

# Soils and Crops

By Agronomist.

This Department is for the use of our farm readers who want the advice of an expert on any question regarding soil, seed, crops, etc. If your question is of sufficient general interest, it will be answered through this column. If stamped and addressed envelope is enclosed with your letter, a complete answer will be mailed to you. Address Agronomist, care of Wilson Publishing Co., Ltd., 73 Adelaide St. W., Toronto.

## Cultural Methods for Eastern Canada.

Soil management or cultivation in its several phases is a very important factor in crop production. On the Central Experimental Farm, Ottawa, and several of the branch Experimental Stations in eastern Canada, methods have been investigated for several years. The results obtained have warranted the following recommendations being made as applicable to average conditions on eastern Canada farms.

**Cultural Operations and Implements.**—Ploughing is the basic cultural operation. It is therefore important and should be performed with care and judgment. No definite rule can be laid down as to the best method of ploughing. A safe rule, however, is to plough only when the soil is in shape, not too wet especially if of a heavy clay nature. Plough deeply in autumn, as deep as the surface productive soil will allow turning an up-standing furrow. Plough shallow in spring, turning a low-lying or flat furrow. Plough well, turn all the land and finish with straight even furrows and lands. Let the ploughing be a credit to the farmer, a reflection of his character, a standard for other operations and an incentive to less thorough, though willing workers to do better.

**Harrowing.**—Of the several implements on the market for performing this work the disc harrow is the most suitable for preparing soil for seed after it has been ploughed. Thorough cultivation at this time is indispensable and the disc harrow should be used until the surface of the seed-bed is smooth and friable and the soil immediately below is firm and solid.

The drag or spike-tooth harrow,

too, may be employed advantageously in seed-bed preparation especially following the disc or roller to restore a mulch or blanket of soil to check evaporation of moisture. It is also a useful implement in the corn field a few days after sowing corn and after the corn is up to stimulate a rise in temperature in the soil, to destroy small weeds and encourage germination of weed seeds and to restore the essential mulch.

**Seeding.**—This operation is now done by means of seed drills. Several types are on the market but the single disc drill is probably most popular.

**Rolling.**—The roller is too frequently used to put a finishing touch to the field after seeding. It may be so used to advantage on light soils but even then should be followed by the drag harrow to break the smooth surface. The chief use of the roller, however, should be to firm and crumble the soil before seeding. It should not be used on very damp soil, especially clay; let the surface dry first then use the roller to break the crust.

Where implements are to be purchased it should be borne in mind that larger implements requiring from three to six horses handled by one teamster provide a means of solving to some extent the present manual labor problem. Besides, the work done in this way is accomplished economically and thus tends to keep down the cost of production of crops.

**Ploughing may be speeded up by using two-furrow ploughs. Double disc harrows make a thorough seed-bed in the least time. The horse disc seed drill is efficient. More sections added to the drag harrow reduce the time required for this work.**

## Poultry

A hoary-headed poultry theory is that thunder spoils the hatchability of eggs. We got this idea from old-timers as soon as we commenced keeping chickens, but our own experience proves that it is largely a superstitious myth. We have had many hatches that could not have been better, in spite of violent electrical disturbance of the elements.

Quite often severe thunderstorms have come up at the time supposed to be most dangerous to the success of the hatch—just a few days before the eggs were due to start pipping—yet the number of chicks that came out of the shells appeared quite normal, and the chicks were strong and healthy.

We have also had good hatches in spite of blasting or other such shocks, except when the vibrations were so near or severe that they leveled buildings or broke window lights. Even then we have found that the embryo chicks are not always killed, or even harmed.

While we take no stock in the thunder theory any more, yet we try to avoid all sudden jars or shocks direct to the egg, as well as rough handling in shipment. The success of hatches is almost always in direct proportion to the care given the eggs when the fertility is strong.

## Tin Can Swells Income.

"Farming in a rut," says my neighbor, who was in a rut and now rejoices in being out of it, "is getting so firmly settled in a treadmill routine of growing certain crops as to make it seem well-nigh impossible to attempt growing other crops known to give better profits."

A leaf from his personal experience in breaking away from the old-time grain-hay farming system I believe will inspire some others to do likewise to their profit and satisfaction. Here is his story:

"The establishing of several vegetable and fruit canning factories in

my own and adjoining communities furnished the stimulus needed to help me out of my own rut. Now, in place of confining my efforts to two or three staple crops which formerly produced only a meager living, I grow limited areas of several canning crops in a more intensive way, and have averaged a nice addition to the income from the staple farm crops which I still produce.

