

# 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.

K. W.—Kindly advise me as to the value of crimson clover. Will it produce good crops here in Ontario? Could it be sown early in the spring and allowed to work its way into the ground the same as clover and timothy seeds that are sown on winter grain crops? Would you consider Sudan grass a good crop to cut and put into the silo? How do soy beans compare with fodder corn for feeding milch cows?

Answer:—Crimson clover might possibly be grown in Essex and Kent, but it is not a suitable legume for the remainder of Ontario. You would do far better to grow common red clover, alsike, alfalfa or sweet clover. Sudan grass is a very coarse grass grown in the Southern States. It makes fairly nutritious hay but is not suited to growth in Ontario. It is widely advertised by men who want to sell the seed. You would get far better and richer feed in growing ensilage corn.

Soy beans are much richer in protein than corn. For instance, corn analyses about 10 per cent. fruit protein and 72.9 per cent. carbo-hydrates. Soy beans analyze 36.5 per cent. protein and 30.8 per cent. carbo-hydrates. They also carry about three times the fat that corn carries. Soy beans can be used to some extent as a concentrate in balancing dairy rations.

R. B.—Will you give full details on tomato culture? The quantity in oz. of seed, how sown to get evenly. Transplanting in the open, rich loam soil, and again replanting to the field on 20,000 plants. The soil is sandy rich loam, plowed from sod a year ago, had a crop of beans. I intend placing around each plant a small handful of

fertilizer 5.10.5. Near Lake Ontario crops are just two weeks backward here for early market. Intend sowing Bonny Best for one. How is Ponderosa?

Answer:—One of the biggest points in successful tomato growing is to see that the ground is well prepared. Choose plants about 4 to 6 inches high which have been hardened by the boxes being set outside for a week or 10 days before they are set out for transplanting. Make a hole sufficiently deep for the roots to be straightened out in transplanting the tomatoes and retain as much earth as possible around the roots. When applying the fertilizer, scatter it round with the hand where you are going to set the plant so that the fertilizer will not be too strong in close proximity to the plant. From the time that the tomato plants begin good growth keep the soil cultivated not too near the plants nor too deep, but just sufficient to keep a dust mulch one or two inches deep. As the tomatoes begin to form it is frequently good practice to spread straw three to five inches deep between the rows so that the ripening tomatoes will lie on the straw where they will be kept clean and at the same time the straw will form a mulch after the time when one must cease cultivation. The varieties you mention are among the leading varieties used at this time.

E. E. D.—Last year I wrote asking how to kill quack grass. I did nearly as you advised, but have not killed it all out. In part of it I put corn, in order to work it. Will it do to put it to corn again? What is best and cheapest commercial fertilizer I can use for corn, and which is best for potatoes? My ground is quite heavy clay. Do you think soft coal ashes any good for heavy clay soil? Are they worth hauling?

Answer: I would advise you to put corn on the same ground next year, fertilizing it at the rate of about 400 lbs. per acre and using a fertilizer analyzing 3 per cent. ammonia, 8 per cent. phosphoric acid, and 3 per cent. potash. The best way to apply this fertilizer is to have it drilled in at the time the corn is planted. High profitable results have been obtained from applying as high as 500 lbs. per acre of fertilizer analyzing 3 to 4 per cent. ammonia, 6 to 8 per cent. phosphoric acid, and about 4 per cent. potash, for potatoes. I do not think it will pay to spend very much on coal ashes to mix with your clay soil. I would be afraid the free chlorine in the ashes injuring plant growth. In order to lighten up your clay soil I would advise you to grow a green crop which you can turn under and thereby add greatly to the humus of the soil.

## Poultry

A. S.: I have some chicks separate from the other ones, that have colds. They have a watery discharge from the nose, look sleepy and keep their eyes closed a great deal. Is there a remedy?

