Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto

Liberal Feeding Pays.

The fall freshening cows are coming in and will continue to come in for several months up into the winter. Good liberal feeding methods, practiced before and continued after freshening, will increase the efficiency of milk production of Ontario cows.

What constitutes good feeding practices? Follow nature closely and we will find the cow doing her best during the autumn and winter if summer conditions regarding feed are applied. These conditions are an abundance of palatable, bulky, succulent feed made up into a balanced ration.

Nature herself points the way. In the springtime access to pasture grasses allows the cow to have an abundance of succulent, bulky, palatable feed, balanced to meet the needs of the cow for maintenance and to furnish nourishment for her calf for a time.

A manufacturing plant or any machine is most efficient and economical when running near its full capacity. The cow is a manufacturing plant taking the raw materials produced on the farm, the silage, the hay and grain and converting them into milk. In order to allow the cow to manufacture milk a certain amount of the feed goes to maintain her body. Ordinarily this amount of feed used for maintenance is about fifty to sixty per cent. of the ration fed. But the milk production occurs after the needs for maintaining the cow have been supplied. Hence it is short-sighted economy not to feed additionally to the limit of capacity production of the cow. On too many farms is this a common mistake made in feeding not alone the cows, but all live stock. Be a good liberal feeder.

Many Ontario cows are fed a ration that will maintain their bodies but which will not allow them to produce a full flow of milk. Others are fed half a ration and the milk flow is reduced to a minimum. What happens when fed as last mentioned? Can the cow automatically stop giving milk? No, she gives milk and will continue to give milk for some time at her own body expense, losing in flesh in order that the mother instinct to nourish her calf is satisfied. However, she will gradually adjust herself and give the milk corresponding to the amount of feed. Heavy milking cows, several weeks after freshening, even when quite well fed, continue to lose weight and flesh because of this mother function.

On the other hand, what happens when the cow is overfed? The excess food is simply used for body fat. Hence over-feeding or feeding a full ration is not harmful before calving when nearly dry because the excess feed is used to supply nourishment for the unborn offspring or to repair muscle and tissue and even to put on extra body weight.

Feed a balanced full ration for the greatest economy and efficiency. Too often the cow capable of milking sixty pounds is getting the feed of her twenty-pound sister, and often the twenty-pound sister is getting the ration that her sixty-pound sister should have. Feed individually and weigh your milk and feed always. First, feed all the roughness a cow will clean up. Second, feed one pound of grain daily for each three to three and one-half pounds of milk, or one pound of grain daily for each pound of butter-fat produced per week, and third, feed all the cow will take without gaining in weight. For greatest economy for autumn and winter and even year around feeding silage or beets are almost indispensable, a legume hay, alfalfa or clovers, and grain mixtures to balance with the roughage material.

Is Your Schoolhouse Clean?

The modern mother is beginning to question the right of the state to make her children go to school in buildings where they are subject to unnecessary risks of danger by fire, from insanitary surroundings, and from the dangers of contracting serious communicable diseases. And the mother who is unwilling to expose her children to such dangers should ask about the buildings in which they attend school this fall, making sure that the fall cleaning of the school buildings has been attended to and that both buildings and surroundings are in a safe and sanitary condition.

The school board officials are responsible only to the people who have elected them. So, after all, the responsibility for insanitary school building and lack of proper protection of the health of school children rests squarely on the parents.

In rural districts, the principal dangers to the health of school children are to be looked for in the school well, the common drinking cup and towel, the crowded and poorly ventilated schoolroom, badly fitting seats, crowded cloak-rooms, and open or insanitary toilets. In villages and cities having buildings more than one storey high, there is additional danger through fire.

If the school water-supply comes from a well on the school premises, it should have special attention before opening day. A properly constructed well has waterproof walls lined with stone, brick, or cement, and which extend for not less than six inches above the surface of the ground. It is fitted with a pump and has a waterproof top, so that waste water runs away from the well instead of back into it; and surface water, after rains, cannot carry pollution into the source of the drinking supply. Where a well is thus properly constructed, all that is necessary is to pump it dry and to allow the fresh water to collect before school opens.

If the well is of the common open variety, several things may have happened during the summer vacation. Rains may have washed dirt, manure and other surface material into the water. In hunting for water, turtles, rabbits, mice, rats, snakes and other living creatures have either jumped or fallen into the well and have been unable to get out. To drink water containing their decaying bodies is not only extremely unpleasant, but it may be very dangerous as well. An open well should, therefore, be pumped dry and thoroughly cleaned before school opens. The top should be made entirely safe for little folks, and constructed so that surface and waste water can not carry with it into the drinking water the washings of many dirty little feet.

