

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 envelopes are 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.

The Storage of Potatoes.

The losses from improper storage of potatoes are of far greater economic importance than is generally realized. These losses are brought about by a variety of factors which may be grouped in three divisions, e.g. physical, mechanical and pathological.

The chief loss from physical factors is brought about by the storage of immature stock. Potatoes that are to be stored should be thoroughly ripe, that is, the stalks should be dead, and the tubers should adhere firmly to the stems. Potatoes may have their stalks prematurely killed so as to resemble a natural death by being attacked by late or early blight, rhizoctonia, the flea beetle or potato bug, but upon examination the tubers under such plants will be found immature and unfit for best storage results. Frost bitten and sunburned also come in this division.

The mechanical factors that brought about loss in storage are chiefly about careless handling of the crop at harvest time, such as broken, cracked or chipped tubers due to improper digging and rough usage in gathering the crop. The slightest injury to the skin of the potato lays it open to invasion of myriads of decay producing spores, which, when given the proper conditions will rapidly spread decay through the entire lot.

Under the pathological factors come the tubers affected by disease. Undoubtedly the late blight (*Phytophthora infestans*) is the most common, as well as the most destructive. Tubers affected by this disease are almost certain to decay in storage; nor is this decay confined to the diseased tubers, but spreads rapidly to the healthy ones, unless preventive measures are employed, and perfect storage provided.

The decay of potatoes in storage may be caused by a number of organisms, while each organism may have its own particular form of attack; still it is gratifying to know that the remedial measures are the same in each case.

The following suggestions regarding the storage of potatoes, if followed carefully, will practically eliminate the losses from decay of potatoes in storage.

1. Spray your potatoes frequently and carefully during the summer with Bordeaux mixture.
2. Delay digging your potatoes, if possible, until the tops are dead and dry.
3. Avoid covering potatoes, after they are dug, with the tops, to protect them from sun or frost.
4. Carefully examine all potatoes to be stored, and remove immature, broken, cracked, chipped, sun-bitten, frost-bitten or diseased tubers.
5. Never store your potatoes while wet.
6. Have the tubers free from dirt. If dirty, the soil fills up the spaces between the tubers and prevents the circulation of air.
7. Provide a dry cellar with abundant ventilation, where the tempera-

ture can be between 34 and 40 degrees F.

8. Keep the storage room as cool as possible directly after the product is stored.
9. Fill your bins gradually; by so doing, the potatoes that are put in first have lost their heat before they are covered by another layer.
10. Carefully sort your stored potatoes at intervals during storage, and remove all tubers showing signs of disease or decay.

Fertilizers For 1919.

Now is the time for the farmer to plan his croppings for 1919 and in doing so to decide upon what fertilizers, if any, he purposes to use. Last spring there was considerable disappointment among farmers, especially among those who had delayed placing their orders till a few weeks before the season opened, as there was not only a shortage of material but transportation facilities were such that quick deliveries could not be made. There is no prospect that conditions will be better next spring and it therefore behooves the farmer, this fall to carefully consider his needs, scan the prices and having made his selection to place his orders, stipulating an early delivery. Cooperation in ordering may effect the saving of a considerable amount in purchasing and freight rates.

During the last ten years there has been considerable increase in the number of farmers in British Columbia, Quebec, Ontario and the Maritime provinces using fertilizers, but unfortunately but a small percentage of them have any definite knowledge of the profit that may have resulted from their application. There will always be a degree of uncertainty as regards results from fertilizers, chiefly owing to the fact that seasonal conditions can not be predicted, but with close observation from carefully planned work, a very great knowledge may be gained as to the kind and amount of fertilizer which will prove profitable. A series of adjacent plots on fairly uniform soil, each with a different amount or combination of fertilizer and sown to the same crop, furnishes the most reliable means of learning the most profitable application, but if time and labor do not permit of the adoption of this plan, a strip of the field, well staked, should be left unfertilized, and its yield weighed against that of a similar sized strip on the fertilized area. From the results so obtained the profit or loss from the application of the fertilizer may be readily obtained.

