

# Soils and Crops

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### Fills Its Silos With Sunflowers.

Sunflowers are to-day one of the most important silage crops in Western Canada, and one in which Ontario farmers are rapidly becoming interested. The rise of this once despised weed to a position of recognized value in the economics of a nation has been one of the most interesting agricultural developments of recent years.

Only a little while ago, one perhaps might have seen in Western Canada a few tall sunflowers nodding their big blossoms in some neglected fence corner where they had escaped the reaper or mower. Now on hundreds of prairie farms every summer broad fields of sunflowers make the landscape gorgeous with their masses of yellow blossoms.

Sunflowers have greatly increased the number of silos. Since they have become a cultivated crop, the prairies are becoming dotted with silos. Every prosperous farmer has a silo or is planning to build one.

Time was when Western Canada was divided between wheat and cattle. The cattle pastured on the open range, the wheat was almost an exclusive crop. These were the days of the cattle king and the wheat baron. They were bonanza days when big farmers scored a fortune or a failure in a year.

To-day is the day of the small farmer and diversified farming in Western Canada. The settlers are raising not only wheat but other field crops and all kinds of live stock. Their prosperity is based on a diversity of farm products.

This era of diversified farming has helped the sunflower to its new place in agriculture. Silage is necessary as a winter feed for live stock and sunflowers have solved the silage problem for many farmers. There is a race between corn fodder and sunflowers for supremacy as a silage crop and sunflowers are gradually forging to the front.

"A conclusive test as to the relative merits of sunflowers, corn, oats and pea silage was recently made on a Canadian government experiment farm," said DeWitt Foster, superintendent of the industrial and resources department of the Canadian National Railways. "A herd of Holsteins was fed on the three silages two weeks at a time, each cow being given thirty pounds daily. On sunflower silage, each cow produced 27.2 pounds of milk daily of 3.6 per cent. butter-fat content and gained two pounds in weight per day; on peas and oats, 25.88 pounds of milk of 3.5 per cent. butter-fat and gained one pound per day; on corn, 26.4 pounds of milk of 3.4 per cent. butter-fat and gained 1.85 per day."

Two great advantages sunflowers have over corn as a silage crop. They cost much less to grow and their yield is very much heavier. On good land thirty tons of sunflowers may be grown to the acre. Corn is a hardy crop but sunflowers are hardier. They thrive on dry land where corn would be a failure. They flourish under soil and climatic conditions that would kill other crops. Twenty tons to the acre on poor land is not unusual. As for the cost of turning sunflowers into silage, one farmer who has been feeding his cattle sunflower silage for several years estimates that it costs him \$1.50 a ton to pack the sunflowers into the silo. Last year he fed his cows thirty pounds of sunflower silage a day and they averaged from forty to fifty pounds of milk a day.

The palatability of sunflower silage was a question at first which led some farmers to doubt its value. This is no longer a problem. It is sometimes a matter of a little difficulty to wean cows from corn silage when they have grown used to it and accustom them to sunflower silage. Corn perhaps has a daintier flavor to the bovine palate

# Poultry

Salt is not necessary in poultry feed but half a pound to 500 pounds of mash seems to improve the flavor. A little charcoal is good for the digestive tract as an absorbent. Oyster shells are necessary to make strong egg shells, and grit as a grinding material is very important.

In feeding scratch grain it is best to give about one-fourth in the morning and three-fourths at night. This keeps the birds hungry in the morning so they will eat more of the mash containing animal protein. The results from dry mash seem as good as from wet mash. If wet mash is used it should be given at noon. Mr. Ferguson says that hens do not need water if they have plenty of milk.

A southern exposure is best for the hen house. It should not be in a low place where air drainage is lacking and fog will settle about the house, or on the highest hill where there is too much exposure to the wind.

A sandy loam is the best soil about a hen house. It should have a gravelly sub-soil that is easily drained. On a heavy soil there is greater danger of contamination. The poultry house floor is of great importance. The earth floor is cheapest but must be dry and it may become dusty or damp and is hard to clean. The board floor is the

than sunflowers. But the question is solved quickly by feeding the cattle a mixture of corn and sunflower silage and gradually changing to an exclusive sunflower diet. When they have once acquired the taste for sunflower silage, it is said cattle seem to prefer it to corn silage. At least they eat it with equal appetite and with equal physical benefits.

By making silage cheap and abundant, sunflowers have aided the farmers of Western Canada in a very material way. Silos practically double the stock supporting capacity of land, and sunflower silage enables a farmer almost to double his dairy or beef herd without adding to the acreage of his farm.

