EPOSITS
BANK OF CANADA
Further
Ex... by Wel...

# EFFICIENT FARMING

## WHERE PREVENTION COUNTS.

...Plant diseases are controlled by prevention rather than by cure. Once an apple has become scabby, a cherry begun to rot, or a peach leaf show signs of curl, it is then too late to apply control. The damage done by these and other plant diseases is avoided by preventing the disease from ever becoming established. Spraying is the most generally used method of prevention. The success of a spray application depends upon the chances at the proper time of killing the disease organisms, and so preventing any ...

For control of peach leaf curl it is ... to spray with lime sulphur ... the trees are in a perfectly dormant ... before the buds have even begun to unfold in the spring. All ... of the life history of the fungus ... that the spores of the ... the winter adhering to ... and in the spring these ... germinate and attack the leaves ... bud is opening. As long as ... leaves are folded inside the ... protected by its scales they ... from the attack of the fungus, ... soon as the bud begins to open, ... tender leaves become exposed to ... It is therefore essential that ... spores be killed by the spray ... the buds are still dormant. It ... that spraying can be done at ... during late fall, winter or ... spring.

Peach growers have noticed that ... is much more prevalent ... cool, wet spring. In such a ... on account of the slow rate of ... the buds are a long time un... while dampness favors the ... of the fungus spores, and ... temperature does not check their ... Thus the fungus is favored ... a considerable period of time ... it has every chance to infect ... If the weather is warm ... while the buds are opening ... the reverse conditions the ... shoot out quickly and are soon ... danger period, while at the ... lack of moisture may pre... germination of the fungus spores.

## COMPARISON OF SOME SILAGES.

The Central Experimental Farm, ... of the feeding value of ... silages—oats, peas and ... sunflower, and corn, showed the ... production of the stored in ... to be $5.60, $1.80 and $2.95 per ... respectively.

The first part of the experiment, ... corn produced 4 per cent. more ... 38.5 per cent. less cost and ... cent. more fat at 12 per cent. ... than did the O.P.V. silage. ... second part of the experiment ... corn produced 5 per cent. more ... and 5.8 per cent. more fat than ... flower, but the latter produced ... milk and fat a little cheaper. ... the corn silage as a standard, ... it at the cost of pro... the relative values of O.P.V. ... and sunflower silage were ... and $2.76 per ton, respectively. ... cost of production of the ... silage is due to the low yield ... In the case of the sun... silage, the cost is low, due to ... yield, but a large percentage ... corn yield is water. Calculat... the basis of the dry matter, ... sunflower silage would cost ... the same. Sunflower silage, ... excess water, freezes badly in ... a very undesirable thing. ... O.P.V. silage freezes little, if ... making it easy to handle. ... O.P.V. silage nor sunflower ... as palatable as corn silage, ... cattle ate both, once they ... used to them. Corn silage ... its premier place, having the ... advantages and the fewest dis... ages, but sunflower silage and ... silage are economical feeds ... corn silage can not be grown.

W. Muir, Animal Husbandman, ... tral Experimental Farm.

## LEARNING FIELD ROOT VARIETIES.

... that the season is past for the ... of our field root crops a ... eration of what the harvest has ... us should be profitable. At ... Central Experimental Farm at ... we have for the past few ... been considering not only the ... yield of green weight obtained ... amount of dry matter and ... goodness of the variety as ... The consideration of genuine... is what we wish to consider ... at the present time.

In our attempts to classify field ... varieties we have met with some ... peculiar mixtures that were sold ... special, sometimes fancy, var... names. A year ago we received ... package of seed supposed to be of a ... Intermediate variety but ... produced at least one-half ... round garden beets. This year ... had a variety which gave us one-half Swiss Chard. In both of these cases the mixtures were obviously due to the mechanical mixing of varieties in some warehouse, due very likely to carelessness on the part of those handling the seed. Whatever the cause of the mixing the fact remains that a farmer buying such seed would suffer a considerable loss—and it would seem only fair that there should be some means by which growers who receive such seed could get recompensed for the loss sustained because of sowing it.

