

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.

GIVING NEW-GROUND POTATOES THE RIGHT START.

"Who knows best how to raise a good crop of potatoes on new ground?" I have raised a great many crops of potatoes and I invariably plant them on my new land. I have tried out many different methods and believe that I have arrived at a very close approach to perfection in this field; therefore, I respectfully offer what follows in my answer to the question at the head of this paragraph.

It is hard to do a good job of plowing on new ground because it is usually rough and contains a more or less bounteous crop of roots and snags; but anything that is worth doing at all is worth doing well; I always take some pains and do as good a job as possible.

Preparing the Land

Having the ground plowed, the next task is the harrowing; on this point I want to place special emphasis, because many a crop is doomed to failure, or diminutive returns, because the seed bed was not properly prepared. In the case of a heavy June grass sod a disc is necessary to cut it up; the disc should be followed by a spring-tooth harrow to mellow the ground. My experience has been that usually a disc was not needed on new ground, because there was more briars and roots than sod. I use a steel framed harrow with adjustable teeth and the first time over the ground I set the teeth rather light; this picks up the most of the loose roots; the second time I set them a little deeper and the last time over the ground I go cornerwise of the field, which makes the marking out easy. If the ground is not very rough three harrowings will do, but I usually go over the land five or six times; work spent in preparing the seed bed is not lost. The first time over I follow the furrows, and thus avoid turning any of them back, as would likely be the case if the harrow were dragged cross-wise.

There are usually little hummocks, made by trees up-rooting years ago, we call these "cradle knolls." To level off a cradle knoll I stop the team just at the base of it and put my harrow teeth down to the last notch, then I stand on the frame and pull through this takes off the top of the knoll and stopping again and raising the teeth, we go on to the next one. A few doses of this will level off the knolls and put the ground in pretty good shape.

Putting in the Seed

The next step is the planting. While the drill method works very well in old ground, I prefer planting in checks in new ground for two reasons: First, the soil can be thoroughly stirred around the hill, promoting a healthy expansion of the tuber-cluster and killing the briars and grass that would otherwise line the rows. Second: When the crop is harvested there is no living thing in sight; the wild growths have been thoroughly subdued and the field is in excellent shape for any crop that I want to plant the following year.

As to seed: I always plant the nicest potatoes that I have, cutting the seed to two eyes and planting one piece in a hill; this is better than cutting to one eye; first, because it eliminates the possibility of having

blank hills occasionally; and second, because the larger piece of seed gives the plant a quicker and more vigorous start. If small potatoes must be used I would plant them whole or cut once in two.

How We Cultivate

The style of cultivator used depends upon the condition of the land and the equipment of the farmer. We generally use a riding cultivator; but when there are stumps or stones in the way or the ground is too rough, a regular five-tooth adjustable cultivator is the proper thing to use. With this style of cultivator we always go twice-in-a-row, that is, we cultivate both sides of each individual row. If the soil is very heavy the crop should be laid by with a double-shovel plow just before the plants commence to blow. This stirs the soil deeper than before and gives the hill plenty of room. If properly done, there will be no need of hilling them up.

Good Spraying Necessary

The matter of spraying is quite as important as any other step in the production of the crop. I always strive to prevent the bugs from getting a good start, especially just before the plants blow, as the little tubers are setting on about that time. It stands to reason that if the vitality is sapped from the plant at this critical period there will be fewer tubers set on and they will not be so vigorous as they will in the case of a healthy plant.

I graduated from Paris green several years ago, both because of the quality of work obtained and the matter of expense. I use nothing but arsenate of lead. The arsenate of lead does its work most thoroughly when properly applied and there is no danger of damaging the plants by using too much, as is the case with Paris green; the lead stays on the plant indefinitely while the Paris green washes off with the first rain.

Use Lead in Paste Form

I prefer the lead in the paste form; I place two to three tablespoonfuls in a twelve-quart pail and fill it with water, then stir until the lead is all dissolved; I apply with a whisk-broom and keep constantly stirring the solution while I am applying it.

I wait until the first crop of young bugs begin to hatch and then I apply freely to every hill, being careful to get the dope well into the centre or heart of the plant, as here is where the young bugs first congregate; I treat every hill the same whether there are any bugs in it or not. When I am done the potato patch looks as if it had been whitewashed; the bug troubles is ended for some time. If there are no other potatoes near the application is all that is required; but if your neighbor neglects his bugs they will often invade your crop and necessitate another application later on. I have never had to use more than two applications and usually only one. Last year I raised a patch of potatoes in an isolated spot and treated them in this manner; after a period of two weeks I carefully examined the plants and failed to find a single bug, young or old, in the whole patch; and I didn't see another one during the rest of the season.