With a safe and clean water-supply assured, it is next necessary to know that the water is distributed in a cleanly manner. Every mother knows that if one child at school develops a cold, or a case of measles, whooping-cough, diphtheria, or other communicable disease, that it is likely to run through the entire school. What the mother may not know, is that these communicable diseases are spread mainly by the secretions of the nose and throat, and that one of the commonest sources of spreading these infections is by the use of the common water pail and common drinking-cup. Sanitary water containers supplied with an approved type of faucet, can be obtained from almost any hardware store. In the absence of this convenience, the school water pail should be supplied with a cover and a dipper which is not used for drinking. Each child should be required to bring his own cup and be taught never to use one belonging to another. If, in addition to this, the teacher is instructed how to look for the suspiciously reddened eyes, the discharges from the nose and throat and other signs of the first stage of a disease, and to exclude children showing these symptoms from school until the disease or the danger of infecting others is past, it will be possible for the school to go through the winter without an epidemic. Mothers must, however, cooperate with the teachers in order to make this possible.

Quite as dangerous as the unclean water supply is the open or insanitary toilet. There is almost nothing so dangerous to human beings as to take their own excreta in their food and drinking water. It is most unpleasant to think about, but typhoid fever and diarrheal diseases are contracted in that way.

To be safe, a toilet needs to be fly-proof. Flies breed and thrive in an open privy. They fly into the schoolhouse, take a bath in the water pail and wipe their feet on the children's lunch or on whatever food may be exposed to them. The result is, that infections present in the excreta can be and are spread by flies.

Another danger from the insanitary toilet is pollution of the water supply by surface washing or through the ground. The presence of toilet sewage in drinking water has been discovered by throwing powerful dyes in the toilet. Several days afterward these colors have been found in wells miles away, showing conclusively that the rains have washed the toilet sewage into the ground from which the wells drew their water-supply. In order to avoid this possibility, the toilet must be constructed in such manner that the sewage will be rendered harmless, and can be safely disposed of in plowed ground. These toilets are not expensive to build.

For temporary purposes, a barrel of earth or lime should be placed in every open toilet and each child taught the necessity of throwing in a shovelful each time the toilet is used. The open toilet should also be screened or boarded up carefully so as to prevent flies from breeding in it or carrying pollution from it. Another source of danger from the dirty open toilet is the moral contagion. It is next to impossible to teach a child cleanliness and decency in the schoolroom and from books when he gets a daily lesson in filth and indecency from the outbuildings.

Dangers to the health of school children, in the schoolroom itself, are the possibilities of accident by fire due to leaky stoves and improperly constructed furnaces or exits of buildings; lack of proper ventilation causing a predisposition to disease and favoring the spread of contagions; badly-fitting seats resulting in crooked spines and cramped lungs; crowded cloak-rooms with the possibility of easy transference of bedbugs, lice and other pests by the contact of clothing; and the dust from dry sweeping. Each of these insanitary conditions and practices suggests its own remedy.

Every child should go to school this fall in a building which is safe from danger by fire and which is clean and sanitary in every respect. His parents and the community owe him at least that much, and the responsibility for the protection of the health of the school children of their own district is squarely up to them.

The Dairy

The fall and early winter months are the season when many cattle are lost without good cause, because the farmer does not watch out in feeding; a little thought and extra care will save these valuable animals. Choke in cattle is usually the result of the animal's swallowing such objects as apples, turnips, beets, potatoes, and the like; it may be caused from eating straw or chaff. This condition is noticed most often in the season when animals are pasteured where these fruits and vegetables may be reached, and when the farmer is feeding the surplus culls to stock in the uncut state.

Choke in cattle does not always show the same symptoms; in fact, it is rather difficult to determine the ailment in some cases. When the choked animal drinks water it will return through the mouth or nose if the choke is complete, the animal will usually bloat, due to the gas that is constantly being formed in the paunch as it cannot pass upward through the gullet as it normally does. The breathing may be faster than it ordinarily is.

If there is plenty of assistance at hand it may be advisable to have the animal's head held securely, and then with the aid of a mouth gag, to hold the animal's mouth open, the hand being passed over the base of the tongue in an effort to grasp the object and remove it. If the choke is too deep for that, it might be well to use something to lubricate the gullet, and for this the following may be used with good results: Olive oil, glycerine, slippery elm tea. Any of these may be given in small doses of four to six ounces. Of all these, slippery elm is possibly the best lubricant of all. This may make it possible for the animal to pass the object into the stomach.

