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# Farm Crop Queries

CONDUCTED BY PROF. HENRY G. BELL

The object of this department is to place at the service of our farm readers the advice of an acknowledged authority on all subjects pertaining to soils and crops. Address all questions to Professor Henry G. Bell, in care of The Wilson Publishing Company, Limited, Toronto, and answers will appear in this column in the order in which they are received. When writing kindly mention this paper. As space is limited it is advisable where immediate reply is necessary that a stamped and addressed envelope be enclosed with the question, when the answer will be mailed direct.



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J. S.: On a piece of ground there is some Canada thistles, also a little quack grass. It is light ground but we are manuring it this spring. Would you sow alfalfa? Does it grow good on light soil?

Answer: Alfalfa does well in comparatively light soil. However, I would not advise sowing it on ground where there is much quack grass as this grass tends to kill it out. If you especially wish to put the piece of ground in alfalfa, I would advise you to plow it fairly deeply as soon as it will work and then disc and harrow it every two weeks until early in June. By this means you will have killed out a large quantity of the thistles and quack grass. Unless you have put manure on the ground already, I would not advise you to manure it this spring until the latter part of May or early in June. Then put on a dressing of well-rotted manure and work it thoroughly into the ground. At the time you are seeding alfalfa, I would suggest drilling in, or broadcast and harrowing in, about 200 lbs. to the acre of 2-10-2 fertilizer. This will give the young alfalfa a good start.

G. L.: Is hydrated lime worth putting on ground, and how much would you apply per acre to a light soil needing lime?

Answer: Hydrated lime is a comparatively pure form of lime since it is burnt lime slaked with water. To show you how pure hydrated lime is, 1,480 lbs. of hydrated lime is equal to 2,000 lbs. of air slaked burnt lime or a ton of ground limestone. If you are applying it to the ground, I would not advise putting on more than 1,000 lbs. to the acre.

R. H.: What are the various benefits derived from putting wood ashes on the land? (2) Will it be practical to plant soy beans year after year in the same field?

Answer: Wood ashes benefit the land in two ways. They add from 30 to 50 per cent. of their weight of lime. That is to say that the wood ashes carry this much lime. If protected from the rain, wood ashes carry about 2 to 5 per cent. potash, hence they are valuable as a source of this important plantfood.

(2) It is not considered good practice to sow soy beans year after year on the same ground. You would do much better to use them in a system

of crops, working them in about where clover would occur.

J. L.: I have a good stand of wheat on three acres of new ground that I would like to sow to alfalfa this spring. Can it be done and not harm the crop of wheat? How had I best go about it? Where can I get seed and how much must I sow?

Answer: You can seed your wheat with alfalfa this spring if you take immediate action. In many parts of the country farmers get very good stands of alfalfa by sowing fifteen to eighteen pounds of good seed per acre on top of the growing wheat before the last snow has gone off and before the frost leaves the ground. When the frost is going out, the ground is open and full of cracks, hence the seeds are sufficiently covered. Sometimes it is good practice to follow the seed by a light harrowing with the rows and not across them. You will find it exceptionally good business to fertilize the wheat with about 200 lbs. per acre of a fertilizer analyzing 2 per cent. nitrogen, 8 to 10 per cent. phosphoric acid, and 2 per cent. potash. This can be scattered just before the seed is sown so that if the wheat is harrowed the working of the soil will work in the plantfood and the alfalfa seed at the same time. The additional fertilizer will not only help the stand of alfalfa but will greatly increase and improve the wheat crop.

M. W. G.: I wish you would tell me the difference in the fertilizing value of horse and cattle manure. I have a chance to buy some cattle manure with a one-mile haul. I get horse manure from the city with a two and a half mile haul. I was told the cattle manure is six times as good as horse manure. What do you think it would be worth per ton? I get horse manure for nothing, keeping them cleaned up the year round.

Answer: The difference in fertilizing value between the two classes of manure you name, if both are fairly well protected, is as follows:

	Pounds Per Ton	Horse Manure	Cow Manure
Water	156 lbs.	174 lbs.	
Nitrogen	14 lbs.	12 lbs.	
Phos. Acid	5 lbs.	3 lbs.	
Potash	11 lbs.	9 lbs.	

These figures would not show the difference that you mention.

# Poultry

W. W.: Kindly give us your idea of an outdoor brooder for small chicks, the brooder is to be kept warm by a lamp or lantern.

The writer does not wish to advise the use of a home-made brooder that is to be kept warm by a lamp or lantern. So many brooders of that kind produce weak chicks because it is necessary to cut down the ventilation in order to keep up the heat and prevent huddling. There is also a great fire risk in using such brooders.

The cost of a brooder that is properly made is not large compared with the prospective value of the chicks it protects. So it will pay you to study some of the literature put out by the manufacturers of brooders. We have used oil brooders but always found them more satisfactory in colony houses, especially on windy or stormy days. The best brooding proposition is the stove brooder which will protect two or three hundred chicks and furnish them plenty of heat and fresh air at the same time.