I?—Better reading, "Surely it is not I, is it?"

20. He that dippeth with me in the dish—To dip in the dish was a sign of friendship. John's account, ask that John, at Peter's suggestion, asked directly that it was he to whom Jesus replied that to give the sop (John 13, 22, 24-26). This, then, was the sign, the selection of Judas to receive the bread which the Master would dip into the "charoseth."

21. The Son of man goeth—Referring to his death. John frequently used the word "go" with reference to the death of Jesus (John 8, 14, 21). Even as it is written—Jesus' death was not a mere accident in his career, but the fulfillment of the purpose of God. Woe unto that man—Yet, the free action and the responsibility of Judas are not taken away. He was not an irresponsible instrument, though his action is in the line of the fulfillment of God's purposes. Good were it for that man if he had not been born—Apologues that he all the time believed that Jesus would by an exhibition of supernatural power confound his enemies at the hour of betrayal and rise in all the majesty of his Messiahship. But the doom here spoken is definite and dreadful. The clear to when this occurred, but it is clear that it was in connection with the passover meal. The blessing was a prayer of thanksgiving and setting apart. Gave to them—Distributing to them as they were reclining. This is my body—Symbolizes my body. It is a violation of the principle of the interpretation of long usage to suppose that this was to be taken as the actual body. "I am the door," "I am the vine" are other instances

of the metaphorical use of language precisely similar.

23. He took a cup—Several cups were taken during the paschal meal. Some suppose it was the fourth cup, since Luke and Paul state that it was "after the supper." (Luke 22, 20; 1 Cor. 11, 25.)

24. This is my blood—By "this" is meant the wine in the cup which he gave to the twelve, and this wine is a symbolical representation of his blood. Of the covenant—Paul gives it, "This cup is the new covenant of my blood." (1 Cor. 11, 25.) The old covenant was of the law at Sinai. Moses (Exod. 24, 8) says: "Behold the blood of the covenant, which Jehovah hath made with you concerning all these words." Jesus institutes a new and better covenant than the one at Sinai, which was to be ratified by the blood of a better sacrifice.

25. I shall no more drink of the fruit of the vine—This is preceded by the solemn words, "Verily I say unto you." These were really farewell words. It was the last occasion on which Jesus would take part in the passover celebration. But, there is coming a time when all things are to be made new, then there will be a passover of a newer and better kind, and a fellowship of a higher order. This will be in the consummation of the kingdom of God. It is in Paul's account that we have the definite institution of the memorial supper and its destination to be observed till the special injunction, "This do in remembrance of me."

26. When they had sung a hymn—Some suppose this to have been Psalm 136, which is a psalm of praise to Jehovah for his goodness to Israel. Others are of the opinion that the "hymn" was the beautiful series of psalms 118-127. Unto the mount of Olives—They had usually retired to Bethany this week, as evening drew near. But this time they were not to reach Bethany—for the culmination of the great tragedy was imminent.

Judas had carried out his diabolical plan. Jesus goes no more into quiet retreat among his friends, but now becomes the victim of the raging chief priests and scribes.

Sharp Garden Tools.

Where the garden itself is not highly esteemed, the tools will be poorly estimated, the tools will be poor as a matter of course. But even people who think a lot of their gardens are sometimes very careless about the condition of their tools.

The proverb says, "If the iron be blunt, then must he put to it the more strength." Sharp tools greatly economize strength. I find that sharp bright tools that are tight to their handles add to the enjoyment one has in his work. To have a hoe slip readily through the soil, doing a nice clean job, contributes to one's self-respect and makes him proud of the work he is doing. If the hoes, spades, weedeaters, and other tools are once put in good shape, they can be easily kept sharp by the occasional use of a file; and with an old kitchen knife the rusty places can be scraped clean so that they will soon scour smooth.

By all means, let us furnish the boys with good sharp tools and show them how they can be used to best advantage and kept in order. Nothing so depresses a boy and disgusts him with gardening and farming as to be compelled to use dull and unsuitable tools.

It pays to wear your most cheerful countenance on the darkest day. That is when folks need it most.

Some heavy hooks in the barn to hang the chains of various sizes on, so that they may be readily seen, save a lot of time hunting when one is needed.

