

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 questions pertaining to soils and crops. Address all questions to Professor Henry G. Bell, in care of The Wilson Publishing Company, Limited, Toronto, in which they are received. When writing kindly mention this paper. As space is limited it is advisable to send immediate reply by return mail. A stamped and addressed envelope is enclosed with the question, when the answer will be mailed direct.

Copyright by Wilson Publishing Co., Limited

E. J.—Would like advice in regard to a piece of swamp. It has always raised large crops until the last four or five years. About all it will grow now is sorrel and a small fuzzy grass and smart weed. I plowed it last summer after cutting hay and kept it spring and planted it to corn about the first of June, but the corn is not doing anything. What is the trouble?

Answer:—I cannot tell exactly what is the matter that you do not get a better growth on your swamp soil, but would suggest that it may be for one or a combination of the following reasons:—

(1) Your swamp may not be sufficiently drained, hence the water standing in the soil will prevent deep rooting such as is natural to corn.

(2) Your swamp soil may be very sour, hence impossible to corn. I suspect this is partially the cause of your trouble since sorrel thrives on your soil. It usually does well on sour soils. To test out your soil for sourness, get a few sheets of blue litmus paper from your druggist, and bury this paper 4 to 6 inches in the soil at different points. When you dig it up in about 20 minutes, if the paper has turned pink it indicates sourness, or the need of lime. If it is the case apply lime at about 1,000 to 2,000 lbs. per acre, putting it on anytime this fall or early spring.

(3) Your swamp soil is strong in nitrogen, weak in phosphoric acid, and very weak in potash. Now corn requires a large amount of potash and considerable phosphoric acid and potash. Hence it will be necessary for you to apply 300 to 500 lbs. per acre of a fertilizer carrying 10 to 12 per cent. phosphoric acid and 6 to 8 per cent. potash before you can expect good crops of corn or potatoes.

My advice to you would be to seed your swamp land to red top grass and alsike clover, and use higher ground for general crops.

R. F.—Please give some advice for destroying cabbage worms. We have tried ashes and this doubled the amount of worms.

Answer:—Spray your cabbage with Paris green or lead arsenate, 1 lb. of Paris green to 150 gallons of water or double the amount of lead arsenate. There is no danger of human poisoning because the cabbage grows from the centre out, and the outer leaves are always removed in preparing the vegetable for cooking.

K. A.—Can you give me the right dates for sowing wheat in various parts of Ontario, to avoid the Hessian fly?

Answer:—It is advisable to wait as late as possible in sowing fall wheat, so as to avoid the late brood of Hessian fly. Usually the middle of September will accomplish this. It is necessary to fertilize the wheat liberally to get sufficient head-growth to meet winter. Use at least 200 to 300 lbs. per acre of a 2-10-2.

T. H.—I have a 10-acre field to sow to fall wheat. It is a heavy clay soil and was in oats this season. What is the best fertilizer to use as I have only a small amount of manure.

Answer:—On your soil, for fall wheat I would advise a 2-10-2 or 2-12-2 at 250 lbs. per acre.

"Waiter, bring me an order of bread and butter sandwiches, and a bottle of milk; also an order of mince pie and a cup of coffee." This late at night in a restaurant, was the order of a man seated at a table with his five-year-old son. The waiter brought the pie and coffee before the father and the bread and milk before the son. "I'd die before morning if I ate that dope," said the father, and he pushed the pie and coffee over to his little son and took for himself the partly digested bread and milk. Such parents do not realize the harm they are doing nor the criticism sure to come from the child later.

Waste in Cooking.
Foods served to children should be carefully cooked, so as to preserve intact all the nutrients. Potatoes are rich in iron and it is practically all extracted by the water during the first fifteen minutes of cooking. This is true also of such vegetables as spinach, beans, carrots and cauliflower. Cabbage is a valuable anti-scurvy vegetable but this property is lost when the vegetable is cooked for half an hour or more. Investigators found that if cured scurvy in animals if shredded and cooked in boiling water only twenty minutes. The selection, combination and preparation of foods are of equal importance, whether the foods be for adults or for children.

When children first enter school, the regular gain in both height and weight slows down somewhat. This is probably due to the fact that the mouth is preparing for permanent teeth, that the children are more closely confined and are obliged to accustom themselves to a definite routine, for we find the pendulum of growth swings out again in the seventh and eighth grade when these conditions have become settled. It is a singular fact, however, that physical defects, hitherto unsuspected, become apparent, probably because there are a greater number of children for comparison. Many of these defects are due to errors in early feeding, for the habit of eating regularly and of eating the correct foods for development of mind and body, must have been fixed before the child is of school age.