A much more general condition than the one previously mentioned is the occurrence of off types in any established variety. Just how serious such a mixture is from the standpoint of yield of the resulting crop is dependent on the character of the off type individuals present. Plants which are off type in color only do not usually mean a reduction in yield, but plants off shape very frequently do. A single example will serve to illustrate this point. In a lot of half sugar mangels grown at the Central Experimental Farm this summer there occurred about thirty per cent. of off shapes and sizes. The half sugar types and the off types were weighed separately and the decrease in yield due to the off types figured on an acre basis, amounted to a little over five tons. There is a special adaptation of type or root to soil and climatic conditions, as for example the Globe or Tankard types of mangels for shallow soils, the Half Long or Long types for very deep open soils, etc. The presence of types, not suited to the soil type in which they are grown, in a variety suited to the soil in question will almost always result in an appreciable loss due to decreased yield.

We may have, however, a lot of roots true to variety name and type, and still giving us a very inferior yield because of weak germination of the seed from which they grew. In common with animals a poor start very often means an ultimate development much below normal. It is very essential therefore to have vigor of germination as well as purity of the resulting crop if we are to obtain maximum yields.

What we wish to emphasize is that some root seed sold to the farmers of Canada at the present time is a disgrace to the seed trade, and a serious loss to the growers unfortunate enough to buy it. We wish at the same time to call attention to the fact that there is reasonably good root seed available and being sold by some of our seedsmen. Some way of regulating our root seed trade so that all of our seedsmen would sell only good seed would seem to be in order.

## Cultivation of Tobacco.

The extent of the work carried on at the Dominion tobacco station at Harrow, Ont., is little known and less realized. A good idea, however, can be gathered from the report for last year of the Superintendent, Mr. D. D. Digges. Besides producing enough plants of all varieties to meet the requirements of the station and the various outside experimental plots, 165,600 plants were sold, sufficient approximately to plant 36.8 acres. Three thousand square feet of glass covered beds and 1,200 square feet of canvas covered different types that were seeded. Two cold beds, two semi-hot beds, all glass covered, and one each semi-hot bed and cold bed, canvas covered, were used. Both of the last mentioned were spring steamed but one each of the others was spring steamed and one each fall steamed. All beds had a top dressing of about three inches of well rotted compost. The treatment practiced under these conditions are fully set out in the report and the conclusions arrived at briefly put are: that the semi-hot bed is the most economical and efficient type of bed; that the glass-covered semi-hot bed is the best for the production of early seedlings; that by using straw the semi-hot bed can be made and steamed in the fall without losing its effectiveness; that glass-covered beds are superior to canvas covered for the production of early seedlings; that a top dressing of black compost is beneficial; that sterilizing with steam not only eradicates weeds and plant diseases but also forces growth of the plants; that steaming for thirty minutes at 100 pounds pressure is sufficient; that fall steaming is a safeguard against late springs; that on a fairly fertile soil which is well supplied with humus a weak solution of nitrate of soda applied when the leaves are about the size of the small Canadian nickle is sufficient for forcing retarded plants but the latter should be sprinkled with pure water immediately after using the solution; that the rate of seeding, and the manner thereof, should be governed by the germinative power of the seed.

The Lady—"I always like the Cattle Show, dear. It's the only time I feel really slim."—From London Opinion.

## Points to Consider When Purchasing a Farm.

There are many points to be considered when purchasing a farm. If you are intending to purchase one some time in the near future it is wise to keep these points fresh in mind so that you may consider them when you go to look at a farm. After these points have been applied and the questions they bring up answered correctly, you will be able to decide if it is the farm you want.

One can easily see the amount of woodland on a farm; he can see if it is hilly or stony and one may also examine the condition of the fences and buildings, but there are other things equally or more important which do not show up so plainly.

One should, of course, examine the soil when there is no snow on it, to determine the kind of soil. Through the summer months, when the crops are growing, is the best time to inspect the producing power of the land. See if the fields have the proper drainage where drainage is needed.

It is very important that you should have a good well. The health of your family depends upon it. Good water is also needed at the barn for the stock. Of course, your wife will need a good cistern at the house, so don't forget to look into this when examining the water supply.

Good roads and a short distance from market, church and school are all valuable assets.

If you have children of school age you will particularly wish to locate near a school house. If you do not happen to have children of school age, it will increase the value of the farm if it is convenient to school. In case you or your children may sometimes wish to sell, it will sell more readily and at a higher price, if it is located within easy walking distance from school.