If the object can be felt, a gentle pressure may be exerted upward on it. Under no conditions should two hard objects be cracked together with the region of the choke between them, with the intention of crushing the mass; neither should a whipstalk be passed down the animal's throat, as many farmers do in such conditions.

If a veterinarian is to be had, he can give the animal a dose of apomorphine hydrochloride, which may remove the choke. Do not give the animal large quantities of a drench.

If the animal is in such condition that it is not likely to be relieved, it is best to have it slaughtered at once, not only putting it out of its misery, but also saving the carcass for meat purposes.

Preservation of Fruit and Vegetables.

Farmers' wives, and, in fact, housewives generally, would probably find a deal of worth-while information in Bulletin No. 93 of the Dominion Experimental Farms. It deals with the Preservation of Fruits and Vegetables for home use and gives the results, with the recipes, of experiments in canning, drying, pickling and preserving carried on by the Horticultural Division of the Central Experimental Farm, Ottawa. Facts will be found there relative to sterilization for the prevention of spoilage and souring; for the methods best followed in canning and jelly making; for the preservation of vegetables by fermentation and salting; for home drying, and as to the relative value of different varieties of fruits and vegetables when canned and preserved. The bulletin can be obtained at no cost by making application to the Publications Branch, Ottawa.

Drain your land before your land drains you.

October is a good month to start with pure-breds. There are eleven other good months.

DOBBIN AT THE FAIR

Poor old Dobbin at the fair,
Shining, sleek, in ev'ry hair,
Neatly groomed from head to tail
Yet how little the avail!

Once he entered head on high,
Admiration of each eye,
Now he comes with drooping ears
At the laughter, jests and jeers,
As the dashing autos go
Through the gates of county show.

And alas! what has he done
That he should be the butt of fun?
Fat and "comfy," good to see,
As of yore, yet, somehow, he
Doesn't feel just quite at home
Where the whirling autos come;
Like cat in strange garret three,
Poor old Dobbin at the fair.

Once he held proud reputation
Of best fam'ly horse around,
And he felt in all the nation
Not the equal could be found,
Of his pretty, gracious lady,
Who held the reins just as she should,
By each neat manipulation
Showing gentlewoman's blood.

Now a hot tide through him courses
To his brain, for wellbred horses
Feel the stigma and the shame,
When low-bred people make them game;
And he hears a "female" gay
In yonder auto coarsely say,
"See, oh see, that 'one-hoss shay'!"
Like a fossil Dobbin feels
When the boisterous laughter peals,
And he sees her pointing there
To his turnout at the fair.

Yes, indeed, like a back number,
Poor heart-broken Dobbin feels,
And he knows he ne'er can lumber
Past those flashing, dashing wheels;
Worst of all to see his lady,
Laughing-stock of latter day,
And he hopes he may not cumber
This old earth long, anyway.

But presto, change! New "pep" and courage
Breaks in on his doleful dream,
They are passing—famous judges—
Gentlemen of old regime.
They lift their hats high to his mistress;
Pat his flanks as on they go,
Saying, "Yes, a true fine lady,
Debts all paid and nothing shady
In her life, as all well know."
And so with head high in the air,
Proudly Dobbin leaves the fair.

Hogs

Hogging down, or pasturing off corn, is a practice that is gaining every year. Tests have shown this plan to be economical; it saves labor of harvesting and feeding, the hogs make good gains, and the manure is left on the ground.

There is one precaution, though. Do not let hogs cover too much ground at one time. Fence off the part of the field to be hogged down by use of two-foot woven wire fence, held by anchor posts at either side of the field and supported by occasional posts or tied with binder twine to hills of corn. Hogs should be turned in when corn is in the hard dough or almost mature stage. All or part of the field may be hogged down. From four to eight acres can be fenced off at a time. When the area is cleaned up, fences should be moved to include an equal area of standing corn.

In corn yielding forty bushels an acre, from four to six hogs can be carried per acre. Heavier yields will carry more hogs. It will take from six to eight weeks for four to six hogs to clean up an acre of good corn.

Tankage or skim-milk should be supplied with the corn, unless some crop such as rape or soybeans, was seeded in the corn to furnish protein at harvest-time.

My Time.

The Time of Day I do not tell,
As some do, by the clock;
Or by the distant chiming bell,
Set on some steeple rock;
But by the progress that I see
In what I have to do;
It's either Done o'clock to me,
Or only Half-past Through.

Parents as Educators

Doing it for Others—By Lydia Lion Roberts.

BY LYDIA LION ROBERTS.