### Kill Your Quack Grass in the Spring.

Some six years ago I noticed a few patches of quack grass had worked their way into one of my fields from the highway. If I had the same condition to contend with now I would dig them early in the spring when the ground is soft, and burn the roots. It would have taken less than a day, and would have saved me considerable bother and expense. A person can dig a lot of quack grass in a day if it is just in patches. I had had no previous experience, however, so I tried killing it with a hoe and then trilling pulling it. Then I seeded the piece to clover and it is gone.

My first success was three years ago, when I set a somewhat infected piece to raspberries, and raised a crop of cucumbers between the rows. The cultivation was very thorough and both the berry plants and cucumbers made a vigorous growth. I do not remember thinking about the quack grass at all as we cultivated (my man did part of the work), but along in the summer it occurred to me that I had not seen any in that piece for a long time, and I began to wonder just what I had done but I had a theory that I knew yet, but I had a theory that I felt sure of, so I plowed up my clover piece the next spring with a determination that in the fall there would not be a spear left.

I planted the field to silage corn, hilling it so I could cultivate it both ways and hand-hoe it. Our corn grew very high with lots of leaves for shade and we cultivated and hoed continually. But when the corn was in the silo and we could look over the field, I could not see that we had hurt the quack grass much. I sowed rye immediately for another crop of silage corn. My enthusiasm about getting rid of the pest was getting pretty well down, but I put in half a day digging out, pulling patches, and made up my mind to do the best I could with the cultivator and let the hoeing go.

We cultivated before the corn was up, and three-times more as rapidly as seemed advisable, and then rose hoes, leaf hoppers, grape berry moth, etc., took up our time. But this year when the corn was in the silo I could not see very much quack grass in the field. What there is left I can dig up in a few hours in the spring with a potato fork.

I have noticed while digging quack grass at this time, that many of the root stalks were dead, leaving only tender sprouts that seemed easy to destroy. It has also surprised me that wherever I dug these patches in the spring, that they were entirely destroyed, though I had gotten every root. It seems, therefore, that this must be the plant's most vulnerable time. The vitality of the root-stalk is at its lowest, after going through the winter, and it then makes a rapid growth, storing up food and moisture against the farmer's cultivator and hoe and the summer drought until it is nearly invincible; and we must destroy the plant if at all, before this new growth takes place.

dryest and warmest but should have a concrete foundation to keep out rats. In making a concrete floor it pays to build it up on coarse field stone or cinders to prevent dampness. Then place strips of roofing paper in the cement and it makes a floor that is possible to do thorough cleaning.

The use of a straw loft in a poultry house helps to prevent damp conditions. Such houses are cooler in the summer and warmer in winter. Hollow tile is considered a better material for poultry house walls than cement, but not as dry as lumber.

### A Dangerous Practice.

Please permit me to call the attention of your readers to the dangerous practice of throwing boards down with nails sticking from them, and leaving them lying around, a constant danger to anyone with worn, thin shoes, or barefoot children in summer. This is a very common habit and causes many deaths from tetanus or lockjaw unless attended to promptly and skillfully.—A. L. P.

### A Garden for Every Home.

There are two ways in which the residents of cities, towns, and villages can make the surroundings of their dwelling attractive and thus benefit not only themselves but also the entire community. The first is by cleanliness and tidiness in their surroundings, including the back yards, and the second is by paying some attention to the planting of shrubs and flowers. At the recent convention of the Experimental Union held at the Ontario Agricultural College, the president of the Union, Mr. J. B. Spencer, laid particular stress upon the part that horticulture could be made to play in the improvement of the farm and urban dwellings, and indeed in the beautification of the whole countryside. He said that not only were the Horticultural divisions of the Ontario Agricultural College, Guelph, and of the Macdonald College, Quebec, ready to receive every assistance in pursuance of this object, but that the Department of Agriculture at Ottawa through the Dominion Horticulturist, Mr. W. T. Macoun, was prepared to give instruction and advice. The lessons acquired at the Experimental Farms during the past forty years were at the disposal of all enquirers by means of reports, circulars and bulletins, which could be had by application to the Publications Branch of the Department of Agriculture at Ottawa. In these were given much information as to the characteristics, planting and cultivation of both ornamental and useful plants. There was also a lantern slide lending service, with accompanying information for lectures, on the planting and care of farm home grounds, available to responsible people for use in addressing meetings.

The speaker urged that no opportunity should be lost by horticultural societies in helping, aiding, and assisting the beautification of urban and rural points in this way. Communities in Ontario were advised to take advantage of the new Community Hall Act, an Ontario Act which made provision for encouragement to horticulture. Ottawa, St. Thomas and St. Catharines were typified as cities that had given special attention to beautification through the laying out of land with plants, shrubs and flowers.