Many children are discovered to be underweight when they enter school. While this is not in itself a serious handicap, it signifies that the power of disease resistance is below par, and an underweight child is more subject to infection from the contact with numbers of children, in an atmosphere where, too often, the temperature varies greatly and where fatigue is not always recognized and controlled.

School Lunches.
It is essential that the food habits of children just entering school be studied carefully and the mother can do this most easily with the greatest return for the time spent. It is essential that the children have

a good breakfast, one that will supply all the elements needed for growth and for play. Many children who have been considered stupid, who have been held back in their grades, were children whose stomachs were empty when they reach school or very soon after and the consequent contracting of the stomach made good lessons impossible.

Children coming in the bus to a certain consolidated school did poor work. Some of the homes were fully six miles from school, and the children had an early breakfast and frequently a hurried one. The principal decided for the benefit of the district, to find out whether food and scholarship went together so a hot cereal was prepared every morning; the children brought milk and promptly at eight forty-five the school breakfast was served. These children have all improved in school work, nearly every child made the grades and was promoted, and the school breakfast is permanently fixed in that district.

In a kindergarten of one of our large cities was a group of five-year-olds who appeared most stolid. They did not respond quickly when called, they did not smile at stories, nor did they remember even the simplest one long enough to tell it. They preferred to sit and watch the games rather than to participate in them. When the children were given a physical examination it was found that these children were seriously underweight; their hair was rough and without luster, eyes were dull and there was not enough color in the cheeks of the entire group to satisfy one pretty girl.

The children reported having coffee and rolls, or coffee and pancakes for breakfast. Then this kindergarten followed the example of the consolidated country school. At ten in the morning the children were given mush and milk, as much as they wished, and toast or bread and butter. The change was very soon apparent. Soon the hair became glossy, the eyes brightened, first one and then another wanted to get into the games, finally one of the children laughed at the story and then the director had to give a warning. The children did not gain weight for over four months but there was all evidence of rebuilding blood and other tissues and, best of all, the mothers asked for information regarding the food the children should have because, as one mother put it, "Joseph is good, when he eats better."

The quality of foods is important. So too is the quantity. Delicate children seem to be unable to get enough food to meet all the demands. A study of the growth of any child, maintained for a period of six months, will interest the child, arouse his ambition to help, especially if he be given a definite goal, and will reveal to the mother, in a manner almost unbelievable, that rearing a child means intimate association and knowledge if it is done well.

The Sunday School Lesson

SEPTEMBER 17

The Message of Malachi, Mal. 3: 7-18. Golden Text—Return unto me, and I will return unto you, saith the Lord of Hosts.—Mal. 3: 7.

Lesson Foreword.—The ministry of Malachi fell in the Persian period, some time after the rebuilding of the temple; he may have been a contemporary of Ezra and Nehemiah. In order to incite the people to rebuild the temple, Haggai and Zechariah had promised that when it was finished there would be better times. The fulfilment of these promises lingered and the people grew discouraged. They were losing faith in their religion and becoming slack in observing it; the abuses were rife among the priests; the food of the temple and scholarship went together so a hot cereal was prepared every morning; the children brought milk and promptly at eight forty-five the school breakfast was served. These children have all improved in school work, nearly every child made the grades and was promoted, and the school breakfast is permanently fixed in that district.

I. The Payment of Tithes, 7-12.
V. 7. Even from the days of your fathers. The sin of the people goes back to past generations. This was a favorite doctrine of the prophets. Jeremiah said that Israel's disobedience dated from the exodus out of Egypt. (See Jer. 7: 25, 26.) Return unto me. Jehovah's present attitude was not one of favor, but if they would change their hearts and repent, God would change his attitude and become gracious. Wherein shall we return? Believing in their innocence, the people challenge the prophet to do more explicitly wherein they had done wrong.

V. 8. The prophet replies that the people may show their willingness to return to God by paying their tithes—the taxes or dues which were paid for the upkeep of the temple and its ministers, the priests. These had not been kept up.

V. 9. Ye are cursed with a curse. Owing to their treatment of God and his ministers, the land was suffering and was afflicted with locusts and drought.