A considerable saving may be usually effected by buying fertilizer ingredients, nitrate of soda, sulphate of ammonia, superphosphate, basic slag, etc., than by purchasing ready mixed fertilizers, and this course also furnishes valuable information for future guidance obtainable in no other way. Information and advice regarding the use of fertilizers will be gladly given as far as may be practicable, by the Division of Chemistry, Central Experimental Farm, Ottawa.

The Dairy

Many stockmen dehorn the stocker and feeder cattle or calves to be kept for feeders. The chief advantages of dehorning are convenience and economy in the feed lot and in shipping, and possibly a slight increase in market value. Animals being fitted for baby beef should not be dehorned, as with horned breeds the age can be told approximately by the horn, and when the horns are removed the buyer may suspect an animal of being over age limit and may cut down somewhat on the price.

If a feeder is raising his own calves, the best method of dehorning will be found to be an application of caustic soda or caustic potash when the calf is a few days old, or when the button can be felt through the skin. Wet the stick of caustic slightly and rub it well on the skin over the horn after first clipping the hair off the region. Do not get the stick too wet or it will be apt to run down over the side of the head, burning off the hair and also causing needless pain.

When dehorning is not done at this time, it is advisable to wait until the horn has made a fair growth and then use either the saw or the clippers, which must be used in either case if the feeders are purchased. Clippers are quicker and less painful than the saw. They make a cleaner cut, which bleeds longer than that made with the saw. In either case the horn should be cut a little below the union of the horn and the skin or the horn will begin to grow again.

The best time to dehorn is the first part of April or the latter part of October; that is, neither in really cold weather nor in fly time. In fly time the animal is somewhat run down and flies cause great suffering, prevent the wound from healing, and are a source of infection. It is best for a few days after the operation not to give the cattle dusty hay or other feeds in which there is much dust, as the wounds are liable to become infected and cause trouble.

Poultry

A common and troublesome parasite affecting fowls is the roost-mite, when these become sufficiently numerous they not only infest the nests, but other parts of the poultry house, especially cracks and crevices, as well as the roosts. These mites are much like tiny spiders in appearance and are often called spider-lice by poultrymen.

Roost-mites are easily exterminated by applying kerosene oil to all infested parts of the building. As prevention is better than cure, it pays to paint the roosts every four or six weeks in winter time and every two weeks during the warm weather, as it is in the presence of heat that these pests increase most rapidly and are most active.

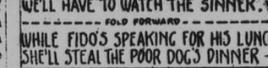
Clean nests insure clean eggs. Do not send dirty eggs to market. Rub off the dirt with a slightly dampened wooden rag. Cider vinegar will remove stains. Washed eggs do not keep, as the gelatinous substance is removed which seals the pores of the shell, and when this is removed air is admitted and decomposition begins.

FUNNY FOLD-UPS

CUT OUT AND FOLD ON DOTTED LINES



TABBY SNEAKS ALONG THE FENCE. WE'LL HAVE TO WATCH THE SINNER.



WHILE FIDO'S SPEAKING FOR HIS LUNCH SHE'LL STEAL THE POOR DOG'S DINNER.



Hogs

Precautions Against Cholera.

Nearly every fall there are outbreaks of hog cholera. When cholera is in the neighborhood, healthy hogs may be kept free from the disease by cleaning the feed lots, breeding pens and hog shelters, and disinfecting them with a good disinfectant. Keep the hogs away from streams, public highways and neighbors' lots. Burn all "carriage" which attracts dogs, buzzards and crows. Scare away all stray dogs, pigeons and English sparrows. Stay away from infected herds in the neighborhood, and keep visitors out of the hog lots unless their shoes have been properly disinfected. Disinfect all recently purchased hogs and quarantine them for two weeks or longer. Vaccinate with serum alone to prevent the development of the disease in recently purchased hogs.

When cholera or other sickness occurs in your herd, separate the sick animals promptly and confine them in a screened shed or closed building. Call a veterinarian to test whether the disease is cholera. If cholera is present, vaccinate all the hogs which are mildly infected. Do not waste serum on hogs in an advanced stage of cholera. Kill and burn without delay any hogs that are fatally ill. Disinfect the lots thoroughly, burn all rubbish and litter, white-wash the buildings and scatter freshly slaked lime about the sheds and lairs.