From the time the children went to kindergarten they began to make all sorts of things and bring them proudly home to Mother. And each time I would say, "Now make another one just like that here at home and give it to someone who will enjoy it." Often the second article was made in a different color, or the child was encouraged to think out various improvements. If we did not have exactly the same materials in the house as were used at the school, we would hunt until we found something almost as good, or that carried out the same idea in a different way. When I mentioned this plan to one of the teachers she approved of it and told me she wished all the mothers would do the same, for the child really understood then just how the work was done, and in the second trial corrected mistakes of the first.

So all through the school days the children have made duplicates of pictures, frames, blotters, boxes, calendars and woodwork. Some of these were always given to friends or playmates, and also used for birthday presents. I remember one cold day when the oldest boy had to stay in the house because of the cold, yet the time passed quickly to him for he was busily working on five new pinwheels that he had just learned to make. Every little while a child's face would be pressed against the window pane and a voice would call eagerly, "Is mine done yet?" The boy was very pleased and proud to think the children outdoors were waiting so anxiously for his work.

Thus practice makes perfect and little fingers and hearts learn to work for the pleasure of others.

THE SUNDAY SCHOOL LESSON

OCTOBER 15.

The Ministry of John the Baptist, Luke 3: 7-17. Golden Text—Repent ye; for the kingdom of Heaven is at hand, Matt. 3: 2 (Rev. Ver.)

Time and Place—A.D. 28; Judea.

Lesson Setting—After the lapse of seventeen years, the curtain lifts again and we see John coming from the wilderness about the Dead Sea. The character of king, governor, tetrarchs and priests given in the beginning of the chapter all suggest how much the world needed the arresting cry of a prophet of God. What a contrast John affords when contrasted with the gloomy tyrant Tiberius, the adulterous Herod, the shuffling politician, Pilate!

I. Fearlessness of John's Message, 7-9.

V. 7. **Said he to the multitude.** John evidently spoke these words to the Pharisees and Sadducees among the crowd, Matt. 3: 7. Their interest in John's message regarding the kingdom is not moral, but self-regarding. They are concerned with their place and power in the kingdom. The movement begun by John's message was of such dimensions that they could not ignore it. In John 1: 19 we read of a deputation sent to John to enquire if he were the Messiah. **That came . . . to be baptized.** Baptism with John was a new rite. Ceremonial washings had a place in the Jewish religious system. There was the ceremonial cleansing of the priests and the baptism of Gentile converts to Judaism, but John demanded repentance of all and made baptism a symbol for all of that inward change of mind and heart which he demanded. **Generation of vipers.** John saw the real motive and how subtle and malicious their spirit was. But John is no courtier. He speaks the fearless word to Pharisee as to king.

V. 8. **Bring forth . . . fruits worthy of repentance.** Repentance is a change of mind and heart evidenced in a change of life. This is John's demand on all. **We have Abraham.** As children of Abraham, the Pharisees thought themselves entitled to unconditional privileges in the kingdom. John says that character, not race, determined the individual's relation to the kingdom of God. **These stones to raise up children unto Abraham.** John takes broad ground here and takes the same ground as Paul in his distinction between one who is a Jew inwardly and one who is a Jew outwardly.

V. 9. **The axe is laid unto the root.** The kingdom does not bring an easy privilege for the Jew, but a keen edge test that will remove lives that are not fruitful in good.

II. The Faithfulness of John's Message, 10-14.

V. 10. **The people;** the common people as opposed to the Pharisees and Sadducees. If John does not court the favor of the great, neither is he a demagogue flattering the multitude. He lays his finger upon the besetting sins of each class, and he demands a change.

V. 11. **He that hath two coats.** These were undergarments. John demands unselfishness from the people.

V. 12. **Publicans;** the tax-gatherers. The Roman taxes on the Jews were gathered by men who severally contracted to raise a specified sum from a specified area. All over this sum belonged to them. These men in turn engaged Jews to do the actual collecting of the taxes on the same principle. Inevitably this led to injustice and extortion. John demands of them honesty.

V. 14. **The soldiers likewise.** They were not to bully the poor nor levy blackmail on the rich, nor to mutiny against their superiors. In all these demands John emphasized the fact that every coming of God in our midst demands a coming of God into our hearts, as the ruler of thought and desire.

III. The Humility of John's Message, 15-17.

V. 15. **The people were in expectation.** The people were stirred by the personality of John as well as by his message. Might not this fearless and strong man be the Messiah Himself? What is his relation to the kingdom? For a lesser man there would have been a great temptation to magnify himself.