V. 10. Bring ye all the tithes. This suggests that while the tithes may have been paid in part, they were not paid in full, or while some were paying their tithes, others were withholding them. The storehouse; the chambers in connection with the temple where the provisions were stored. The tithes consisted largely of the products of the land—oil, fruits and grain. That there may be meat; that the priests may receive their salary as provided in the Law. If I will not open you the windows of heaven. According to the Old Hebrew notion there were store-rooms in the firmament where the upper waters were kept. When the windows of these store-rooms were opened, the waters would come down in rain. This, then, is a promise of rain, and rain was always a blessing in Palestine.

V. 11. I will rebuke the devourer; locusts, one of the dread pests of the land. Neither shall your vine cast her fruit. Mildew and blight caused the grapes to fall off the vines before their time.

V. 12. All nations shall call you blessed. The fortunes of Israel at the time were not commensurate with her position as the people of God. Israel still has a fine future, but she must show that she deserves it by a change of heart.

II. The Triumph of the Righteous, 13-18.

V. 13. Your works have been stout against me. Arguing from the facts of experience, the people were beginning to lose faith in God. Among themselves they were saying many bitter things about God's providence. What have we spoken? The people challenged Malachi to prove that they were criticizing God's treatment of them.

V. 14. The prophet accepts the challenge and supplies the proof. The people were questioning the profitability of religion. What use was there in fulfilling its requirements? What gain was there in godliness? The law, and especially Deuteronomy, declared that if men were righteous they would prosper, if they sinned they would be afflicted.

V. 15. Now we call the proud happy. The skepticism of the people had led them to envy the godless as being better off. As George Adam Smith says: "They thought that the wicked men succeed."

V. 16. The Lord hearkened. God was paying attention to what was being said about him by his people. A book of remembrance was written. Just as Orient monarchs made a memorandum of those who were for them and those who were against them, so God keeps a record in heaven of those who fear him. The book of remembrance, known in the New Testament as the book of life, appears frequently in the scriptures. (See Ps. 56: 8; Dan. 7: 10 and Rev. 20: 12, 15.)

V. 17. When I make up my jewels. In the day of Jehovah, when he appears for judgment, the righteous will be esteemed as his special treasure and will be treated as a man would treat his precious jewels. This hope should make the present ills of life more tolerable for the righteous of the day of their vindication is sure to come. I will spare them, etc. "In the terrible judgment of Jehovah's day, Israel will be pitied and shielded by Jehovah" (Smith).

V. 18. In the day of judgment it will be easy to distinguish between the pious and the wicked. For the God-fearing will receive their reward; whereas the godless will be humbled and punished.

Application.
Then and Now. "It was a period of disillusion, disheartening and decay." Severely left to themselves and to the petty hostilities of their neighbors, the Jews appear to have sunk into a careless and sordid manner of life. "The congregation has grown worldly and careless. In particular the priests are corrupt and partial in the administration of the law. There have been many marriages with the heathen women of the land; and the laity have failed to pay

FAMOUS HORSES

About 700 years before Christ was born, Helen, wife of the Greek king, eloped with Prince Paris, son of the King of Troy. Greek armies stormed the gates of Troy for ten years, trying to get Helen back. Finally they built a monster wooden horse and sailed away. The Trojans, of course, hauled it in to look at it. That night the Greek soldiers concealed in it crawled out and opened the gates for the armies which had returned in the darkness. Thus did Troy fall to the Greeks. And such is the story of the Trojan Horse.

Every year millions of people go to the circus and, according to circus men, what they like best in the show is not the tigers and the giraffes and the monkeys, but the beautiful milk white circus horse. Since the days of the Romans, beautiful horses have been the most important feature of the circus. Gladiators, clowns, wild beasts, and early Christians have never aroused as much interest as chariot races and trick horses.

Man o' War, the most unusual race horse in the world, goes a mile in 1:35 4-5. His stride is 25 to 28 feet. He had won for his owner, Samuel D. Riddle of Philadelphia, \$244,465 when he was only three years old. Riddle paid only \$5,000 for him as a colt. He was a cast-off; his breeders thought he was no good. Man o' War is now kept at Riddle Farm at stud. His coat is rubbed with alcohol. His feed box is scalded daily. He drinks distilled water. His constant friend and companion is Major Treat, a twelve-year-old horse.