New improved roads and new drains are being constantly surveyed and laid out. If you are not acquainted with the country in which your prospective farm is located, a talk with the supervisor of the township will tell you if the farm lies within the assessed district of any new roads or drains. If it is, an estimate of the taxes to be assessed should be added to the purchase price of the farm.

The supervisor can also give you the assessed valuation of the farm you have in view. If you are a newcomer in the vicinity and do not know the usual price of land in that locality, this will help you, as property is usually assessed at somewhere near three-fourths of its selling value.

If you are a stranger in the neighborhood, try and get acquainted with some of the neighbors before you buy. Not long ago a friend of mine bought a farm. He was not acquainted with any of the people in the neighborhood. After he moved on his farm, and became acquainted with them, he found that although they were a thrifty, hard-working people, they were of a different nationality than he. Their customs, religion and social activities were entirely different than those of Mr. Newcomer and his family. They were strangers in a strange land. In less than two years he was ready to sell and seek a new home.

One more word: When you go to look at a farm be sure and take your wife with you. She may discover conveniences or inconveniences about the house and outbuildings which a man would be quite apt to overlook.

## For the Languid Vise.

After a period of service the average vise wears to the extent of requiring the movable jaw to be pulled out by hand when the vise is opened by the insertion of any piece of work. A simple remedy to correct this, as adopted by a local shop, consists in the insertion of a valve spring between the fixed and movable jaws.

The sun-blessed dairy cow brings forth vitamines a hundred fold.

Let it be said again that boys and girls seek joy, satisfaction and responsibility. The parent who is wise enough to see that his children get these things, either through his own initiative or through the boys' and girls' club, will have little trouble in maintaining their interest in farm.

## Why the Coil Failed.

The coil of an electric farm-lighting plant had burned out while the engine was running and a new coil was installed. Within a short time thereafter the engine had been stopped, apparently in good condition, but a few days later would not start until another new coil was installed. This happened again, after which an investigation revealed that the coil, though apparently correct in size and shape, was of the wrong capacity. This particular 32-volt plant utilizes a 32-volt coil to supply ignition for the engine, and as the firm also makes a 6-volt automobile lighting system, a 6-volt coil was supplied by mistake. Then when the 32-volt current was impressed on the windings of the 6-volt coil, the pressure was greater than it was designed for or could withstand; consequently it heated and burned out within a short period. Therefore, in installing new coils or other parts on any farm-lighting plant it is well, in addition to making sure they are genuine, also to make sure they are of the correct rating or capacity. This is doubly important when the replacement part is furnished by any other than the plant's manufacturer.

## An Automatic Rat Trap.

After the corn crop was sold rats from the granary began to infest the basement. They were so thick that some wholesale method to exterminate them was the only solution. There was an old vinegar barrel in the basement. The top of this was removed and covered with heavy brown paper. Several small pieces of cheese and a few kernels of corn were scattered on the top and the barrel set about six inches from a table so that the rats would have to jump to get to the bait.

Each morning the bait was gone. When the rats began to suspect that the food supply was both regular and safe, the paper was cut with a sharp knife in the form of a cross with the intersecting cuts in the centre. This time the food was glued to the paper.

The next morning nine rats were found in the barrel. Subsequent mornings netted from one to three or four for about a week.

### Found Three of Them.

Three smart young men were trying to take a rise out of a very old Hebrew. One saluted him with, "Well Father Abraham, how are you to-day?"

"You are wrong," said the second student, "this is old Father Isaac."

"No," said the third, "you are both mistaken; this is old Father Jacob."

The Hebrew looked at the young men and replied: "I am neither old Father Abraham, nor old Father Isaac nor old Father Jacob; but I am Saul the son of Kish, seeking his father's asses, and lo, I have found three of them."

# Poultry

When its leg is bent the fowl can not open its foot, for which reason the fowl can not fall off the perch.

The word "chicken" is commonly applied to fowls of all ages. Properly, a chicken is a young fowl six months old; it becomes a fowl after that.

Hens are never so happy as when they are knee-deep in straw or chaff, scratching for kernels of grain. This happiness is what makes them profitable, too.

Olive oil is one of the best medicines known for diarrhoea. It can also be regarded as a substitute for simple ointments, and can be rubbed around the eyes instead of using an ointment.

