Soils and Crops

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THE POTATO CROP.

Much can be done before potatoes are planted to ensure a good crop. It is a mistake to cut the sets several days before they are needed, but if this is done they should be sprinkled with slaked lime. At the Rosthern Experimental Station in Saskatchewan, the crop from sets cut two weeks before planting gave a yield of 209 bushels to the acre, which was 170 bushels to the acre less than those planted on the day cut.

Even though seed may be sound and appearp erfect in every way, there is no assurance that it will produce a good crop. The source of the seed has great influence on the yield. The Maritime Provinces and New Ontario both appear to have favorable climatic condition for producing vigorous seed.

It has been proved again and again by the Experimental Farms that immature seeds is better than that which is thoroughly ripened. Seed grown under conditions that are favorable for keeping the tops green well into the autumn appears to give best results. The value of immaturity in the seed is further proved by experiments in the use of seed from crops planted on different dates. May planting gave poor planting stock for the next year, compared with that put in toward the end of June.

Potato yields may also be increased by using sprouted seed, a practice sometimes followed by market gardeners. It does not do to depend on the long white sprouts that potatoes produce in the cellar. The sprouting should be done in the light so that the sprouts will be green, stocky, and not easily rubbed off. The cold frame is sometimes used for the purpose, but sprouting may be done in the attic of a dwelling house or in a well lighted room where frost can be kept out. The potatoes should be spread in a thin layer or placed in shallow boxes or trays with the seed end up. The boxes are then put in a bright airy place, where the temperature is too cool for the sprouting to begin. After a few days the potatoes will turn green and the skin become tough. They are then given a little more heat, and two or three strong sprouts will soon appear. The sprouts should be about two inches in length at planting time. If allowed to grow longer than this they are more difficult to handle without injury.

Recommended varieties are, for early crop, Irish Cobbler and Early Ohio; and for main crop, Green Mountain, Wee McGregor, and Empire State.

REGISTERED COCKERELS.

Canada is setting the pace for the whole world to follow in the system adopted to obtain registered cockerels.

The bred-to-lay cockerel that can transmit to his pullets the ability to produce a large number of eggs is what all keepers of utility poultry are after. It is recognized that the quickest way to increase the average egg yield of any flock is through the male, and this fact is commercialized by many breeders of so called bred-to-lay stock, who advertise high producing males that have not the breeding behind them, and are therefore unable to transmit this quality to their offspring.

Because of this fact dishonest breeders have foisted overrated stock upon the public, and one of the reasons why registered cockerels are wanted is to overcome this practice of selling inferior birds as good breeding stock.

At the present time it is possible for honest breeders to enter their pullets in the Laying Contests (of which there are 12 throughout the Dominion), and by having their birds qualify to produce cockerels that may be registered by the Canadian National Records.

The fact that a cockerel is registered is a guarantee to the public that he has a certified pedigree behind him, of at least two generations of 200 (or more) egg blood, and that he is himself a bird typical of the breed and without standard disqualifications. Such a bird grown in our Canadian climate means the very best procurable in breeding for high egg production.

THE SUNDAY SCHOOL LESSON

MAY 18.

Isaiah and the Assyrian Crisis, 2 Kings, chs. 18 to 20; Isaiah chs. 36 to 38. Golden Text—God is our refuge and strength, a very present help in trouble.—Psalm 46: 1.

In the ninth and eighth centuries before Christ, Assyrian emperors led their armies westward as far as the Mediterranean Sea and made conquests of the smaller nations which they held under tribute. About B.C. 854, king Jehu paid them tribute. In B.C. 745 there came to the throne of Assyria a soldier of great energy and ability whose name was Pul (2 Kings 15:19, 20), who assumed the royal title of Tiglath-pileses. Under this king and his successors the empire extended its power rapidly over all the western countries of Asia as far as Egypt, and reduced Palestine and Syria to subjection. After a vain but stubborn resistance, the kingdom of Israel came to an end with the fall of Samaria in B.C. 722, and in B.C. 701, Judah was invaded, many cities taken, and great numbers of people carried away captive. Jerusalem was reduced almost to the last extremity of despair, but was not taken, and so, though subject to Assyria, the kingdom of Judah continued for another hundred and fifteen years.

During these terrible years of war and suffering and overwhelming catastrophe, the prophets of Israel and Judah rendered a great service. They spoke for the God of their fathers and declared him to be the God in whose hands were the destinies of all the nations. They interpreted the calamities which had fallen upon the people as the just punishment of their sins. They urged a sincere repentance and reform, and promised a great deliverance. Isaiah and his younger contemporary Micah sustained the faith and courage of Judah and Jerusalem in the most trying times. They declared Assyria to be but the rod in Jehovah's hand with which he chastised rebellious people, and that Assyria's pride, selfish greed, and cruelty would in turn receive the same punishment. With a confidence born of faith and with clear prevision, Isaiah declared that the Assyrian armies would not take Jerusalem, but would be destroyed by the hand of God, and our lesson shows how remarkably this promise was fulfilled.