## Canada's Tobacco Crop.

According to returns furnished by the Tobacco Division of the Dominion Experimental Farms, while the quality of the crop, especially in Ontario, grown last year was above the average, the season was not the most profitable to growers. In eleven counties of Ontario, namely, Essex, Kent, Elgin, Norfolk, Middlesex, Brant, Lambton, Prince Edward, Weland, Haldimand, and Oxford, and in 34 counties of Quebec tobacco is grown. In the latter province the principal producing counties are Montcalm, L'Assomption and Rouville. The counties

of Essex and Kent produce more than seven-eighths of the Ontario crop. For Quebec, in 1921, the estimated production and value are 6,127,000 lbs. valued to the growers at \$612,700, and for Ontario 7,121,962 lbs. valued to the growers at \$1,780,490. In 1920, Quebec was credited with 26,400,000 lbs. valued at \$2,640,000 and Ontario with 21,888,500 lbs. valued at \$3,253,276. It should be mentioned that the Quebec figures do not include tobacco grown for home consumption. It is also possible that this year's totals for that province may be increased by the census returns.

## The Sunday School Lesson

APRIL 2.

Asa Relies on God, 2 Chron. 14: 1-12. Golden Text—2 Chron. 14: 11 (Rev. Ver.)

Time—B.C. 914-874.

Place—The Kingdom of Judah.

Lesson Foreword—Asa, the hero of today's lesson, was the grandson of Rehoboam, and therefore the third king of Judah. Both King and Rehoboam credit him with being a reforming ruler, who tried to cleanse the religion of his day of the heathen elements which were creeping into it. (See 1 Kings 15: 9-15.)

I. Asa's Religious Policy, 1-5.

V. 1. Abijah; was the son of Rehoboam and the father of Asa. The book of Kings accused him of walking in the sins of his father (1 Kings 15: 3), but the book of Chronicles took a more charitable view of his reign, 2 Chron. ch. 13. Slept with his fathers. The word buried is not to be taken literally as he was buried in the same tomb as his fathers.

V. 2. The Chronicler passes judgment on the reign of each king. According to his standard of judgment if a king conformed to the temple religion he was a good king. In his mind the ideal community was one that was dominated by the temple.

V. 3. Altars of Strange Gods; dedicated to the worship of foreign gods. Solomon, owing to the influence of his foreign wives, had been lax in allowing the introduction of foreign gods (see 1 Kings 11: 1-8). High places. The Israelites had appropriated from the Canaanites the custom of building sanctuaries on the hill tops; at first this was considered quite legal, but later the conscience of Israel was awakened against it. Jerusalem was the only legitimate place for worshipping God (see Deut. 12: 2-8). Images; another religious object which was borrowed from the Canaanites. They were stone pillars set up to denote a sacred place and formed part of the usual equipment of a high place. Their use was forbidden, Deut. 16: 22. Groves; were the trees or poles which, like the stone pillars, were used to mark off a high place. As these were also Canaanite objects they were forbidden, Deut. 16: 21.

V. 4. After riding the land of its idolatry Asa exhorted the people to unwavering allegiance to Jehovah. Seek the Lord; a common phrase in the Old Testament. Its meaning seems to be "to consult God as to His will, or to strive earnestly to lead a religious life."

V. 5. The kingdom was quiet. These twenty years of peace (v. 1) enabled Asa to carry out his reforms and to strengthen his defenses.

II. Asa's Defensive Policy, 6-8.

V. 6. Asa was compelled to fortify his cities because of the prolonged hostilities between the kingdoms of Israel and Judah. Baasha, king of Israel, had fortified his frontier, 1 Kings 15: 16-22.

V. 7. In this verse a short description of a fortified city is given. It had walls of hewn stones, surmounted with watch-towers for observing the enemy, gates leading through the walls, and bars to fasten the gates on the inside.

V. 8. Besides building fortified cities, Asa increased his standing army. This was raised from the two tribes, Judah and Benjamin. The tribe of Benjamin lay between the kingdom of Israel and the kingdom of Judah, and while it seems to have been in its lot with the kingdom of Israel, at the gravitation towards the kingdom of Judah. Targets; a large shield which was carried for defence by the heavy-armed infantry. Spears; were favorite weapons of defence amongst ancient nations; they consisted as a rule of a wooden shaft with a sharp head of flint or metal. Shield; a small shield than the target and the light-armed infantry. Bars; were made of steel wood or horn and fitted with a ring composed of gut or hide.

They were the offensive weapons of the light-armed infantry.

III. Asa at War, 9-12.

V. 9. The Ethiopian, Ethiopia was a province to the south of Egypt and its natives were known as the "dark-skinned ones" because of their dark color. A thousand thousand; roughly, the Ethiopian infantry was estimated at about a million. Three hundred chariots. Egypt is generally regarded as the original home of the chariot. Hence an Egyptian army would be well equipped with chariots.