"The plan followed in growing the canning crops is to contract with the manager of the canning factory to grow a definite acreage of some of the staple canning crops, such as peas, beans, tomatoes, sweet corn, and small fruit. By planning for such of the canning crops as will best work in with a decreased number of standard farm crops, I can intensify my efforts and in some seasons double my farm receipts over my old style of farming."

"For example, strawberries, beans, and corn grown for the canner may best combine with my regular farm crops; and asparagus, cane fruits, and tomatoes may break better in regard to cultural and harvesting requirements for my neighbor. But many of us are finding that we did not make the fullest and best use of a considerable part of our time until we began to plan and systematize our work, as was necessary to do when we took on the growing of several canning crops under contract."

"I feel sure that there are many general farmers who will read this who might with advantage contract to grow a few acres of some of the canning crops I have mentioned by joining with several neighbors to deliver co-operatively their produce to the factory, even if some distance away, with a motor truck. Such a plan of delivery our neighborhood has found to be a great economizer of time, and enables the growers of the canning crop to realize several hundred, or even a thousand, dollars more from a small area of land that will not be missed for the regular farming operations. Moreover, the building up of a great canning industry in this country is one of the important ways of bringing the Kaiser to his knees—by making sure of a great reserve food supply in addition to the regular harvested products."—W.G.

## Message to Farmers.

Hon. T. A. Crerar, Minister of Agriculture, has sent out the following message to Canadian farmers, asking them in order to avert a famine to plant every possible acre in wheat: "Let me again draw the attention of the farmers of Canada to the great need there is of planting every acre of land in wheat that seems favorable to growing it. The news that comes daily of that awful, grim struggle now being fought in France and Flanders brings home to us clearly and unmistakably this fact—that, after almost four years' war, human liberty is still in the balance. The call for men is urgent, and they must, to the full limit of our power, be sent. Their places at home must be taken by those who remain. Despite the difficulties, we must produce more food than we have ever done before. Set apart all your land fit for growing crops and plant as much wheat as you can. Plan to bring as much new land on your farm under cultivation as possible, and thus increase your acreage for next year. It will be needed then just as much as now."

## Hoos

Barley As Hog Feed.

Barley will supply grain for hogs sooner than any other crop. A large number of farmers have been asking about this crop because of the scarcity of mature corn for feeding hogs this spring and summer, and because commercial hog feeds are so costly.

Barley is about equal to corn, pound for pound for feeding hogs. But while corn does not need to be ground for pigs, barley should. The grains are too small and hard to be masticated and digested readily when whole. While the pigs may not like the barley very well at first, they will soon become accustomed to it. But they will do better if ground barley is mixed half and half with middlings or some other palatable hog feed. Gains are more rapid, too, when some high protein feed like tankage is fed along with the barley and other feeds.

## Spray The Orchard.

When the leaves begin to grow the canker-worms may commence to move up on the trunks of fruit and other trees. Bands of tar, tanglefoot, or printer's ink, if put on the tree trunks in time, will catch many of the pests. The best sticky substance to use is

tree tanglefoot, as it will stay sticky longer than the other substances. These sticky mixtures may be applied to the bark of the tree, but they may disfigure the trees for several years. It may be necessary to renew the bands from time to time with the sticky material, especially if the tangle foot becomes hard or stiff or covered over with the bodies of dead moths. The use of bands is especially recommended on very large rough-barked elm or hackberry trees that it would be difficult and expensive to spray. Maples and oaks are the favorite food plants of the canker or measuring-worms. When the injury from these insects is severe, the trees may appear during May or June as if a fire had swept over them. They may be entirely stripped of their leaves by the worms. For small shade and fruit trees any of the arsenical sprays will kill the canker-worms easily if applied about the time the leaves begin to appear. The regular summer sprays applied in the apple orchard for the control of the codling-moth and curculio will also kill the canker-worms. The first summer spray in the apple orchard should be applied just before the bloom, and the second spray should be made immediately after the blooms fall. These two sprays should control the measuring-worms very effectively.