V. 16. **I indeed baptize . . . with water.** Unhesitatingly he bows in the presence of a greater than he and takes the lesser place. **Latchet of whose shoes.** It was the task of the menial to unloose the sandals of his master. John says he is not worthy to do even that humble service. Elsewhere he likens himself to the friends of the bridegroom, not the bridegroom himself, to a voice crying in the wilderness. The greatness of John is shown in his taking his true place rather than the great place. **Baptize . . . with the Holy Ghost and with fire.** In his work as well as in his personality, Jesus is above John. Jesus comes to effect in the hearts of men that which John symbolizes in the baptism he uses. Jesus kindles. John symbolizes. Jesus creates, John demands.

V. 17. **Whose fan is in his hand.** After the sheaves had been trodden by the oxen, the grain was lifted with a large shovel and thrown into the air to separate the grain from the chaff. Jesus' ministry is to be searching like the fire and separating like the wind.

Application.

John the Baptist was not a city man. He was a son of the desert, from which, after deep meditation upon the ways of human life, he came forth to preach. His teaching may be summed up under two heads—repentance and the coming King.

1. Under the head of repentance he denounces sin—a generation of vipers who hath warned you to flee from the wrath to come. There are those who would tell us that our preaching should be wholly occupied without living the ideal. Let the real alone because people do not like to hear about their faults. John the Baptist lost no time in white-washing sinners. He looked evil in the face and called it the devil.

2. Under the head of, "The King," he intimated that there was one coming after him who was mightier than he. John was willing to be the morning star to the sun of righteousness. He was willing to decrease in order that a worthier might increase. It is a true nobility which enables any one to recognize superior merit and to give it a more honorable place. It is the dead opposite of that green envy which overwhelms so many small minds. Can we be big enough to acknowledge the merit which is superior to our own?

He also intimated that this superior one would exercise a superior influence. He himself baptized with water, but this coming one would baptize with the Holy Ghost and with fire. Water may cleanse in the rough, but fire will entirely disinfect. Fire is the symbol of enthusiasm—that glorious dynamic which ever since has made possible the thrill of great consecrations, of mighty conquests, of stupendous martyrdoms.

Encouraging Pupils to Study Instrumental Music

A consistent effort is being made in some of the larger centres across the border—and the scheme is well worth adopting in our Canadian communities—to encourage pupils to undertake the study of either a vocational or an avocational activity.

The old-fashioned idea of after-school rehearsals is fast disappearing, and the more progressive idea of recognizing the orchestra rehearsal as a regular classroom period is taking hold. Credit is given to this study exactly the same as it is given for the so-called important subjects. Because of this fact a new interest has arisen, and pupils are not only willing but anxious to become members of the orchestral class. In some districts the school systems provide musical instruments and instruction, but in the great majority pupils still provide their own, and parents pay for the instruction. The ensemble instruction is given by the regular High School teachers, and each year there is a strong tendency to select for this work teachers who have had a special training in instrumental work.

The question arises: How much of a student's time should be given to the school orchestra? In nearly every community the orchestra performs not only at school functions, but also at civic functions as well. In addition to the annual concerts, school assemblies, rehearsals, pageants, etc., the average player gives many hours not required of other students. Is it not unfair when school authorities fail to recognize this type of service? It is a fact that where recognition is not given, orchestras do not develop. How important it becomes for musicians who are interested in the development of music instruction to be unceasing in their efforts to force a proper recognition of this service.

The possibilities of the work under proper supervision are unlimited. There are some who predict that before another generation has passed instruction in instrumental music will be a regular part of the High School curriculum. Elementary schools have encouraged the organization of after-school violin and piano classes, with a view to determining the child's natural tendencies. After a short period of study, if the pupil shows talent, he is encouraged to study privately. This system cannot be operated as successfully in High School as it is in the Elementary school, because more demands are made on the time of the student. Hence the necessity for forming elective classes in instrument playing and giving the proper credit recognition for this study.

What, then, is the most effective method of accomplishing this result? First, the study must be made so attractive that pupils will elect music in preference to some other subject. Second, upon proper recognition of the status of music. Third, public opinion must be aroused to the point where active effort instead of idle talk becomes the motto of the great populace. The results accomplished in the past warrant the effort which should be made in behalf of the students to accord them a richer and broader education.

By using manure on wheat fields it is possible to lessen danger of Hessian fly.

Churning troubles are not always due to the same thing. If the right temperatures have been observed and still there is trouble, try using commercial starters to ripen the cream.

Whatever be your talents, whatever be your prospects, never speculate away on a chance of a palace that which you may need as a provision against the workhouse.—Bulwer.