In separating the chicks with colds from the remainder of the flock you have taken the first step exactly right. Colds are contagious. Place permanganate of potash in the drinking water used by all the birds. See that the water is colored a deep red and that there is no other source of supply. Rubbing the head of a bird with a cold with camphorated vaseline will often reduce the inflammation. Some poultrymen make a mixture of a tablespoonful each of ginger, flour, mustard and black pepper. Then lard is added until the mixture can be rolled into pills. When a bird shows signs of a cold several of these small pills are given to stop it. Sometimes crushed onion rubbed on the head and fed to the sick fowl seems to control colds and start the bird on the road to health. When rubbing the head with either onion or vaseline be care-



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## Evils of Over-Fatigue in Childhood

By WILLIAM EMERSON, M.D.

One of the most distressing memories of my own childhood is the nightmares which I frequently had after an evening of hard study. My brother and I used to walk a mile to school, four times a day, and, later, two and one-half miles each way to high school, or five miles a day. Fortunately, the nervous fatigue resulting from this, added to our daily chores and the school program, became sufficiently evident before we broke down, so that our wise parents planned transportation for us one way.

The forty-eight-hour record has proved very useful in our work with children from foster homes. Recently, in a class composed entirely of older girls from such homes, one of them, at the foot of the class, showed a marked loss in weight. There seemed to be no reason for this loss. The girl had taken sufficient food for gain—2,400 calories—and the foster mother could apparently offer no explanation.

However, when the child was questioned by herself as to just what she did each hour of the day, she suddenly broke down, and disclosed a program that might well have been taken from a tale of Dickens. The foster mother had compelled this underweight, malnourished girl of twelve to do the family washing and ironing, together with much other heavy work, and had threatened her with punishment if she should tell about it. The Inspector transferred her to a better home, where an immediate gain in weight showed a quick response to kind treatment.

This, of course, is an extreme case. Yet instances are not rare of ambitious children overdoing even without pressure from parents or teachers, and carrying a program that would be a strain upon a full-grown adult.

Naturally, progress in school is a matter of great moment to parents. However, not enough attention has been given as yet to the difference in progress to be expected between a well child and one unable to bring his full energy to his work. Every malnourished child is under par, and while he is in that condition he is unable to do full school work. A program, well planned for the normal child, may be a heavy burden for the malnourished child.

Our school efficiency too often is measured by the number of pupils graduated within a certain period of time. But malnourished children are not capable of sustained mental exertion, and therefore, unless unusually bright, they lag in their studies and have to be crowded. They are often called lazy, when they are physically unable to carry the burden of the school program.

It is not merely the concentrated effort of studying, but the continued tension that produces overfatigue. School tension for three hours at a stretch, or in the case of one-session schools, for five hours with only a brief recess, is a severe strain even upon a healthy boy or girl.

One of the first essentials in bringing about the recovery of the malnourished boy or girl, therefore, is that he be relieved from too long school hours, complicated as they often are by an atmosphere of fear and tension. The child needs mental employment, but the amount of time that he should be subjected to the strain of school attendance depends upon his condition. Some children can be present the entire school day, provided time is given for rest periods and lunches. Others will gain better on a half-day schedule. Certain children ought not to be under the strain for more than two hours a day, while a few of the more serious cases should be relieved of all school work.

Few schools are organized to make these adjustments, but when it is known that the requirements are only temporary, and that children can be brought in a few weeks or months to a much higher plane of efficiency, often making faster progress than the average well child, it will be less difficult to secure the co-operation of the school authorities.

Outside lessons, such as music, full to keep it from the eyes.

The best method of treating colds consists in prevention. It often pays to keep the birds locked in the house on cold windy and rainy days. At such times the exposure frequently brings colds and the birds will be better off in the laying-house scratching in a deep straw litter where the air is still and dry. Feeding a balanced ration seems to keep the birds toned up and resistant to colds. Clean poultry houses free from draughts are also preventive measures that cannot be neglected. An evergreen windbreak on the poultry range will protect the birds from raw winds which are a common cause of watery eyes.

should be omitted during the period of treatment.