The most famous horse in literature is Rosinante, in "Don Quixote," a book written in the seventeenth century by Cervantes, a Spaniard, to poke fun at chivalry. The hero is Don Quixote, an old man who read about knights until he went a little crazy and decided to become a knight himself. He got out his grandfather's broken armor and patched it up with cardboard. He saddled his tired old family horse, Nellie, and renamed her Rosinante. He took a yoked named Sancho Panza, who had a donkey, and set out looking for adventures to rescue, in his madness attacking windmill giants.

And then, of course, there is the work horse. You know him. Of all creatures the horse probably works the hardest. Other domestic animals—cows, sheep, pigs, cats, and dogs—all can take it easy. Only the horse has to work like us human beings, and much harder. A famous circus veterinary says that a sick horse, nine times out of ten, is merely a tired horse. You know the work horse, all right. You've got him right on your own farm. God bless him! And his sisters too.

Our Dairy Products to Britain.

The news letter for August issued by the Dominion Dairy and Cold Storage Branch states that, during the month of June, 2,808 dairy herds were tested and that a total of 28,831 tests were made of individual cows. This was an increase of 17,018 tests over the number made in the month of May. An interesting part of the work is the attention given to cows owned by members of the boys' and girls' clubs. Farmers are showing more and more interest in herd testing and increased appreciation of a system which not only means healthy cows but also healthy people, insofar as it guarantees to a large extent a supply of good milk. There is one way in which they can pre-eminently assist in the excellent work which both the Dairy Branch and the Health of Animals Branch of the Dominion Department of Agriculture are trying to do, and that is by making cleanliness their watchword.

A Crime Against Children.

A girl writes us that she was allowed to grow to womanhood without an education, because her father, though he could afford to keep her at school, thought it a better bargain to keep her at work. Now she says she must pass through life constantly humiliated by her ignorance, because she does not have the education that other girls about her have. There is no greater wrong parents can do their children than to deprive them of a good education, of a good start in life. Every child has a right to be well born and well started in life; so started that he will have a fair chance in the great competitive game, and not be perpetually handicapped by the lack of education, poor health, an underdeveloped body, or some other preventable mental or physical defect which seriously jeopardizes his success in life.

To rob a child of the advantages his Creator has designed for him is a double crime—a crime against God and against the child.—O. S. Marden.

Live Stock in Canada.

Statistics furnished by the Dominion Department of Agriculture show that there were over 500,000 more milk cows in Canada in 1921 than in 1920, 400,000 more other cattle, 45,000 fewer sheep, nearly 400,000 more swine, and 6,600,000 more poultry. Average values were much less last year than in the year before, dairy cows being placed at \$51 against \$80, other cattle at \$28 against \$47, sheep \$6 against \$10, swine \$14 against \$23, and poultry, \$1.02 against \$1.21.

Tired Shades.
Red lamp shades, no matter how dull, have a tiring effect on the optic nerve. Nature's is the best of all.

It pays to sell your poultry cults, but you lose your reputation if you market your fruit cults.

Feeds can be mixed in lots of several hundred pounds by shoveling back and forth on a tight floor.

Raise what you feed and feed what you raise.

Says Sam: A fellow too old to learn is too old to live.

The Child's Food

By Lucy D. Cordier

Children with life all before them require food that is selected with a mind open to their specific needs. They are not miniature men. "The child is different from the adult," says Termer, "in every fibre, every blood cell, every bone cell, and in the relative proportion of all his parts. His resistance to disease, his powers of recuperation, his food and sleep requirements are all unlike those of the adult." The child is incomplete in bone, nerves and muscles. Many glands either do not function in infancy or have a very low efficiency. His food need is great because growth is exceedingly rapid in the earliest years. Until he reaches the age of twenty-one his body is in process of building.

Good teeth, strong straight limb bones, well shaped bones protecting the brain and organs of the trunk, a strong thick heart muscle, steady nerves and efficient brain, are all formed from foods which are simple, easily digested and adequate in values.

The first critical period of a child's development is that known as the pre-school period. During that time he is becoming somewhat independent and because he can walk alone, go from room to room on his own initiative, and even out of doors if he so desires, parents and guardians are very apt to forget that his need for care is quite as great as when he was still confined to his crib or the perambulator.

Give Child a Good Start.

This child is able to help himself of food within sight and within reach and he does so. He takes raw potatoes and enjoys them. He notices that mother drinks coffee so he demands it, and his demand is too often granted. A noted authority in pediatrics has stated that in spite of the best heredity the adult falls physically short if management during the pre-school years is neglected. Authorities agree that nutrition plays the most important part in the manufacture of men and women and that both a strong mind and a strong body depend upon the elimination of errors in feeding.