Crossing breeds leads on to mongrelism, and the oftener the cross is made the lower the quality gets. Get a good breed and stick to it, is the advice of those who have made a success.

When a fowl sneezes, waters slightly at the eyes and nostrils, and the face puffs up, this indicates a common cold. When accompanied by a rattling in the throat, the trouble is bronchitis. Difficult breathing indicates pneumonia. Canker in the mouth means diphtheria.

Beef scrap commonly appears in two forms—granulated and ground. The ground scrap is preferred, since it may be fed either in hoppers or mixed with a mash food. Fowls will eat a ground scrap from the hopper readily enough and are not so likely to hog it as they would the coarser scrap.

Sour crop is occasionally found among fowls. When a fowl with a sour crop is picked up, the crop feels soft and the fowl will vomit a quantity of fluid. For this condition there is no better remedy than two teaspoonfuls of sugar and baking-soda (equal parts), in a teacupful of warm water. Give two teaspoonfuls of this once a day, and at the same time supply plenty of grit.

## Butter and Cheese Scoring Contests.

In the Dominion educational butter scoring contest of 1923, conducted by the Dairy and Cold Storage Branch from May to October inclusive, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Nova Scotia each entered six samples. British Columbia and New Brunswick each five, and Alberta three. All the samples from Manitoba and Nova Scotia were special grade. The other special grade samples were five from Saskatchewan and Quebec, four from Alberta and Ontario, three from New Brunswick, two from British Columbia, and one from Prince Edward Island. All the other samples were first grade except one from Quebec and Prince Edward Island, which were second. The special grades were 23.40 per cent. more than in 1922, showing, says the report, that the creamery butter-makers in Canada are improving in their methods.

In the educational cheese scoring contest, Ontario contributed 22 samples of which four were special grade, 17 first grade and one second grade. Of 21 samples from Quebec nine were special grade, nine first grade and three second grade. Of four samples from Prince Edward Island all were first grade. Of six from New Brunswick four were first grade and two second, and of three from Alberta one was first grade and two second grade. Only the provinces named competed in cheese.

Care may kill people, but don't care kills more.—Boston Transcript.

# Short Courses at Ontario Agricultural College

## FARM POWER COURSE.

Farm tractors for outdoor work and gasoline engines and electric motors for inside are very rapidly finding favor on the farms of Ontario. For the large number of tractors introduced during the past few years it has been very difficult to find skilled operators and especially operators with a thorough grasp of the fundamental principles underlying the construction and operation of gasoline engines. Many inquiries are received at the Ontario Agricultural College day by day from those wishing information about motors of various types used for inside work.

To afford an opportunity for instruction along these various lines there is offered a short course in Farm Power at the Ontario Agricultural College, beginning January 22nd and extending over a period of two weeks. Amateurs, being either operators, farmers or farmers' sons are particularly invited. Any man or boy may enter the course providing he arrives at the Mechanic's Building, O.A.C., at 9 a.m. on the 22nd of January.

## FARM DAIRY COURSE.

The importance and value of a knowledge of modern dairy farm practice will be demonstrated during the Farm Dairy Course—January 21st to February 2nd—at the Dairy Department of the Ontario Agricultural College. The work covered will include lectures on the care and handling of dairy cattle, the production and care of milk, veterinary science, crops for the dairy farm, systems of ventilation in dairy barns and the care and use of milking machines, along with practical work in hand separators, butter-making, soft and fancy cheese making and milk testing. No young dairy farmer can afford to be without a course of this kind. If students are unable to remain the full period of two weeks, they may stay one week or less.

## FRUIT AND VEGETABLE GROWING.

The culture of tree and small fruits for both amateur and commercial growers in all parts of the Province will be covered in the short course on Fruit and Vegetable Growing given by the Department of Horticulture, Ontario Agricultural College, January 21st to February 2nd. The course will be as practical as possible. The best methods used in vegetable growing will also be given in detail. The practical work of fruit growing will consist of budding, grafting, pruning, planting, packing and marketing the fruit and market packages; in vegetables, seedage, cultage, picking out, potting, transplanting, marketing and market packages.