V. 10. The Ethiopian army came up the sea coast through the Philistine plain and sought to penetrate Judah by coming up one of the valleys in the hill country between the Philistine plain and Judah. At the head of the valley of Zepharath stood the little village of Mareshah and there the battle was fought.

V. 11. It is noteworthy that Asa did not place his reliance upon his large army but upon God. His prayer for help shows his absolute confidence in God.

V. 12. The Lord smote the Ethiopians. Credit for the victory is given not to Asa and his army, but to God alone. Probably a panic seized the Ethiopians, and made the victory over them easy.

Application.

1. Idolatry, vs. 3-5. Asa's first public service was an attempt to purify worship from idolatry. He took away the altars of the strange gods, cut down the groves and broke down the images. The tendency to idolatry is strong in human nature and frequently recurs. Christ emphasized the necessity of spiritual worship.

2. Peace and Prosperity, vs. 6, 7. In the ten years at the beginning of Asa's reign when the land had rest from war there was opportunity to repair the devastation of past conflict and to inaugurate constructive policies. In the Washington conference upon the limitation of armaments the possibility of using materials to better advantage in constructing houses, hospitals, schools and machinery instead of battleships and guns. The wealth consumed in the destructive-ness of war, if used constructively, would banish poverty and insure prosperity.

3. Preparedness, vs. 8, 9. As protection against surrounding tribes Asa kept a large standing army, well trained men of valor. He worked for peace but he knew the necessity of being prepared for war. Preparedness is usually associated with military defence but the wisdom of preparation is seen in every department of life. The athlete must be trained for the contest. The teacher must be prepared through study. Dean Brown of Yale University describes the preparation of Christ for his public ministry. "He had used thirty of those thirty-three years in quiet preparations for the great tasks which were to come. No wonder the three years of which we think so much were mighty when we think of the thirty years of preparation standing behind them. Ten years of training and discipline for one of public action! Ten days of study and devotion for one day of healing and dempive effort! Ten hours of silence and prayer before God for one hour of speech in the ears of men."

4. Power from Prayer. Asa had position, prosperity and preparation but with all this he turned to God in prayer for power. A great scholar wrote these intimate words on prayer: "When things are too much for me, and I am down on my luck, and everything is dark, I go alone by myself, and I bury my head in my hands. I think hard that God must know it all, and will see how matters really are, and understand me; and in just that way alone, by understanding me, will help me. And so I try to get myself together, and that for me is prayer."

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## For Home and Country

Blackwell Jr. Institute (Lambton Co.) was organized May 31, 1920, writes the secretary. A report of the Janey Canuck Institute of Lanark was read and it gave us encouragement in organizing an Institute in our district. The first year we had a roll of 20 members. This year we have sixteen, as four of our last year members have married and gone away. In our monthly meetings we have had papers on:

1. The Progress of Ontario Institutes.
  2. The Rules of the Institute.
  3. Institute Work.
  4. School Improvement.
  5. When a Girl Travels Alone.
- This proved most interesting and valuable. At our last joint meeting with the Sr. Institute they gave a paper on "The Care of the Sick and the Home." We also have music and readings at some of the meetings.

What We Have Been Doing.

1. A football which was purchased is used both for football and basketball.
2. We bought a baseball for our girls' baseball club.
3. Helped the boys of our school to pay for their footballs.
4. Sold ice cream and candy at our football games.
5. Raised ten dollars for the Y.M.C.A., Sarnia, by giving a hard-time

## Hoops

So severe have been losses at farrowing time that a special study of this problem is to become a part of some local farm club programs.

Rationing the sow is the surest way to forestall trouble. Overfeeding at farrowing time makes her feverish and nervous; more likely to trample her offspring and less able, often, to secrete milk properly. Don't feed the sow at all during the twenty-four hours before farrowing, and during the week prior to that keep corn out of the ration. Corn is an especially heating feed. Instead, feed ground oats, barley or bran, any one or two of these, or all three if you like.

And don't feed the sow at all for from twelve to eighteen hours after farrowing. After that, even, go slow, taking from a week to ten days to get the animal back on full feed.

Scours in young pigs are one of the troublesome conditions which arise from faulty feeding of the mother. Next in importance to rationing comes condition of the pen. Clean, dry pens do much to prevent digestive disorders and rheumatism in both the sow and the pigs.

Be sincere, pure in heart, earnest, enthusiastic. A virtuous enthusiasm is always self-forgetful and noble. —Sunner.

In order that the garden may keep right on giving the family the most healthful of foods, its surface should have a real liberal introduction to a few of the best loads of manure that the farm affords.

Teachers of country schools are finding that the hot lunch not only improves alertness and scholarship but that it also has lessened the necessity for discipline and has increased sociability among the scholars at lunch time.

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