care for the sick, the weak, and the injured, and those which have been driven away or lost. The calamities which have come upon the people he charges to the folly and selfish greed of the rulers, vs. 11-16.

Behold 7. The promise of God is that he himself will replace the false shepherds and will care for his flock. His especial care will be for the lost and the wandering. They are to him objects not of wrath, but of compassion. He will "seek them out" and will deliver them. The promise is especially for the scattered exiles and wanderers of Israel, whom God will bring again to their own land. The picture which is presented here is one of delightful security and peace, "in a good fold, and in a fat pasture," and under the over-shadowing, ever-watchful care of their divine shepherd.

Vs. 25, 26. There is a prediction in vs. 23 and 24 of the coming Messianic king, foretold by Isaiah and Micah and again by Jeremiah. He will be, and again by Jeremiah. He will be, so to speak, an under-shepherd, caring for the flock of God, who will with them a "covenant of peace," ensuring peace and prosperity for the days to come. All "evil beasts," that is, probably, foreign invaders and oppressors, will be driven out of the land, and even in wood and wilderness there will be no fear of harm.

### Get Acquainted With Your Garden Friends

There are some garden friends we recognize, but there are many others we do not. We give the toad his welcome, but we will try our best to kill the wasps, and will turn over pieces of boards or rocks to give the chinks a chance at the big black bugs beneath, and in so doing destroy insect-eating friends as valuable as the toad. The wasps themselves do not eat insects, but live on nectar from flowers and fruit juices, but the wasps are fed on insects which the wasps gather and carry away for them, first stinging them to paralyze them until the eggs hatch and the little worms are ready for them.

The mud-dauber is the handiest wasp for you to examine a nest, but all the wasps and hornets store insects in their particular kind of homes and many of them store the most destructive worms we have to fight, and if you will note the number of spiders in a mud dauber cell you will have an idea how many insects it takes to feed one larva until it is ready to become a wasp.

Not only do we have large wasps, but there are very small wasps hardly larger than gnats, that lay eggs on worms and insects, and when these eggs hatch the larva eats the insect to which they are attached. I have seen them on tomato worms, looking like small oval white seeds, and when you find a worm thus afflicted do not kill it, for the tiny larva will do that, and if you destroy the larva of the wasps you will prevent their coming out and laying eggs on other tomato worms, for each wasp has its particular food supply and as they increase very much faster than the food supply they will gain fast on it.

The real enemy that kills off the army worms when they start on a march is a tiny gnat-like fly that lays eggs on its body. As long as the army worm stays at home, hiding in the soil during daylight, like the cutworm, it is safe from them, but it

the land itself, in this brighter future, will be made abundantly productive. God's rich favors will be poured out freely. "There shall be showers of blessing."

We still wait, as Israel waited, for this age of material good which will be extended to all. Perhaps when men have learned to live together as brothers it will come. Our lesson will suggest that much may be done by our rulers towards this end, that government is for the people—for all the people—and that the chief care of government must always be for those who need. Not wealth for the few, but welfare for all, must be the aim. The ideal of the good shepherd is the ideal of the right-minded ruler.

### APPLICATION.

The colony of Jews was planted in Babylon, and perhaps it was only there that they bethought themselves of the strange import of their prophet's message. But Jeremiah was not amongst the captives. He stayed with the "dregs" of the nation. He went with the "dregs" into Egypt, an exile, too, from Palestine. A younger man heard the voice of the Lord in the land of captivity. He knew Jeremiah well, and his blood had often bubbled faster through his veins, at the sound of the master's heroic voice. It was the task of this younger prophet—Ezekiel—to carry on his older brother's work, and to sustain the sinking hearts of his fellow-exiles in Babylon. Let us set down in order the different messages that Ezekiel delivered.

1. He supplemented Jeremiah's prediction that Jerusalem would fall. The first half of Ezekiel's book is concerned chiefly with the impending downfall of Jerusalem.

2. But Ezekiel was mainly a watchman, or pastor of souls in the land of exile. His duty it was to prepare the people for their new role in human history. He never halted in his belief that somehow the nation would be reconstituted on the soil of Palestine. There God would give it a second chance.

3. Consequently Ezekiel's message was one of hope and restoration.

4. A very important part of Ezekiel's preaching was his doctrine of individual responsibility. Had men not preached to the individual before? Jeremiah saw plainly that religion was more an affair of the individual than of the state, but it was reserved for Ezekiel to put this truth in the sharpest possible way.

What is the place of Ezekiel in the succession of Hebrew prophets? Opinions differ on details, but all agree that Ezekiel must be placed high on the roll of honor. But for him, the religion of Israel would have dwindled and died in Babylon. On all sides were the evidences of the all-powerful paganism. That religion was a gorgeous and successful affair. But Ezekiel taught his people that the Lord was mightier than the idols of Babylon, stronger and more moral than the gods of the cruel empire that for the time being had everything on its side. Ezekiel's great merit was that he answered perfectly to the need of the hour in which he lived. He bore his people on his heart,

soon finds its death on the march. Of course, there are other enemies of these pests, but this is one of the most effective.

Th ground beetles feed on cutworms and army worms, and many other such pests, and their larva do likewise. Each larva is fitted with a stout pair of pincers on the sides of its head with which it holds the worm while it eats. They are queer, stiff-jointed worms about an inch long, and larger at one end where the hard head is seen with the curved pincers always ready. Besides these beetles the lady bug beetle and its larva will devour an enormous number of plant lice or aphids.

Moles will eat thousands of grubs that are feeding on the roots of plants, but they injure plants some in doing it, and the same is true of the shrews, which make runs much like the moles.

### Nitrate of Soda Helps in Cold Springs.

In such a season as this, cold and wet, the greatest need of the plant is for nitrates, says the Department of Chemistry, Ontario Agricultural College, Guelph. The ground is so cold and wet that it takes a long time to warm up and as a result bacterial activity is at a low ebb. As a result no nitrates are being formed in the soil and plants cannot make vegetative growth.

To correct this and enable the plant to get away to a good start, apply nitrate of soda one hundred pounds to one hundred and fifty pounds per acre at once. If bought in lots of several hundred pounds it can be obtained at a reasonable price and its benefit is almost certain. Do not, however, apply if heavy rain threatens, as it is soluble and will be lost by washing.

Another benefit which will be derived is this. The nitrate of soda dissolves in the soil water and soaks down into the soil. The roots go after it and hence the result is a deeper rooted plant more able to withstand the period of drought which so often follows a wet seed time.

Pulse economy is the hole-in-the-pasture fence.