### Better overhaul the incubator.

"I know a place up country, In God's great out-of-doors, A quiet sheltered corner On which the springtime pours The wine of warmth and magic, And well I know the sun Has kissed the grove of maples, And the sap begins to run."

Seed is too frequently shipped by farmers and country shippers in damaged bags, the larger holes being stopped up by corn cobs, sticks, wads of paper, etc., or the cloth around the hole gathered up and tied.

When you see a fine poultry plant do not judge at once that it is paying a large profit. When you see rather poor looking buildings do not consider the owner a failure with hens. Some times the owner of the big plant slips coupons to help pay his manager, while the owner of the small plant is saving some hen money each year to help pay off the mortgage on the farm.

### When the Son Marries

BY HILDA RICHMOND.

Every real mother likes to send her daughter forth on her wedding day with as nice an outfit as the family purse will afford, but many good mothers are really ignorant of the fact that their sons should have certain articles, as well as should the prospective bride. Many families innocently suppose that if they give the young fellow a sum of money to help buy his furnishing and furniture, nothing else is necessary. Indeed many of them, and well-to-do people at that, provide nothing for their sons to take to their new homes. This comes about through lack of knowledge rather than stinginess many times.

One bride was amazed when she looked over her young husband's clothes to find that he owned nothing but garments thriftily patched and repatched by his frugal mother. Of course, he had a new overcoat and new things from the skin out, but his entire wardrobe, which was small, was in poor condition. Now that mother would have given up her life for that boy if it had been necessary, but she did not hesitate to humiliate him by sending him forth with such an outfit, when she could well afford to make or buy new for the young man who had faithfully worked on his father's farm since returning from high school.

The mother of the young man about to be married should see that he has enough undergarments, night shirts, socks, shirts and personal articles, such as handkerchiefs, ties and little things, to last several years. Young men starting in life find many places for their hard-earned dollars, and the boy who does not have to pay out money immediately for working clothes and underwear is very grateful to the mother who foresaw the difficulties and tight places of the first years of married life.

Every young man should have his own bedroom suite to take from his old home with him. Perhaps the bride

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### THE SUNDAY SCHOOL

MARCH 19  
The Downfall of Israel, 2 Kings 17: 9-18. Golden Text—Prov. 14: 34.

Time—B.C. 721.

Lesson Foreword—Amos and the other prophets had predicted the downfall of Israel as a punishment for its sins. Events moved swiftly on, Hoshea the last king of Israel, perished in the evil course of his predecessors. Shalmaneser, the king of Assyria, which was the great world power at the time, made an expedition against Israel, reduced it to vassalage, and exacted an annual tribute. One year Hoshea refused to pay tribute and the Assyrians discovered that he had entered into treasonable negotiations with Egypt, the great rival of Assyria. Thereupon Shalmaneser, in another expedition laid siege to Samaria and after three years captured it. The king and a great number of the people were deported to Assyria and forced to live in exile.

I. Disobedience, 9-12.

V. 9. The children of Israel did secretly. Publicly their religion was supposed to be the worship of Jehovah, their national God, and no doubt they observed the religion of Jehovah. But they tried to combine with it heathen elements which they practiced in secret lest God should see them. For secret rites see Ezek. 8: 7-12. Built in high places. The Canaanites, their predecessors in the land, worshipped their gods, the Baals, at what were known as high places. These were altars built on elevated places or hills of which Palestine, as a mountainous country, is full. Tower . . . city. Towers were used for the protection of flocks and vineyards. "These protecting towers were probably adjoined by the rude houses of peasants, and out of these groups of dwellings larger places would arise." What is meant here is that high places were built everywhere from the smallest human habitation to the largest.

V. 10. Images. As the Hebrew word indicates these images were stone pillars in which a god, particularly the Canaanite Baal, was supposed to have taken up his residence. Sometimes they were carved grooves. These were trees sometimes stripped of their

foliage, and sometimes left as they were. Like the stone pillars they were supposed to be inhabited by a god. Sacred stones and pillars were worshipped extensively by the Canaanites. Every high . . . tree. The favorite place for setting up a sacred stone or pole was on a high hill tops or in a grove of trees. (See Jer. 2: 20; 3: 6, 13.)

V. 11. Burnt incense. Incense was made of gums and resins and the perfumes for which Arabia was famous. It was used in the worship of the Jerusalem temple but here it was burnt to heathen gods, probably the Canaanite Baals. (See Hos. 2: 13.) As did the heathen. This was their sin. They should have been a "peculiar people" instead of becoming assimilated to their heathen neighbors. Wrought wicked things. This undoubtedly included their social wrongs, such as the oppression of the poor by the rich, and the miscarriage of justice which the prophets had denounced.