## FLINT CORN FOR GRAIN

Flint corn, as a grain crop in eastern Canada, has not received the attention that it merits. At the present crisis of food supply it is the crop that can be increased without disturbing the system of rotation or cutting down the acreage of any other cereal. We do not increase production if we cut down the acreage of one kind of grain to grow another. By growing flint corn we can increase the total output of cereals without alteration or detriment to our system of farming.

## Utilization

Its value lies in its feeding adaptability. As meal in a fattening ration it is without an equal, for cattle, hogs or poultry.

In the unground or cracked state it is valuable in a ration for laying hens. On the cob it is used judiciously to be profitably given to working horses. The immature and small ears can be fed without waste in the autumn to fattening hogs.

It can be "hogged" down in the field with profit. An acre or two of corn will fatten the hogs on an average farm. This method can be adopted with profit by the Ontario farmer in these days of labor scarcity.

The dry stalks make excellent roughage for dry cows or young cattle.

Last, but not least, corn can become in Canada an important factor in the human diet. Many bushels of wheat could be released for shipment if we would use the various appetizing foods into which corn meal can be converted.

## Range of Profitable Production

The crop should only be grown where it will mature in an average season. Using the proper variety, corn can be grown in practically all the older parts of Ontario, the Eastern Townships and many counties north of the St. Lawrence in Quebec, also many districts in the Maritime Provinces. The District Representatives of Ontario, with the exception of those in the northerly counties, state that maturity is not the factor that prohibits the growing of corn, the Secretary of Agriculture for Quebec making a similar report for that province.

## Varieties

Quebec Yellow No. 28 is the variety that will succeed best over the greater part of the area indicated. It is a short stalked variety giving a high yield of grain, and maturing in the average season on well drained soils in a hundred and fifteen days. Where the season is sufficiently long, Long-

fellow and Salzer's North Dakota will give an equally large yield of grain with a larger tonnage of stalks. These varieties should be grown principally in southern Ontario although they mature perfectly in certain portions of Eastern Ontario and Quebec. Earlier varieties than Quebec Yellow No. 28 do not return a commensurate yield for labor expended.

## Labor

The work involved in growing corn for grain is but little greater than that of growing for silage, husking is the additional item but this task can be done at the most convenient time in the autumn and made an evening of neighborhood festivity.

## Who Should Grow It

The dairyman who disposes of his milk to the local creamery is the man who can most profitably grow and use grain corn. If he is using silage, at the present price of shelled corn he can afford to decrease his acreage of silo corn in order that he may grow flint for grinding.

The farmer who wishes to increase the output of grain yet does not wish to break his system of rotation. By growing flint corn he is producing grain from his hoed crop.

The man who is without a silo, and wishes to increase his hoed crop. He can grow corn for grain purposes with profit likewise improving the tilth and cleanliness of his fields.

## Seed

Owing to the disastrous failure of the seed corn crop in the United States and Canada, seed is extremely scarce. Each farmer should consult with his county representative as to a possible source of supply.

Wherever flint corn has been grown there can generally be found a few men who have developed early productive strains out of old varieties. Not having made a practice of disposing of it for seed, these men are occasionally a valuable source of local supply too often overlooked.

## Conclusion

Any person who is desirous of growing this crop and failing to obtain seed this season should plan to secure it early in the autumn for another year. As long as the price of corn, mills feeds and live stock remain as they now are, corn for grain will be one of the most profitable crops that can be grown on a farm. Any farmer so situated that he can mature flint corn will find it profitable to plant a few acres even though he has to cut down correspondingly his acreage of silo corn.

## GOOD HEALTH QUESTION BOX

By Andrew F. Currier, M.D.

Dr. Currier will answer all signed letters pertaining to Health. If your question is of general interest it will be answered through these columns; if not, it will be answered personally if stamped, addressed envelope is enclosed. Dr. Currier will not prescribe for individual cases or make diagnosis. Address Dr. Andrew F. Currier, care of Wilson Publishing Co., 73 Adelaide St. West, Toronto.

## Hypnotics.

A hypnotic is a drug which is given to produce sleep; it may do other things, too; but if it causes sleep it is a hypnotic.

Some hypnotics will produce sleep and will also produce bad and undesirable effects, like depressant action of the heart.

Such drugs are dangerous, and particularly so when taken by the advice of a well-meaning, but inadequately informed friend.

It is always best to have the advice of an intelligent physician before experimenting with such dangerous tools.

Even physicians are not infallible in such matters and have been known to overlook heart weakness or heart injury or underestimate its importance in their desire to relieve one who is in need of sleep.