Isa. 37:14. *Hezekiah.* This king of Judah, is well spoken of by the historians. He did that which was right in the eyes of the Lord. For the story of his reign see 2 Kings, chs. 18-20. At this time the Assyrian armies were in Judah, and the Assyrian king, who was laying siege to the fortress of Libnah in the south, had heard that an Egyptian army was coming against him. Unwilling to leave so strong a walled city as Jerusalem unoccupied in his rear, he sent a letter by messengers to Hezekiah, demanding its instant surrender, vs. 9-13. The boastful character of the letter is imitated by Isaiah in his prophecy, ch. 10:5-14. A previous expedition against Jerusalem, commanded by one of the king's chief officers, had returned unsuccessful. Hezekiah, having no confidence that he could hold the city against a determined attack by his enemies, in the extremity of his need, went up into the temple and laid the insulting letter *"before the Lord,"* with a simple and earnest prayer for deliverance, vs. 15-20.

Vs. 21-23. *Isaiah* had opposed the break with Assyria and the alliance with Egypt which had led to the present war. See Isa. 30:1-7 and 31:1-3. He had urged, apparently, a policy of peace which would have meant continuing to pay tribute to Assyria. Many years before, in the reign of Ahaz, he had opposed reliance upon Assyria as he now opposed reliance upon Egypt, ch. 9. But his counsel had been disregarded and the calamity of a war of invasion which he had foreseen (ch. 5:25-30; 8:5-8) had come upon Judah. Now the king and his ministers turn to him in their distress. When the Assyrian army appeared before the walls he had sent the king a message of comfort, "Be not afraid." Now he sends an answer of splendid defiance to Sennacherib's letter. It is the prophet's faith and courage that strengthen the heart of the king and save the city. Through the mouth of the prophet comes the answer of God.

V. 29. *I will turn thee back.* It will be interesting to compare other earlier sayings of Isaiah in which he declares that the Lord will protect his city and will destroy its enemies, for example, 14: 24-27; 17:12-14; 29:5-8; 30:31; 31:8, 9.

Vs. 33-36. *The angel of the Lord* is here, as in 2 Sam. 24:15-17, and Ps. 78:49-51, the bearer of the pestilence. By some fearful plague, such as has frequently broken out in that country, the Assyrian army was stricken and was so reduced in numbers that the remnant went back to Assyria without having completed the conquest of Judah. The faith of Isaiah was vindicated.

APPLICATION.

1. Isaiah is the prophet of faith. Before him Amos was the prophet of social justice. Hosea was the prophet of divine love and forgiveness. Micah was the prophet of the poor peasants who groaned under the oppressive measures of the landlords. Isaiah is the most royal figure among the prophets, dauntless, bold, aggressive, always lifting up the hearts of people and government alike, and directing their attention to the spiritual sources of power.

2. Isaiah's character was revealed by the crises in the nation's history with which he had to deal. The first crisis was when Syria and northern Israel declared war on little Judah. The account is given in Isa. ch. 7. The timid monarch, Ahaz, was struck with a fatal panic. The young prophet (the time was B.C. 735, and Isaiah was still in his twenties) endeavored to strengthen his courage, and gave him eminently wise political counsel for the emergency. But Ahaz trusted in Assyria rather than in the Lord, and so put his nation under the yoke of the foreign conqueror. This national crisis occurred at the beginning of Isaiah's long career. Our lesson deals with another crisis somewhere near the close of the prophet's life, and this time he was triumphantly successful.

3. Isaiah's faith in God was on one side; pagan confidence in the supremacy of brute strength was on the opposite side. Which deserved to win? Over against the Assyrians' shallow confidence in military might, let us place the spiritual faith of the prophet that the Lord still had his purpose to serve by the preservation of the city of Jerusalem, and that the virgin daughter of Zion might laugh the proud battalions of Assyria to scorn, 37:22.

4. The lesson shows us what one man, with a large view and an all-conquering faith, can accomplish. Isaiah saved the nation in its day of peril by bringing it—not fresh military reinforcements, or new political treaties—but inspiration, courage, simple confidence in God. Always our greatest helpers are, not our scientific inventors (although their work is very important), or our clever politicians, or financiers, or soldiers—but the deep thinkers and prophets who make us brave to dare, strong to resist, ambitious to do God's holy will.

5. The darkest hour may be immediately before the dawn. It was so when the Assyrians threatened Jerusalem. It was so when the German hordes were within a few miles of Paris. It was so when Jesus was crucified. What is needed at such a crisis is the faith that sees the sun shining beyond the darkness.

THE CHILDREN'S HOUR

BENNY SEES A BIRD FIGHT.