The child's food should satisfy the hunger as well as the appetite. Less than one-third of the children of large cities, over one year of age, are of normal development. Children need the growth foods, especially milk which is more potent than any other. They need bread and other vegetables as spinach, carrots, peas, cauliflower, string beans, potatoes, and such fruits as oranges, cooked prunes, apples and dried apricots because of their minerals which are essential for bone and tooth building and for regulation. They need such activity foods as butter, cream or bacon. They need a very little sugar, not over one level tablespoonful per day; and they need rice, oatmeal and tapioca puddings. They do not need stimulants, such as tea or coffee, which are injurious to many adults, and serious in their effects upon children.

kind of foods which he needs and if kinds of intense flavor as candy, cake, bread with sugar or jelly, be given him, he will select them and announce that he does not "like" plain oatmeal with milk. He will not drink milk if he be given coffee or some other beverage of like pronounced flavor.

Coffee Has No Food Value.
Yet coffee contains nothing to really feed him. It stimulates and satisfies his longing for food so that he is prevented from taking foods of the right quality and also from taking enough. When his mother urges him to eat, he thinks it a game, and becomes contrary in order to receive much attention. Highly seasoned foods and complex mixtures also prevent him from desiring the essential foods. Thus begins one of the most serious, perplexing problems the mother has to meet.

The foods which a child needs should be easily digested as it is from the digested foods he is built. Milk is more easily digested by many children when it is taken with bread. Foods rich in fat digest slowly and authorities are agreed that indigestion in little children is most often caused by this reason are introduced gradually into a child's dietary and not at all until the twenty-first month—in the new scientific feeding. Fat meats, pastries, rich sauces and gravies are all apt to cause trouble. The hulls of baked beans render them difficult of digestion; raw vegetables such as potatoes and carrots pass through the child exactly as swallowed, so do sweet corn and other foods that resist thorough chewing.

Watch the stools of the child during the period that he is learning to take new foods and prevent him from taking those which are seen to be absolutely indigestible. Unripe fruits cause diarrhea, which is a serious ailment and affects growth immediately. An attack of indigestion lasting less than a week is often responsible for a set back in growth that has lowered a child's vitality for years.

The child's food should satisfy the hunger as well as the appetite. Less than one-third of the children of large cities, over one year of age, are of normal development. Children need the growth foods, especially milk which is more potent than any other. They need bread and other vegetables as spinach, carrots, peas, cauliflower, string beans, potatoes, and such fruits as oranges, cooked prunes, apples and dried apricots because of their minerals which are essential for bone and tooth building and for regulation. They need such activity foods as butter, cream or bacon. They need a very little sugar, not over one level tablespoonful per day; and they need rice, oatmeal and tapioca puddings. They do not need stimulants, such as tea or coffee, which are injurious to many adults, and serious in their effects upon children.

Fertilization of Field Crops.