Want of sleep, or insomnia, is a terrible affliction. What would one not give for sleep when suffering from, hour after hour? When one is sleeping, physical pain does not exist, for there must be consciousness in order to appreciate pain.

Sleep is more refreshing than food; you can live without food a long time, many days, but not without sleep.

The discovery of hypnotics was a blessed thing for those who suffer, and the new ones are, in many respects, at least, better than the old ones.

By the new ones, I mean those which modern chemistry, by analysis and synthesis, has given us in great numbers, sometimes embarrassingly so, and which also are greatly abused.

Among the old hypnotics are alcohol, opium, Indian hemp, hyoscyamus, lettuce and hops.

The soothing effect of a hop pillow or a hop poultice, used to be known (in the country, at any rate), as a first class remedy, but we seldom hear of it, or use it, now.

Drowsiness from the free use of lettuce is familiar, and the quieting effect of hyoscyamus, or henbane, was once highly esteemed.

After the exciting effect of alcohol passes off, it causes deep sleep, as

every drunkard knows, until the organs have become so saturated with it that sleep may be replaced by delirium tremens.

Opium was formerly used by many physicians, not only to induce quiet and freedom from pain, but sleep as well; now it is comparatively little given for that purpose, I am happy to say.

The most important of the new hypnotics are the bromides, paraldehyde, chloral, the coal-tar derivatives, and the synthetic preparations. The bromides are often very efficient as hypnotics, and as little harmful as any powerful drugs I know of.

Paraldehyde is a relatively safe hypnotic and I have often wondered why it was not more generally used.

Chloral is one of the best hypnotics we have, but very dangerous, must be taken in larger and larger doses, and sometimes forms a habit which ends fatally.

The coal tar derivatives and the synthetic preparations, many of them, at least, are of German origin and are now tremendously expensive and hard to get.

I am very glad they are not available, for we were being swamped with them, they were producing very bad habits, and I earnestly hope that for all future time the Germans will be compelled to be the exclusive users of their own medicines.

## QUESTIONS AND ANSWERS

M. E.—1. Is whooping-cough contagious? 2. Can it occur more than once in the same person? 3. Can it be caught by simply going where there is a person who has it? 4. Is there a cure for it, or must it run its course?

Answer.—1. Yes. It is extremely contagious. 2. It is possible, though not a common occurrence. 3. Yes. 4. There are sedative drugs which may be taken to alleviate the cough. I know of nothing which will stop the disease after it has once started. The best plan is careful attention to hygiene and diet.



## INTERNATIONAL LESSON

MAY 12.

Lesson VI. Jesus Faces The Cross—Mark 10, 32-52. Golden Text, Phil. 2, 8.

Verse 32. On the way, going up to Jerusalem—Moving steadily along, talking as they went. That it was "up" to the holy city, may be remembered, when we consider that Jerusalem stood nearly four thousand feet above the level of the Jordan valley. Jesus was going before, and they were amazed. . . . afraid—It is Mark alone who notices the position of Jesus and the mental perturbation of the disciples. It seems that it was unusual for Jesus to go ahead of the company. Then, there was something in his appearance and spirit which awed them. A crisis was imminent. His anticipation of the solemn conflict made itself known in his countenance. And he took again the twelve—That is, fell back from his advanced position and resumed his place with them in ordinary conversation. Began to tell them the things that were to happen unto him—This is now the third time that he seeks to impress upon them the gravity of the days ahead of him, but they seem not to comprehend, so unwilling were they to entertain any thought of disaster to their Messiah and to the kingdom he was establishing.

33. The Son of man shall be delivered unto the chief priests and the scribes—He saw clearly that there was no avoiding the clutches of his enemies. He did not seek to evade the inevitable issue, but marched directly toward his goal, caring not for himself but for these trustful disciples to whom he was to hand over the great work he had inaugurated and who were pitifully ignorant of the great meaning of it all. Condemn him to death—deliver him unto the Gentiles—To him the approaching death was not an accidental tragedy, but an event which clearly lay in his pathway as a part of his Messianic program. It was not an incident, but a necessary part of his work. These were bitter words to the disciples. They thought that he was to die and was to be delivered to the Gentiles instead of leading them to victory over the "nations" must have thrown them into utter confusion.