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 diagnoses. Address Dr. Andrew F. Currier, care of Wilson Publishing Co., 73 Adelaide St. West, Toronto.

Hair Remedies.

Civilization is responsible for bald heads. There may be diseases of the hairy scalp among savages, and others who never wear any head covering, but I do not remember to have seen any account of them.

Certainly, savages shave the hair from their heads, for what we call "cosmetic effect," or perhaps for fear it may fall out from diseases.

But such diseases as fevers, which result in loss of hair, are not very common among them as long as they are free from the vices and restraints of civilization.

We can therefore say that baldness is one of the ills which has come with social development.

Dandruff often causes baldness and means an excessive supply of the oily, greasy substance provided by the sebaceous glands to keep the hair smooth and soft under normal conditions.

When it is very abundant in the form of dry scales, or small oily lumps, it loosens the attachment of the root of the hair to its follicle, and the hair falls out or may be easily pulled out.

If there is an insufficiency of this same oily material, the hair becomes dry and brittle and breaks or splits off.

There are numerous diseases of the scalp in which the hair is lost. When these diseases are cured, the hair will grow again in some cases, and in others it will not, its root structure having been destroyed.

The treatment of these diseases is an important branch of dermatology, and includes the treatment of baldness and diseased structure of the hair and its surrounding tissues.

Some of the preparations which have been advertised and used as hair remedies, have stood the test of years,

and this is not an unimportant test in determining their value.

If, after using such a preparation a few weeks, the hair gets longer and thicker or grows where it previously was absent, and if dandruff disappears, it is fair to say the preparation used had something to do with it.

Fashions in hair remedies change, like fashions in clothes. A few years ago, pomades and oils for the hair were popular, and oiled and scented ringlets were marks of beauty.

Such overdoing of the hair and surrounding tissues, probably caused much baldness, and perhaps that is why it was given up.

Hair that is dry and brittle needs oil; hair that is normal does not. Hair that is greasy from too much sebaceous matter, needs an astringent to dry up the excessive secretion.

Simple, diluted alcohol or bay rum will do this as well as expensive lotions and tonics.

If the hair has fallen out, and the root structure is not dead, stimulant substances, like cantharides or mustard or nuxvomica, will often start a new growth and hair tonics containing these substances may be useful.

If the matrix and the sebaceous glands connected with the hair structures are dead, no tonic will revive them.

The treating of the hair, even by those who are skilled, is therefore in many cases a matter of experiment and it is wiser to get the opinion of a dermatologist as to what may be useful, than to depend upon one's own opinion or the recommendation of friends.

A. D.—Answer—This growth which you refer to, is called a "poly-pus," and is often accompanied by hemorrhage. I would advise you to go to a specialist in the diseases of women and have it removed. Usually the operation is not a difficult one.

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MOTHER-WISDOM

How Careless We Have Been With Our School Housekeeping!

By Helen Johnson Keyes

It is foolish to pay taxes to educate our children, if at the same time and in the same place we weaken them and make them unhealthy so that they can not use to the fullest degree the education they receive. That is like trying to fill a bucket which leaks. If we try to fill up our community with the most usefully educated boys and girls, so that the next generation of farmers and farmers' wives will be the very best kind, and yet we leave a leaking hole in our schools, through which boys and girls slip out, because they are ill, shall we ever succeed in getting our communities full to the very brim with strong, efficient workers?

The leak in our school bucket is bad school housekeeping. There is just one way to mend the hole—employ people to keep our schoolhouses clean. It is less expensive than the waste of pouring education into children who are never going to be strong and many of whom will die, unnecessarily.

Count up the number of hours your children spend in school. It amounts to about twelve hundred hours annually. Almost half of their waking life for six or eight years—and longer than that if they continue beyond the elementary grades—are spent in whatever atmosphere and conditions the school offers. Yet how careless

are we! Slaters have been done away with in most schools, because doctors have shown us how harmful is the sharp, gritty dust which crumbles from them, when it is breathed into the lungs. The ordinary plaster-of-Paris chalk is also injurious and should be replaced by what is called the dustless crayon. It is not quite dustless but is an improvement upon chalk. Still better is it to substitute for a blackboard a paper roll known as a muros-roll. One thousand feet of paper four feet wide revolves in a large, standing frame upon rollers turned by knobs.

Play and gymnastics should take place out of doors whenever possible, for the feet stir up the dust which we wish to have lie quietly until the afternoon cleaning gets rid of it. When it is necessary to have recess and exercise indoors, the windows should be wide open.