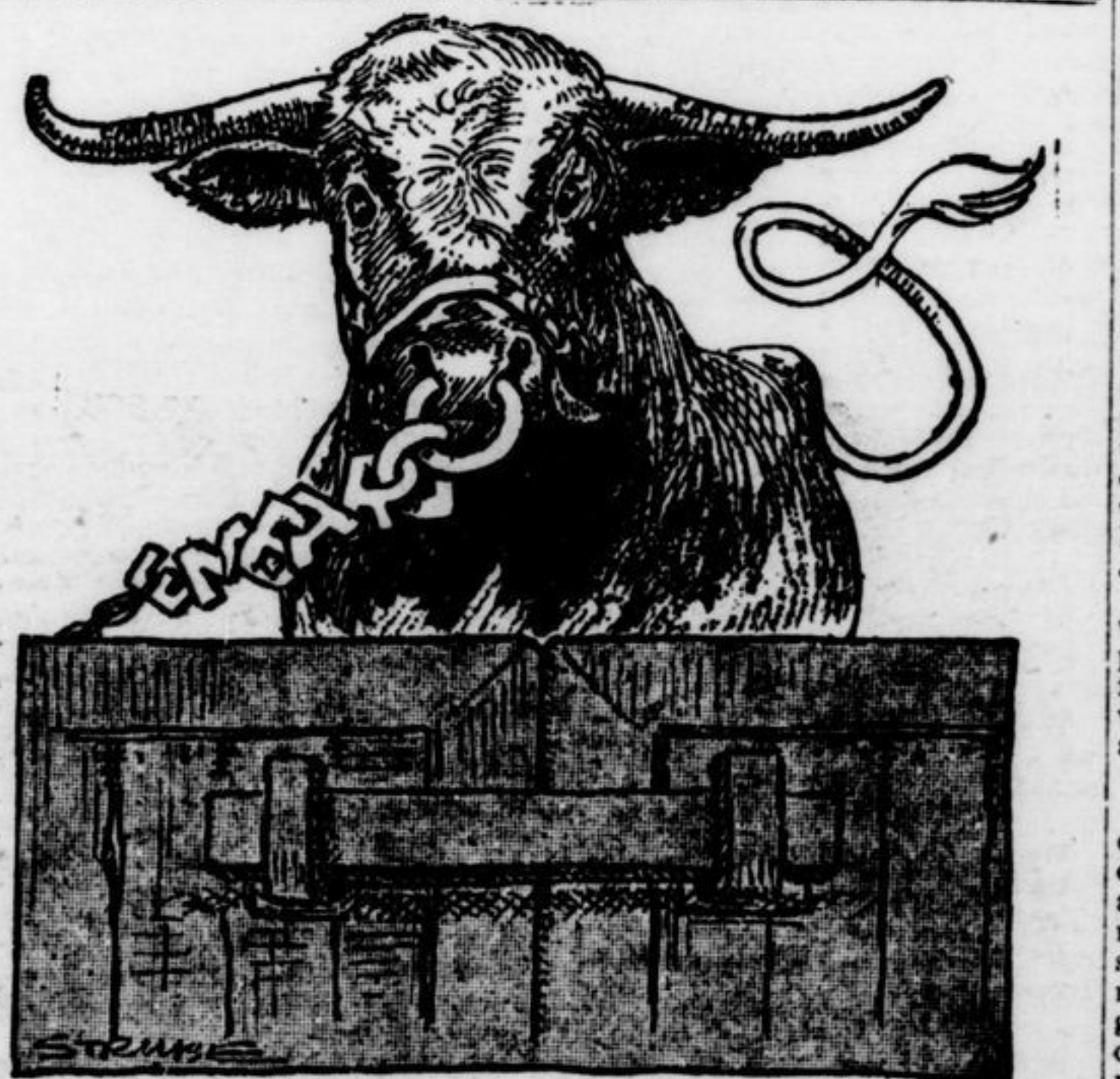
A careful study of bulletin No. 8, of the Dominion Department of Agriculture, should prove well worth while to every farmer. It treats of fertilizers for field crops, describes their nature, functions and methods of application, and gives results obtained at the various Dominion Experimental Farms and Stations, which include about all the soils and climatic conditions of the country. The first three chapters deal with the influence of nitrogen, phosphoric acid and potash upon the soil and on particular crops in different localities. Chapter four treats of mineral and organic fertilizer materials; chapter five of manure with fertilizers and lime; chapter six of farm yard manure and green manuring, and chapter seven treats of the nature, origin and uses of fertilizer materials. Chapter eight explains the value and proper uses of lime in its various forms. Chapter nine supplies formulae for fertilizers and home mixing mixing, and chapter ten describes the fertilizing needs of grain crops, potatoes, turnips, mangels, beets, corn, timothy, clover, alfalfa, flax, tobacco, vegetables, fruit, etc. Every chapter is of obvious value to tillers of the soil, but the last three contain information of an

especial nature which no farmer can afford to be without. Of particular importance is the plain and straightforward language of the entire bulletin, which can be had simply by applying to the Publications Branch, Ottawa.

Protect Bottom of Bee Hives.

Bee keepers have learned that the loss of heat through the bottoms of bee hives during the winter time, is very rapid. This is contrary to the usual belief. The practice has been to insulate the top and sides of the hives but not the bottoms. Tests were recently made by government experts and from these tests it was made clear that leaving any part of the hive without insulation makes the escape of heat at that point easy. While dead air spaces form the usual method of insulation, it is the opinion of the government experts that the bee keeper had better increase the size of these spaces to four or even six inches in width and then fill with some cheap insulating material like sawdust.

Upon the permanence of Canadian agriculture depends the permanence of Canada. Don't wear out the soil which has been entrusted to your care.



"I HEAR THEY WANT MORE!"

Daily Express (London)