After a day spent in work, study and a regular routine, it is natural for the child to wish to have "a little fun" in the evening and so the bedtime is delayed, and there is another cause of overfatigue in the shortened hours of sleep. Nearly forty per cent. of all malnourished children keep late hours.

Overfatigue is also caused by disturbed sleep when other members of the family retire late, and again when the child is aroused by early risers. It is caused, too, by sleeping facing the light; for light is a powerful sensory stimulus. It has been demonstrated that the depth of sleep is much greater during the dark nights of winter than during the lighter nights of summer.

There should be no light in the sleeping room, and children should not be permitted to sleep in underclothing which has been worn during the day. The amount of sleep needed varies with the individual child, but the malnourished child needs at least ten to twelve hours' rest in bed. He should be taught to rest even when not sleeping. The ability to sleep for short periods at any time is a habit that makes for health.

The rest periods properly taken are of great importance in counteracting the fatigue posture. The clothing should be loosened, and the windows open. The child should lie without a pillow and facing away from the light. Fifteen minutes of complete rest are of greater value than a longer time spent tossing about in discomfort.

In extreme cases, absolute rest in bed for several days may be the means of causing the first gain. In other cases, it will be better for the child to have breakfast in bed at his regular hour, and then continue to rest until ten or eleven. He should not be allowed to sleep through his usual breakfast time, and thus lose the value of regular feedings.

The desire to keep up with other children in what they are doing often leads to overfatigue. This may be seen in school, or at work, or in play. Many a child is forced by the example of his comrades to long-continued rope jumping, or to bicycling up long hills, when he has not the energy to spare for such exertions. All such fatiguing exercise should, in fact, be avoided while the malnourished child is getting back into condition and climbing up to normal weight.

The child will naturally overdo, and the brighter and more active he is, the greater the danger from this nervous unrest. We have helped many children to get better control of themselves by telling them about a small dog who had to be tied up several hours a day in order to keep him from wearing himself out just by running about. A "free" horse does not have to be urged, but rather held back.

There is an important difference between the fatigue which is a natural result of exertion, from which one makes a quick recovery, and overfatigue, which carries the child each time farther from his normal condition, and makes his return to health and strength more difficult.

This is the kind of fatigue which must be prevented by careful planning. It may sound impossible to arrange for rest periods during the day with the many small tasks to be performed about a farm, and which almost necessarily have to be accomplished by the children. But planned work will accomplish more in shorter hours than a long-drawn-out tiresome day of undirected labor. Make the children earn their rest, but see that they get it.

After you have made the forty-eight-hour record of activities, challenge every item and try to make it justify its tax on the child's energy. When you have made out the new program, stick to it, and do not allow anything to interfere with the hour for rest periods and lunches until the child is up to normal weight for his height. In our next article we will tell how to arouse the child's own interest in co-operating with you to carry out the health program.

## Child Welfare.

By far the most valuable asset of any country, particularly of a young country like ours, is the conservation of its native born children. Yet it is a curious fact that up to the present time, while the Government of Canada has for years had a department, the business of which was to look after the calves, the lambs and the colts, it has given not one cent for the protection of the babies of the country. What are YOU going to do about it?

The manufacture, sale, or keeping in stock of matches containing phosphorus is illegal in Belgium.

## The Sunday School Lesson

FEBRUARY 13

Lessons on Citizenship, St. Matt. 22, 15-22, 34-40. Golden Text, St. Matt. 22: 37.

Time and place—Tuesday, April 4, A.D. 29; The Temple Court at Jerusalem.

Connecting Links—When Jesus entered the Temple Court, on the Tuesday of Passion Week, the last day of His public teaching, the Pharisees asked Him by what authority He was acting, Matt. 21: 23. In reply He questioned them about the baptism of John (Matt. 21: 24-28) and added the parables of the Two Sons and the Wicked Husbandmen, 21: 28-44. The Pharisees wished to arrest Him, but feared the people, Matt. 21: 45, 46. Jesus then spoke the parable of the Marriage Feast (see last lesson, Matt. 22: 1-14). Then followed three questions proposed by His enemies, one by the Pharisees and Herodians about the lawfulness of tribute to Caesar, another by the Sadducees about the resurrection of the dead and a third by a lawyer as to which was the greatest commandment. The first and third of these questions form the lesson for to-day.