V. 12. Served idols. These were probably images of men, women, beasts, reptiles and birds. They were set up both in public places and in their homes. Ye shall not do this thing. According to the law of Israel no representation or image of Jehovah was ever allowed and Israel had no right to worship any other god.

II. Ingratitude, 13-17.

V. 13. Israel had no excuse for its sins. God had not left them in any doubt as to his will. He had sent plenty of prophets and seers to deliver His will and to warn them against disobedience (see Jer. 7: 25; 1: 7). All the law which I commanded. Not only had the prophets declared God's will but it was embodied in the law which Israel had solemnly accepted of God in the wilderness. This was Israel's distinct possession, marking it off from its heathen neighbors, and if it had followed this law it would not have become assimilated by its neighbors.

V. 14. Would not hear; refused to listen to the prophets who spoke for God. Hardened their necks. They were stubborn, like an intractable animal which refuses to be driven. Like their fathers. There was an ancient and inherited disposition.

V. 15. Followed vanity. In the Old Testament an idol was frequently called "a vanity." That is, it was a mere nothingness, being lifeless and devoid of any help. Became vain. They became as empty as vanity. The idols they worshipped. Went after the heathen. Again and again Israel had been told that they were to be a peculiar people, unlike any of the nations around them. But they were small and weak in comparison with some of the heathen nations and they supposed that by worshipping the gods of these nations they might become powerful as they were.

V. 16. The writer seems to be so passionately indignant with the sins of Israel, that he begins to rehearse them. (See Zeph. 1: 5; Jer. 7: 18; 19: 13.) Molten images, even two carved wood but others were made of metal as these. It was Jeroboam who introduced the golden calves. (See 1 Kings 12: 28.) There were images of bulls which because of their miniature size were called "calves." All the host of heaven. The worship of the stars was introduced from Babylonia, the land of their conquerors.

The stars were supposed to be inhabited by gods; their movements were carefully watched by the astrologers, because of these movements the gods made their will known. Sin worship became very popular in Israel. (See Zeph. 1: 5; Jer. 7: 18; 19: 13.) Baal; was the name of the Canaanite god. There were not one, but many Baals. They were supposed to give fertility to the soil and to preside over the arts and crafts.

V. 17. Caused their sons, etc. This refers to child sacrifice. The children were not made to walk through the fire but were bound to an altar and by means of fire were dedicated to the god. Usually the child sacrifices were made to the god Molech and were regarded as particularly effective in securing the help or favor of the god. Divination and enchantments. These were magical means used for discovering the will of God. But God expressed himself through His prophets and priests without the use of magic.

III. Punishment, 18.

Vs. 2-8 and the Lesson Foreword should be read carefully in connection with this verse. Removed them. The Assyrians who conquered the kingdom of Israel held their empire together by a policy of frightfulness. When they conquered a people they deported them to another land and filled their places with another conquered people. In this way they hoped to break the spirit of their victims. There were none left but the tribe of Judah only. The tribe of Judah formed a separate kingdom and were not conquered until considerably later. The kingdom of Israel as the northern kingdom was called, was much richer than the kingdom of Judah, and since it attracted the attention of the Assyrians, it met an earlier doom.

Application.

1. The cause of Israel's downfall. Doubtless there were various converging causes, but the main one was the elimination of the truly religious experience from leaders and people. We know from the prophet Hosea, and also from the narrative of the lesson passage, that there was a loud appearance of religion (vs. 8-12), but the reality was missing. The ritual was a mixture of foreign customs, and the conduct of the people was frivolous and irresponsible. No man spared his brother. No nation can endure with such a sandy foundation.

2. The great responsibility of the leaders. Hoshea had some redeeming features of character (v. 2), but he did not keep the treaty with the king of Assyria. He thought that he could break the covenant with impunity—and he paid the consequences of his breach of faith.

It is said that the German Chancellor sneered at the idea of Britain adhering to her treaty with Belgium. It was only a "scrap of paper," and the consequences of loyalty to it would be dreadful. The British ambassador replied that where honor was concerned, Britain did not count the cost. It was a noble reply, and one would like to feel that the nation's rulers always lived up to it as courageously as they did in 1914.

3. The strange ways in which God attains His goal.

The divine method to-day may require us to leave behind some old forms of thought and organization and enter the new and untried country before us, with new methods in our hands. A generation ago we used the cradle to cut our wheat; then followed the reaper, then the self-binder. So one instrument in the divine hand gives way to another and better one for the fulfillment of His purpose.

Says Sam: Tell me what your family does after supper and I'll tell you where your boys and girls are.

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