October had no butterflies and so she told Jack Frost To make a million right away, no matter what it cost; So Jack Frost painted all the leaves a lovely red and brown; The wind then shook the branches hard to make them flutter down.

BALANCING SUPPLY AND DEMAND

By R. G. Kirby.

In planning crops the farmer should study the law of supply and demand as it applies to the agriculture of his community. Even in time of war this law cannot be ignored. For example a city farmer, inspired by patriotism rented land and planted it to turnips. He reasoned that in war time every kind of food would be in great demand. He raised a large crop of turnips and found no demand for them in his community; the market was supplied. The grocers in the city had little demand for turnips. The law of supply and demand was working and the crop was unprofitable.

The farmer can safely base his plans on the established practice of the community. A new idea may be fine but possibly it has been tried and found unsatisfactory. Farmers who conduct their business along established lines will find that they are really catering to supply and demand. This year, wheat is a crop that a farmer can grow with safety because of the demand. Men who produce wheat know that there is no risk in finding a market. They know that wheat is in demand the world over. The growing of beans, livestock and staple crops is safe because of the demand. Some farmers find it pays to grow crops for nearby canning factories. The demand is there and will create a market for their crops. In a section without a canning factory the farmer cannot raise a large amount of certain crops without risk because of insufficient demand.

Some inexperienced observers criticize farmers because they follow more or less in the ways of their fathers. Sometimes it is called "in a rut." More often it is common sense farm management. Many good farmers have discovered that the risks of farming are great enough without growing crops which are not in demand. A dairyman who starts with pure-bred stock is playing safe if he selects

a breed adapted to his community. He can sell his surplus easily at good prices. More of his neighbors may purchase a bull from him. The community association may hold auctions which will bring many buyers from distant parts who will pay good prices for animals. If he selects a breed less popular in the community he will have less chance to make money because there will be less demand for his stock. That is why certain Holstein and Guernsey centres are prosperous and build up national reputations. That demand makes the business successful. If a breeder came into such a section and attempted to build up a herd of a different breed his chances of success would be greatly reduced because he ignored the demand for pure-bred stock of the breed already popular in that community.

The poultryman who specializes with a popular breed will stand more chance of success than one who selects a fancy breed, seldom seen within miles of his home. There will be a demand, because the breed is popular. The rare breed is not in demand; consequently sales of breeding stock and hatching eggs will be difficult to obtain.

The popularity of Improved White Hulled Barley and Marquis wheat are examples of this law. Farmers are learning the merits of these varieties and consequently the demand for them is good. Farmers who study demand and plan to furnish the supply, can make their farming more profitable, while those who experiment with crops of unknown value will make little progress.

In fruit growing the demands of the buyers must be carefully considered. Certain varieties of apples are in demand and command good prices. Other varieties are more difficult to market. Mixed orchards do not attract buyers like solid blocks of standard varieties.

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.

Biliousness.
C. W. K.—For two or three years I have suffered from periodic attacks, in which the symptoms are: A sudden partial blindness, in which half of an object may be visible, the other part a blank, the light flashing (a better description than flashing would be "boiling") before my eyes, the sight being confused and almost nil; this condition will last for a few minutes, the sight then clear, and a headache comes on in the locality of the eyes, lasting it may be an hour or so; my head feels dizzy, and I am inclined to reel when I walk, there is also a heavy feeling in the head, as when water is taken in the ears in bathing; my own voice will have a far away sound. The attacks come at intervals of a few weeks, a few months, or it may be only a few days apart.

I have thought the condition may be due to a disorder of the liver, or of the kidneys. Have you any treatise that you think would be valuable to me?

The symptoms of which you complain are perfectly familiar to any physician of even moderate experience and while they may be attributable to other conditions they answer quite well to the rubric which is known in common language as biliousness.

This is a term of which writers of medical text books fight shy of for it is lacking in exactness and does not define much of anything.

It suggests a condition in which bile may be circulating in the blood, for those who are bilious are frequently jaundiced, and jaundice means that bile pigment has been taken out of the blood current and deposited in the skin.