I. The Tribute Money, 15-22.

V. 15. The Pharisees; a religious party fanatically opposed to everything non-Jewish, hence their name which means the "Separated Ones." They were the soul of the opposition to Jesus, opposing Him on national and religious grounds" (Anderson). Jesus frequently denounced their hypocrisy. Took counsel; concocted a cunning plot. Entangle Him; ensnare Him, as a fowler catches birds. In His talk; literally "by word," either the question they were to ask or the answer they hoped he would give.

Vs. 16, 17. They sent . . . their disciples; young scholars. It may be that the leading plotters felt themselves to be so discredited with Jesus that they were not likely to succeed if they went in person. With the Herodians; a political party, deriving its name from the support which it gave to the dynasty of Herod. "Perhaps they hoped for the restoration of the national kingdom under one of the sons of Herod" (Hastings' One Volume Dictionary of the Bible). Master; the usual title of a Jewish teacher. Thou art true; the most insidious flattery. They approach Jesus as a teacher whom they trusted. The way of God; the kind of life and conduct in agreement with God's will. Neither carest . . . for any man. With hypocritical flattery, they lay emphasis on His fearless outspokenness to lead Him on to commit Himself to the question to be asked. Regardest not, etc.; are not moved by outward appearance; Thy decision will not be influenced by wealth or power or prestige. It is lawful; from a religious point of view. Tribute; the tax levied by the Roman Government, to which the Jews were subject. Caesar; the Emperor of Rome. If Jesus said "Yes" to this question—this was the thought of the Pharisees—He would go against popular feeling, which was strongly opposed to the tax and the people would cease to trust Him as the Messiah; if He said "No," which was the opinion of the Pharisees, they would accuse Him—such was their hypocrisy—to the Roman authorities.

Vs. 18-21. Perceived their wickedness; saw through their crafty plot. Why tempt ye Me. The purpose of their flattery was open to the eyes of Jesus. Ye hypocrites. They were such because, while they pretended to be searchers after truth, they were really striving to entrap Him by unwary answers. The tribute money. The tax could be paid only in Roman money. Penny; the Roman denarius, worth about 17 cents in our money. Image. The denarius bore the Emperor's image. Superscription; the inscription on the coin. Unto Caesar . . . Caesar's. The people used Caesar's money and lived under Caesar's protection; Jesus left it to themselves to decide if they should pay taxes to Caesar. Unto God. God's People have duties to God, as their Ruler in spiritual things, as well as to their political rulers. Where these duties clash, those owed to God are, of course, supreme. But Jesus does not define the limits of political authority.

V. 22. Marvelled; "wondered;" the reply a genuine surprise, they had not thought it possible that He could slip out of their hands so completely and so easily.

II. The Great Commandment, 34-40.

V. 34. The Pharisees. See on v. 15. The Sadducees; a sect of the Jews, rivals to the Pharisees, who did not believe in the resurrection, and who had sought to discredit Jesus by showing that a belief in the resurrection was absurd, knowing that Jesus believed in the resurrection. Put . . . to silence; literally, "muzzled." The Pharisees were doubtless pleased with the defeat of their rivals, and, hoping to succeed where they had failed, attempted another encounter.

Vs. 35, 36. A lawyer; one of the scribes or interpreters of the law. Which is the great commandment? Literally, "What sort of commandment is great? What are the qualities that determine greatness in the law?" The Jewish scribes reckoned up 613 commandments in the law. Of these some were "heavy," while some were "light," and it was keenly disputed which belonged to the one class and which belonged to the other.