# The Sunday School Lesson

## JANUARY 20

### Moses Called to Deliver Israel, Exod. chs. 1: 1 to 12: 36

**Golden Text—By faith Moses, when he was come to years, refused to be called the son of Pharaoh's daughter; Choosing rather to suffer affliction with the people of God, than to enjoy the pleasures of sin for a season.—Heb. 11: 24, 25.**

THE STORY CONTINUED—The story of Moses, his deliverance from death in infancy, his education at the Egyptian court, his interference on behalf of oppressed countrymen, his flight to Midian, and his return to be the deliverer of Israel from Egyptian bondage and the founder of their national life, is one of the most remarkable in history, and not less remarkable in its religious value than for its historical importance. God's overruling providence, his call, his leading, manifested presence, his interest in the national life and his mighty hand stand out as shining lights in the record, and the saving of Israel from Egypt came to be regarded in later centuries as the sign of God's regard for his people, and the assurance of his saving grace and power in every subsequent time of oppression or suffering.

Ch. 3: 1. *Moses kept the flock.* Like his ancestors, he was a shepherd. The wealth of Jethro, the Arabian sheik, his father-in-law, consisted in flocks. Moses, having married Jethro's daughter (2: 21-22), had been received as a member of the tribe and shared in that wealth. Jethro is called Reuel in ch. 2: 18. *The back of the wilderness* (Rev. Ver.) was the western, partly desert, home of these Midianite Arabs. It appears to have been on the eastern arm of the Red Sea, but their pastures lands were in the peninsula of Sinai, between the gulfs of Akaba and Suez. A well-known traveler tells us that in the hot, dry summer months the Arab shepherds are accustomed "to leave the lower country, where the herbage is dried up, and retire towards the higher parts, where the temperature preserves its freshness much longer." *The mountain of God*, which is called Horeb, and in other parts of the Sinai, was evidently regarded as a sacred place. There may have been an altar there. An ancient tradition locates the mountain in the heart of the Sinaitic peninsula.

V. 2. *The angel of the Lord*, in the oldest stories of the Old Testament, is the manifestation of God himself. God is represented as appearing in human form, as *in a flame of fire out of the midst of a bush.* Moses sees at first only a bush of the flaming bush, and as he draws nearer becomes conscious that he is in the presence of God and on holy ground. The story now before us presents, in this picturesque form, the profound religious experience which was the climax of a long series of communings with God and his own consecration. It is now made clear to him that God's purpose lies with his suffering people in Egypt, and that he must deliver them.

V. 5. *Put off thy shoes.* The custom of taking off of the shoes or sandals, which was the usual mark of reverence in the East, is observed upon entering a mosque or other sacred place.

V. 6. *The God of thy father.* In those days when people had many gods, and when worship was a matter of tradition, or a new divine name, or title, usually meant a new god. Moses was told that it is Israel's true God, the God of his fathers, who is thus revealing himself to him. Neither he, nor the people to whom he is sent to deliver, must have any misunderstanding regarding this.

V. 7. *I have surely seen.* Moses is made to see that the affliction of God's people is a matter of concern to God, and so must be to Moses. God cannot remain indifferent to suffering when he has chosen him as the instrument of deliverance, and sets before him the glorious promise of restoration to the land of Canaan.

V. 8. *Milk and honey* in Canaan would be marks of a good land. The word which is translated "honey" is used also for a sweet syrup made from grape juice and called by the Arabs *dibs.* The Canaanites, who were the lowlanders of the country, and the Jordan valley, but the name was often applied to all the people of Palestine before the Israelitish conquest. *The Hittites* were a great nation of those days, whose influence extended from Palestine north to Syria and Asia Minor. *The Amorites*, lived east of the river Jordan, and also in the extreme south of Palestine. This name also was sometimes applied to the people of Western Palestine in general. The other names represent Palestine tribes of which little is known.

V. 12. *Certainly I will be with thee.* The task to which Moses was called was a great and difficult one. He feels his own incompetence, "*Who am I*," he said, "*that I should go unto Pharaoh?*" The answer of God gives him the great assurance of God's presence with him. In all Moses' subsequent work this promise and this assurance remained with him. God was present with him and in that assurance he could do all things. *Upon this mountain.* There was this further token and guarantee of the reality and truth of the divine call, that he would lead the people to this very mountain where now he had the vision of God. This may account, in part at least, for the fact that Moses did lead Israel into the heart of that mountainous peninsula rather than by the straight road to Palestine.