It corresponds also to the condition which is sufficiently well known among the laity as sick-headache, the dizziness and disturbed vision being followed within half an hour or an hour by a more or less intense headache, with want of appetite and possibly nausea and vomiting.

It has seemed to me, as I have stated, that this condition was often due to disturbance in the bile-secreting function of the liver, but it

may also be associated with disease of the kidneys, with chronic Bright's disease especially, for those who have this trouble or infrequently complain of symptoms such as are mentioned in the above letter.

Biliousness is also particularly connected with errors of diet; an attack of indigestion following over-eating or the eating of something which decomposes or ferments in the stomach or intestines will often produce an attack of biliousness.

It may also be brought on by emotional causes such as fear, worry, anxiety, or profound emotion of any kind.

An attack lasts several hours and with many people it is repeated periodically, particularly in the spring. When the attack is due to retention of undigested food an emetic of a pint of mustard water will promptly empty the stomach and the bad symptoms may disappear, promptly too.

For those who are subject to bilious attacks the thing of greatest importance is to live on food of the simplest character and not too much of it.

It is also very desirable to avoid means of doing this is to take a gentle constipation and one of the best erous dose of castor oil every two or three nights during the period in which the attacks of biliousness are wont to come.

When an attack is accompanied with jaundice and particularly when there is with it a feeling of soreness in the region of the liver, a suitable quantity of calomel followed by a dose of Epsom salts will frequently be sufficient to relieve the bad symptoms and postpone another attack.

Mercury is not a substance which it is desirable to take habitually but it acts wonderfully well as an occasional remedy for certain conditions and one of these conditions is biliousness.

P. E.—Will you inform me in regard to Raynaud's Disease?

Answer—An article has been written on this disease, and you can have a copy of it by sending stamped, self-addressed envelope.



INTERNATIONAL LESSON
NOVEMBER 3.

Lesson V. Appetite and Greed—Genesis 25. 27-34. Golden Text, Dan. 1. 8.

Time.—Only a conjectural date can be assigned for this lesson. Isaac was forty years old at the time of his marriage to Rebekah. They had no children for twenty years, until in answer to prayer the twins, Esau and Jacob, were born. These boys must have reached maturity by the time of the present lesson.

The purpose of the narrative is indicated in Genesis 25. 23. The individual traits of the two men set forth the issues and conflicts of two people—the Edomites, descended from Esau; and Israel, descended from Jacob. In the end Israel, the chosen people of God, overcomes those who despise the higher and more spiritual values.

Verse 27. Esau was a skillful hunter, a man of the field—These two phrases describe the natural character and temperament of the man. He enjoyed hunting, but did not care for steady work; adventure appealed to him more than the discipline of productive employment; to hunt and to eat were his chief joys, a sort of barbaric, rugged nature, not without excellencies of a certain sort; intense in emotion, but subject to his power. Jacob was a quiet man, dwelling in tents—The pastoral ideal is the key to this description. It is the orderly man in contrast to the undisciplined, irregular hunter; self-control is the main feature of his character; steady purposes, whether good or bad, rule in his life. Jacob was a man of affairs, a manager, capable of getting results. Such the natural dispositions of the two men, each capable of much good or much evil.

28. Isaac loved Esau, because he did eat of his venison—The father and the son were unlike in most respects, but agreed in their fondness for savory food. Was this the old man's weak point? At any rate, he was partial toward Esau, as Rebekah was toward Jacob. Parental favoritism is the source of much spilling, and it was this that did much harm to these two sons. It followed them all their days. It takes no prophet to forecast trouble in such a family.

30. Feed me, I pray thee, with that same red pottage—The word "pottage" is not in the original; it is, literally, "some of the red, that red." The thing indicated is described in verse 34; it was a soup made of lentils, something like pea soup, of a dark, reddish brown color, still an article of diet in Syria. The expression is emphatic and indicates the intensity of Esau's hunger. He was hungry and exhausted; his natural tendency to make much of mere physical appetite was intensified. The sight and aroma of the food took possession of his mind.