34. Mock—spit upon—scourge—kill—The climax of indignities. "Crucify him," says Matthew. Put him to death, like the meanest and most abandoned criminal. After three days he shall rise again—Here is a prophecy which makes this utterance a revelation. Foresight might suggest that to go into the very midst of his enemies would mean disaster and death, but to affirm that he would rise from the dead at a stated time lifts this prediction above common foresight into divine knowledge.

35. We would that thou shouldst do for us whatsoever we shall ask—do for us a large request and in anything but a modest spirit. This is a very painful episode. At a time when their hearts should have been deeply touched by the thought of the suffering which awaited their Master they

were thinking about securing the best places in his kingdom.

37. Grant that we may sit, one on thy right hand, and one on thy left hand—The positions of honor, next to the throne itself, the right hand having the post of precedence. In thy glory—The glory of the Messianic King.

38. Ye know not what ye ask—They were to learn the difference between standing first and being first, and that there is a vast difference between appointment and achievement. They were also to learn that it is suffering, not honor which marks the first place in the high roll of the kingdom. Are ye able to drink the cup—to be baptized—Figurative expressions to indicate a man's portion in life and the overwhelming power of calamity.

39. They said, We are able—We are hardly to suppose that this indicates they had an adequate idea of the cost of drinking the cup and undergoing such a baptism. It is rather an inconsiderate and superficial answer. The cup that I drink ye shall drink—He administers no rebuke for their self-seeking, but assures them that they shall verily share in his sufferings in the pathway of their apostleship.

40. To sit on my right hand or on my left hand is not mine to give. . . . for them for whom it hath been prepared—Not personal influence but fitness, and that fitness is determined by the service rendered. So, the bestowment as a matter of personal favor is out of the question. No personal equation enters into it.

42. Jesus called them to him—Such a display of selfish ambition must have intensely grieved him. They who are accounted to rule over the Gentiles—That is, those who seem to rule. He would show them that men rule by force, by heredity, by choice, by flattery, by intrigue, but that few possess the real qualities of leadership. They lord it over them, and the people become their servants.

43. But it is not so among you—in the Kingdom the leaders instead of being lords become servants and the very highest become bond servant of all. The essential principle of the kingdom of God is to achieve greatness—not through preferment, but through service rendered.

45. The Son of man came not to be ministered unto, but to minister—Even the Son of man is not exempt from this rule. He is the Head of humanity and yet he is the servant of all. To give his life a ransom for many—His death is the supreme service for humanity. He gave his life not merely in behalf of many but instead of many. Here we have before us the profound truth of the vicarious sacrifice of Christ. His life becomes the "lutron" or price by which men are freed from bondage.

## Put It There.

A fine story comes from the front relating to King George's recent visit. Seeing a slightly wounded Australian at the railway station the King walked up to him and said:

"I've often heard about you Australians in this war."

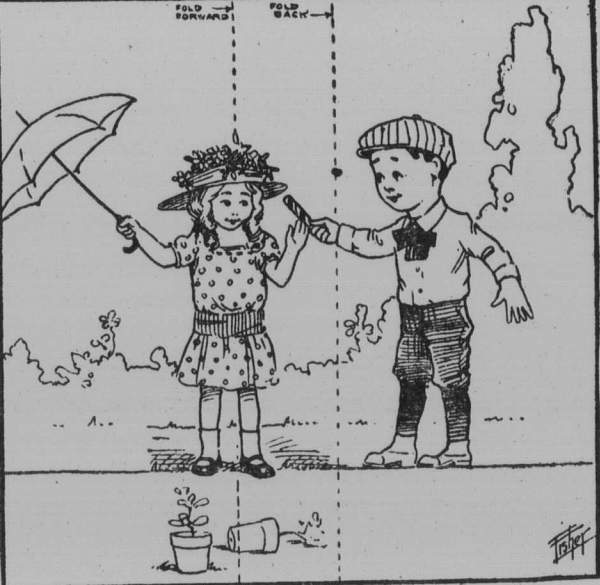
The Australian, holding out his hand, responded: "Put it there!"

The King shook his hand warmly and appeared immensely pleased to be taken as an "equal."

This incident is symbolical of the democracy for which the Allies are fighting.

## FUNNY FOLD-UPS

CUT OUT AND FOLD ON DOTTED LINES



"Put it there," said the boy, "it's loads of fun! Just let me take that parasol, and I'll show you how it's done."

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