APPLICATION.

*Interest.* Again we stand by the side of a man called of God. And for the character, Moses is past the age of youthful adventure. His apprenticeship for his real life work involved forty years of youth amid the advantages of the court of Egypt, plus an added forty of learning an honest livelihood, as a keeper of flocks in the wilderness. So, too, many a modern college man finds scope for all his training in the varied pursuits of husbandry. Slipshod farming spells poverty amid to-day's highly specialized industry. But just as truly does scientific farming yield not only the secrets of high revenue crops, but life on a high scale of comfort, and thrilling with vital contact points with the mystery, power and beauty of the outdoor world. To the trained man,

*Earth's crammed with heaven,*
*And every common bush afire with God;*
*And only he who sees takes off his shoes,*

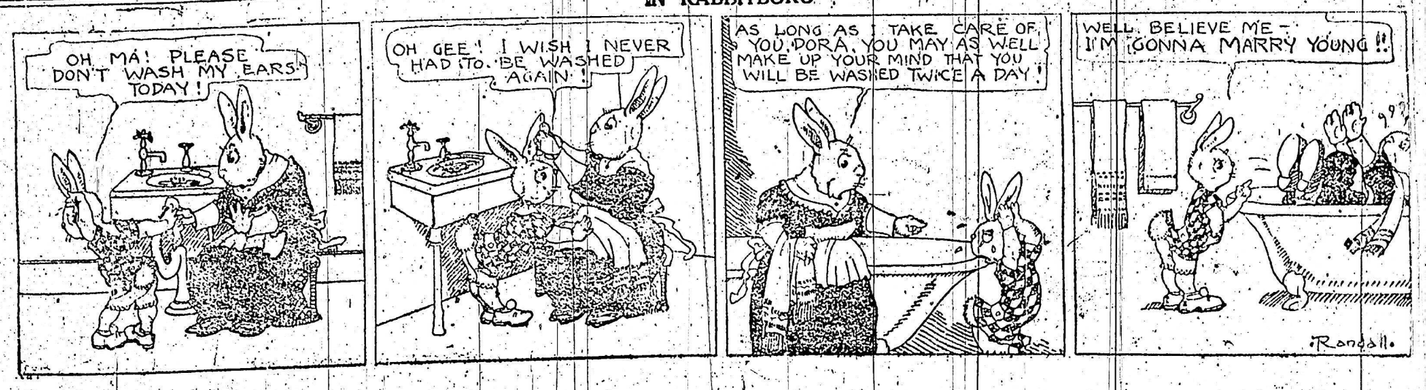
But the man of trained vision cannot be buried in the desert. Busy with his common daily task as Moses was, memory, vision, imagination, and insight all play their part in the revealing of the splendid vision of God and duty. So for Amos the farmer, David the shepherd, Paul the tentmaker, Peter the fisherman, Jesus the carpenter, and to all who tread the path of labor in like spirit, "the trivial round, the common task," become the road to God, and all the commonplace. "Blessed are the pure in heart: for they shall see God."

*Reverence.* Scientific interest in a physical phenomenon was the beginning of the awakening of the soul. He who comes seeking only to scoff may remain to pray, but to scoff is to be blind. It is he who sees truth who perceives beauty. Scholarship, ripe experience, well informed authority, or worthy achievement are never cocksure or flippant. It is the immaturity of shallow and fragmentary knowledge that misses the larger and deeper issues, the soul and purpose that flag, and discards the Bible as it does the Sabbath, and call...

## What the Live Stock Markets Suppress.

## Care of Paint and Paint Brushes.

When it is necessary to repaint parts of paint which have been ... the paint nature ... useless from ... may be ... trifling ... paraffin ... The can will ... and the ... will ... for scaling ... and ... about ... If ... to clean ... of ... may be kept in good ... them as dry as ... the brush into ... the ferrule ... to ... of the ... wax ... fruit ... Dehorn your ... are ... short ... Winter ... winter ... Docked and ... market. ... strength of ... Spring ... Finish is ... take.

Brushes that have been ... until the paint is hard and dry can be softened again by soaking them in strong vinegar.

## IN RABBITBORO