If the schoolroom is cleaned every day and dusty implements are no longer used, not enough dirt will be created during the daily session to do any harm, provided the room is continually fed by fresh air from a window open at the bottom and drained of the old air by a window open at the top, or by some good patent ventilating device.

However, it must be kept in mind clearly that ventilation without cleanliness is not sufficient. A well-ventilated but dirty country schoolhouse has been found to contain more dust per cubic foot than a city living-room which is clean. As the city, of course, is far more dusty than the country, this shows the value of brush and cloth and reminds us, as so many conditions remind us, that the natural advantages offered by the country in the way of health must yet be added to by eternal human care and precautions.

The injury to health is due to dust breathed into the lungs. Dust is of two kinds: organic dust, that which is thrown off by human beings and all animal life; and inorganic or mineral dust.

Organic dust is the kind which carries germs; but we are finding out that disease is only occasionally conveyed by the air, so that the part which this form of dust plays in illness is no longer considered to be very great. It is inorganic, mineral dust, which is our real danger. Dust of this kind is blown in on the feet of the children and ground up into small particles upon the floors. Then when it is stirred up and mixed with the air it is breathed in, and it cuts and scratches the breathing passages and lungs, leaving upon them rough surfaces which are just what germs breed on. Colds, tuberculosis and many of the children's diseases thus find an opportunity to develop. Blackboards, chalks and slates also scatter these tiny, blade-like particles all around the rooms.

Windows must be open and dust fly in through them. Children must walk to school and—until we are as polite as the Japanese and leave our shoes outside—bring in the dirt upon their feet. Blackboards and chalk are almost necessary for school work. So what shall we do about it?

There is just one answer: We must employ some one to sweep the school-house every afternoon when school is dismissed and to dust it in the morn-

ings before the pupils arrive. The teacher is certainly not the person of whom this labor should be expected. Almost every community is able to furnish a strong girl or woman who will take pride in performing this health service faithfully and well for a suitable wage. Until this expense can be arranged for as a part of the school tax, all the parents represented in the school should share it among themselves.

Not all sweeping and dusting get rid of the dirt. The old-fashioned kind performed with a straw broom upon a dry surface, and a feather duster, merely sets it flying to alight in new places. Sweeping should be done with a bristle brush and the floors covered with wet sawdust, wet paper torn into bits, tea leaves, or other damp substance to which the dislodged dirt will cling and which can then be burned. A still better brush is the kind whose bristles are slowly fed from a little tank of kerosene (coal-oil). Very little dust can escape this weapon. A vacuum cleaner is by all means the most thorough cleaner there is, as will be seen when one is passed over a surface which is supposed to have been well cleaned already and yet picks up a generous and dangerous quantity of dirt.

The dusting of school furniture must be done with a damp or an oiled cloth. Dry dusting is merely a dancing party for the dirt!

Slates have been done away with in most schools, because doctors have shown us how harmful is the sharp, gritty dust which crumbles from them, when it is breathed into the lungs. The ordinary plaster-of-Paris chalk is also injurious and should be replaced by what is called the dustless crayon. It is not quite dustless but is an improvement upon chalk. Still better is it to substitute for a blackboard a paper roll known as a muros-roll. One thousand feet of paper four feet wide revolves in a large, standing frame upon rollers turned by knobs.

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Help your boy to be a prize winner this year in some line—pigs, sheep, corn, or something good. His whole life will be stronger for it.

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INTERNATIONAL LESSON
JUNE 9.

Lesson X. Jesus Faces Betrayal and Denial—Mark 14, 10-72. Golden Text, Mark 14, 38.

Verse 17. When it was evening he cometh with the twelve—This is in an upper chamber in Jerusalem, introducing the sixth day of the week—Thursday, between 3 and 12 p.m., April 6, A.D. 30. The paschal lamb was to be slain "at even" (Exod. 12, 6). The custom was not to kill it till after the evening sacrifice was offered. They were now all together for their last passover supper.

18. As they sat (reclined)—Originally the paschal lamb was to be eaten standing (Exod. 12, 11).

19. They began to be sorrowful—What would have been a meal of good fellowship and blessed communion is now turned to an occasion of fear and suspicion and doubt. How unthinkable that one of his intimate friends who had been his companion should now hand him over to his enemies! As Jews they no doubt recalled the familiar passage in Psalm 41, 9: "Mine own familiar friend, in whom I trusted, who did eat of my bread, hath lifted up his heel against me." It is

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