31. Sell me thy birthright—The birthright denotes the advantages and rights usually enjoyed by the first born son. It included a position of honor as the head of the family, a double share of the inheritance, and

presumptively greater natural vigor; but it was believed to be transferable to a younger son who proved himself more worthy of the dignity. The Bible adds to the idea of the birthright greater spiritual privileges and blessings. The covenant promise made to Abraham was included in the blessing. The mixed character of Jacob appears in this transaction. He was capable of appreciating the value of a birthright, although he resorted to unfair means to obtain it. He valued ancestral privilege and knew the worth of divine blessing. Mere physical pleasure did not rule his decisions or satisfy his soul. He knew there was a supreme spiritual value to be sought and won.

32. Esau said, Behold, I am about to die—This is the language of a man who overestimates his feelings. Exaggeration is a fundamental weakness in character. A brief moment of hunger outweighs the highest position in life and the richest blessing God can bestow. No man can afford to live on his feelings; they will invariably betray him; a balanced judgment becomes impossible.

33. Swear to me first—The oath was a sacred and binding custom among Orientals. Jacob knew that a man who parted with a great ancestral right would change his mind, a thing so easily given away might be as easily recalled. He determined to make the thing sure.

34. So Esau despised his birthright—In Hebrews 12. 16 Esau is called a "profane person." The word "profane" means "before the face" and indicates the ground outside of a temple or sacred enclosure. Hence common ground, walked over by man and beast. A profane man is one who makes himself common; he has no deep respect for himself as a spiritual being. Every common appetite and passion has free course in his life. A profane man loses the sense for spiritual value. Temptations sweep through such a soul almost without resistance. Esau's continual carelessness about the great things of life made him weak in the hour of temptation.

How To Make Money.

There is an opportunity in many localities for boys and girls to develop a little business by gathering dry pine-needles for bedding nests in the chicken house. They are better than straw, or any other material I know of for this purpose, because lice or mites will not live or breed in them. Besides, they have a tendency to clean and brighten the plumage of the hens. They can be found in almost any wood lot and are easily gathered in bags. Farmers are glad to get them for a reasonable price, and quite a trade can be built up with city people who keep chickens.

By the iron in our mountains,
By the power in our rivers,
By the harvest of our prairies,
By the skill of our inventions,
By the courage of our fathers,
By the aid of God above us,
We shall win and we shall conquer.

Green corn soup can be made from rice stock.

Sheep Notes

The beginner must understand that breeding ewes, to insure a good lamb crop, require that a goodly proportion of their bulky feed during the winter feeding period, be rich in proteins, such as alfalfa and clover hay—bone and muscle food—with at least one-half pint of oats once a day for each ewe during the last half of the feeding period.

The cost of wintering breeding ewes is more than balanced by the

fleece, with market prices placed upon the food, and then some. Whether wool sells for twenty cents or fifty cents a pound, the lambs are clear profit if your flock is properly cared for.

The fleece of a well-kept band of ewes will average seven pounds, a very modest estimate. (This seems a very low estimate and I am sure many of our sheep men report much better average clips).

The lamb crop of a well cared for flock should be not less than one hundred per cent.

Provide well-lighted winter quarters, free from draft or north, east and west winds, with wide doors on south side nailed open all winter as a preventive against cotted wool and snuffles.

Dock all lambs and alter all ram lambs after week old and before shearing time, if possible.

Dip ewes and lambs soon after shearing and repeat the dip in ten days; otherwise the work will have been in vain, as one dipping does not kill the nits, which later develop into ticks.

I never bred ewes before November 20, and later, as then the lamb comes with a warm sun after April 15, at a time when the ewes are on grass, and could lamb out in the wild pastures during the day with little danger of losing lambs from exposure. I always penned up heavy ewes at sundown and released them late in the morning; then, if any lambs dropped during the night or early in the morning they were almost sure to be strong and independent. In this way my year's profit was saved by just a little inexpensive attention at the proper time.

To kill off all the cranks would not. The troubles of our era solve. For to the cranks we owe a lot. In making wheels at times revolve.

In preserving with honey, use one cupful of honey to three cupfuls of water.

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