Vs. 37-39. Thou shalt love. Jesus answered by quoting Deut. 6: 5 as the great and greatest ("first") commandment, enjoining the love of God to the uttermost of our being; and Lev. 19: 18, enjoining the love of a neighbor as ourselves. "Jesus' special originality lies in his combining . . . the love of God, and the love of neighbor, making the latter a derivative of the former and a form of its expression" (Anderson). Amongst the Pharisees the love of the law had taken the place of the personal love of God, while no place was left in their system for the human love of neighbor.

V. 40. On these two . . . hang all the law and the prophets. The moral drift

of the whole Old Testament is love. No keeping of any single law is of value, unless love prompts it. Jesus rises above all petty legal questions to the spirit of love, which alone gives value to any form of duty doing.

## The Lesson Applied.

1. Jesus showed us that religion is above the intrigues of politicians. The Herodians and Pharisees thought to entrap Jesus, and so have ground for complaint against Him to the Roman authorities. Jesus lifted the discussion clear above the fevered question of allegiance to Rome. It was as if He said: "You bring this coin as a symbol of Roman rule and authority; I bring you the message of the eternal Father to whom you owe obedience." He simply brushed the political question aside as of no importance compared with the spiritual one. On another occasion he saw that the minds of the people were filled with anxiety about clothes, and wealth, and other external goods. "See first," he cried, "the kingdom of God." We learn also that the teaching of Jesus was not a signal for political revolt, and yet the startling truth is that when Jesus pictured the triumph of the gospel, he had in mind an empire before whose magnificence and power the imperialism of the Caesars faded into insignificance.

2. Jesus showed that men have political duties. We are to reject the constituted authorities, and make our contribution for the welfare of the nation. We are to render to Caesar the things that are Caesar's.

What is good citizenship in Canada? It is more than obedience to the law. Recently a Premier of one of our Provinces declared that the man who held more land, more anything than he could use, was lacking in patriotism. What did he mean? He meant that it is your duty and mine to make the fullest and largest contribution to the state, and that no man is justified in preventing another from using these means which he himself keeps under lock and key. When the curse of Deborah fell on Meroz it was because that community omitted to send help when a stand was being made against the common enemy.

Yet there is no doubt that if the Premier is right, a great deal of our land speculation is wrong, for we have immense stretches of land that are locked up. The same is true of timber limits and other resources.

But there is another way also of looking at this fact. If a man is richly endowed, has a fine education, musical gifts, wealth, the gift of speech or writing, he is bound to use all for the common good. He dare not allow large parts of his mental and spiritual life to be barren and unfruitful. All must be freely put on the altar of the country's need.

3. This leads to the truth that "patriotism is not enough," as Edith Cavell declared before she went to her martyr death. Perhaps it would be best to state it in this way: that the richest patriotism involves the supreme law of "commandment" as enunciated by the Master—love to God and love to man. On these foundations stones a glorious Canada shall rest.

4. The fundamental requirement of citizenship is love. Agitators inflame the thoughtless to overthrow our institutions. But the way in which things will be settled right is the way of love—no other. "Christianity changes governments by changing the hearts of the people." We have a task of growing seriousness in Canada. Our big cities are filled with foreigners and between 40 per cent. and 50 per cent. of our population in the West is non-British in origin. We must bring to our task of "Canadianizing" these people the spirit of patience and trust, but in truth all this talk of "Canadianizing" the "strangers within our gates" falls short of the mark. We must love them and do our part to Christianize them, and their attachment to the country will take care of itself.



## Bedtime Stories

The Hens.  
The night was coming very fast; It reached the gate as I ran past. The pigeons had gone to the tower of the church,

And all the hens were on their perch, Up in the barn, and I thought I heard A piece of a little purring word. I stopped inside, waiting and staying, To try to hear what the hens were saying.

They were asking something, that was plain, Asking it over and over again. One of them moved and turned around Her feathers made a ruffled sound.

A ruffled sound like a bushful of birds, And she said her little asking words. She pushed her head close into her wing, But nothing answered anything.

Drafts and overcrowding are common causes of roup among poultry.

Now is the time to prune the orchard.

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