BY LEREINE BALLANTYNE.

High in the air rose a great bird, and darting at it, picking and worrying it, was a smaller bird.

"Oh see!" exclaimed Benny. "What is the little bird doing that for?"

Grandad Fairway looked up to where the larger bird was trying his best to first mount, and then dive away from his torment.

"Go to it, little fellow," he said with a laugh. "Give him a good drubbing."

"Why?" asked Benny.

"The big fellow is a hawk, and has no doubt been trying to steal his little ones."

"Will he kill the hawk?" Benny questioned eagerly, as the birds flew further and further away, the little one still attacking his enemy viciously without any sign of letting up.

"Bless you no. He can't hurt him very much; only makes him uncomfortable, and drives him away, warning every other living thing in the district with his outcries, so that Mr. Hawk will have to search elsewhere for food.

"Where is his nest?" was Benny's next question, for Grandad Fairway had a beautiful big home called "The Elms," and in the orchard and grove near-by were to be found nearly every type of bird. They all seemed to know they were safe on Grandad's farm, and came year after year to "The Elms." Grandad had all sorts of books telling about nature and birds and beetles, and each year when Benny came up to spend his holidays he learned about these things, and hunting them to watch their peculiar habits made the time pass so quickly that Benny just dreaded school time coming when he must go back to the school of books, for he preferred learning from the school of nature, especially when Grandad was the teacher.

"Where is his nest?" repeated Grandad. "Let me see. I think we shall find it on one of the outer branches of the wild plum tree growing at the far corner of the orchard."

That afternoon was warm and drowsy, and having nothing else to do, Benny insisted on going at once to find the nest.

Grandad was right. In a forked branch of the old plum tree, carefully concealed, was the king-bird's nest. Mrs. King-bird was sitting on it watching eagerly for her mate to return from his encounter with the hawk.

Soon he came hurrying back, and lighting on a branch near her, told her all about it, scolding the old hawk roundly. With a soft little "K-y-rie" note she answered him, agreeing no doubt with everything he said.

Standing near the fence several rods away, Benny and Grandad could easily see him as he darted about. His vest was a soft creamy grey with a coat of darker grey, and his dark tail was tipped with a pretty edging of white across the end of it. His real mark of beauty is the little crest of crimson on the top of his head. Benny noticed it and pointed it out to Grandad.

"Yes," said he, "there is a story about that. You see, the King-bird belongs to the family of fly-catchers because it eats many kinds of flies and insects, and it also catches an odd bee when it fancies one. Usually it takes the drones, but sometimes it takes an odd honey-bee when it fancies one. So the story was once told that when it wished to get a bee it simply sat motionless on a branch of a tree and opened its beautiful crest, which resembles a flower so much that the bee would fly toward it."

"And does it really do that?" Benny asked.

"No, I do not think so," Grandad said. "I fancy it is agile enough to get a bee on the wing when it wants one, since it can dart around the hawk and other birds larger than itself so cleverly. However, the story of the bee has done it a lot of harm, giving it a bad reputation when it is really a very useful bird, as are all fly-catchers. However, his name signifies his real character—Kingliness, for surely a king should be very courageous, as were the really great kings of history, and no bird is so brave in attacking birds far greater in size than himself than our little friend there, and therefore he is well named."

A Walnut Tree Pest.

The walnut tree is liable to severe injury by the walnut caterpillar, an insect that was more or less prevalent throughout Southern Ontario last summer. In some localities the trees were badly stripped of leaves the latter part of the season. Partial defoliation at any time interferes with the normal functioning of the tree, and complete stripping year after year will finally result in the death of the tree. Other trees subject to attack are the willow, beech, honey locust, thorn, oak, and apple.

Circular No. 21 of the Dept. of Agriculture at Ottawa gives a picture of the moth, the parent of the caterpillar. The wings have an expanse of about two inches, are buff color, much darker in the centre and are crossed with dark brown and whitish lines. The under or back wings are pale buff. The larva when first hatched is about one-fifth of an inch long. The body is of brick-red color. When full grown the caterpillar is blackish without markings other than an indistinct white lateral line and a conspicuous white central line along the under portion of the body. It is covered with fine greyish-white hairs and measures from 1½ to 2 inches in length.

Spraying the trees as early as caterpillars are observed is recommended. A good poison mixture consists of three pounds of lead arsenate in fifty gallons of water. Another system of control consists of destroying the masses of caterpillars during the moulting period when they are resting quietly on a trunk or branch. A stiff brush may be used to bring them down at this time.

Burning Brush.

Many of us have difficulty in burning brush, as it may be too green or too wet at the time we want to burn it. When draining the old oil from the automobile crank case save this and use it to pour over the brush. In this way brush that is almost green may be very easily destroyed. If very much oil is needed the local garage man will likely be glad to save his old oil for us if he is furnished with a can to put it in.

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