

# Efficient Farming

## FEEDING FOR WINTER EGG PRODUCTION.

While a good laying strain is the primary factor in winter egg production, suitable feeds and feeding methods are almost as important. If better feeding methods were adopted the winter egg production on the average farm could probably be increased by at least twenty per cent. Inasmuch as the profits on eggs produced during the winter months are far greater than on those laid at any other time of the year, this is a subject which merits serious attention.

Rations for winter feeding should be chosen with three factors in mind—their nutritive value, palatability and variety. Laying hens in most parts of Canada are necessarily kept confined during the entire winter; therefore care must be taken to supply those food elements (or substitutes) which the birds would otherwise procure for themselves outdoors.

Grains, such as wheat, corn, oats and barley, both whole and ground, are included in most poultry rations. The whole grains are given as scratch feed and when ground, enter into the composition of the dry mash.

Scratch Grain—Several excellent commercial scratch grain mixtures are available, but a most satisfactory home-mixed scratch grain may be composed of equal parts by weight of wheat, cracked corn and oats. There is an old saying that a busy hen is a laying hen, and consequently scratch grains should always be fed in a deep litter to induce exercise. This is an added reason for making this part of the ration as varied as possible.

It is impossible to give definite rules as to the exact amount of scratch grain which should be fed. A very light feed may be given early in the morning and at noon, to keep the birds busy, with a good feed at night so that their crops will be full when they go to roost, without an undue amount of grain being left on the floor.

Dry Mash—Dry mash is an essential for winter egg production, and the birds should consume as much as possible. Commercial mash may be used, but a series of nine experiments conducted upon the Dominion Experimental Farms recently have shown that for total production and profits, a home-mixed mash consisting of equal parts by weight of bran, shorts, corn-meal and oat chop, with twenty per cent. of beef-meal, is more economical than any of the commercial mashes which have been tried.

This mash should be kept continually before the birds in a hopper, and a very small quantity moistened either with milk or table scraps, may be fed at noon. No more of this latter should be given than the birds can eat in fifteen minutes.

Green Feed—While grains are essential, there are also other feeds which must not be omitted. Foremost among these is green feed, which apart from its nutritive value, serves to keep the birds in good health. This is the part of the ration of the average farm flock which is most often neglected. Either cabbages, dried clover leaves, sprouted oats or mangels may be used and the birds should get as much as they will eat.

Milk, Water, Etc.—Drink is also an important factor in winter egg production, and milk, skim-milk or buttermilk, is practically essential. This serves both as a drink and as a source of animal protein and should be kept continually before the birds together with a supply of clean fresh water. If no milk is available, beef scrap should be given in a hopper, or some other animal food such as horse flesh should be provided. In many districts, particularly in Quebec, community bone-cutters have been installed, by means of which farmers can procure chopped horseflesh for poultry feeding, at nominal prices.

Grit, oyster shells, and charcoal in hoppers, should also be available for the birds at all times.

Details of various experiments dealing with this subject are contained in the Annual Reports of the Dominion Poultry Husbandman for 1922 and 1923, copies of which may be obtained free of charge from the Poultry Division, Experimental Farm, Ottawa.

## WINTERING YOUNG LIVESTOCK.

Prices for feeding beef and dairy cattle are low, therefore young cattle must be raised economically. The results obtained at the Dominion Experimental Station at Fredericton show that young cattle can be raised on a ration consisting largely of good roughage more economically than on a ration containing a heavy allowance of concentrates.

Senior yearling and two-year-old heifers not in milk may be fed a ration consisting mostly of silage, roots and hay or straw with scarcely any concentrates, until two months before freshening. They should then be fed three to five pounds of concentrates per day in order to have them freshen in good condition. Heifers fed roughage will not be as fat as heifers fed a heavy grain allowance, but they will make satisfactory growth and will develop the rooky digestive tracts wanted in a dairy cow, and costs will be considerably lower. In a twenty-eight day feeding period in 1923 a group of seven heifers fed clover hay and corn silage made average daily gains of 2.31 pounds per day. Another group of seven heifers fed a ra-

tion in which half the hay was replaced by straw made average daily gains of 1.02 pounds in the same period. Equally satisfactory gains have been made when corn silage was replaced by roots.

It should be borne in mind, however, that the roughage must be of good quality, and the hay should be largely clover. Otherwise it is necessary to feed considerable concentrates to make a satisfactory growing ration. When heifers have been allowed to fall away in flesh before being stabled they should be fed at least two pounds of concentrates per day. Otherwise they may become stunted. The grain mixture used at this Station consists of: bran, 2 parts; crushed oats, 1 part; brewers' grain, 1 part, and oil cake, 1 part, and it gives very satisfactory results.

As the most economical growth is made when heifers are young, junior and senior calves should be fed a liberal grain ration in order to have them well grown at an early age. Satisfactory results have been obtained at this Station from a grain mixture consisting of: bran, 3 parts; crushed oats, 2 parts; oil cake, 1 part, and brewers' grain, 1 part. The calves are fed a handful as soon as they will eat it. This is gradually increased until they are being fed three pounds when six months of age. The roughage fed consists of clover hay and either roots or silage.

Briefly, the feeder should aim to grow young stock rapidly during the first year as it is the period of most economical growth, after which he should rely largely on good quality roughage and aim to develop size rather than an undue amount of fat.

## ICE.

A supply of ice on every farm where milk is produced would aid very much in raising the standard of the dairy product of the province. One and a half tons per cow will keep the milk temperature at a point to prevent loss and waste. Prepare for the ice supply now, by clearing out the existing pond or building a dam to create a pond of sufficient area to supply the desired amount of ice.

Success in ice storage depends upon fulfilling the following conditions:

1. That the ice be cut from a body of clean water.
2. The cakes should all be of the same size and not less than ten inches thick.
3. The ice should be stored on a cold, dry day.
4. The blocks of ice should be packed together as closely as possible without any filler, excepting finely broken ice is such is needed.
5. Dry sawdust filling at least twelve inches thick should be placed between the ice and the walls of the building. A covering of equal thickness should be used. The ice should rest on a firm bed of sawdust where drainage can be provided.
6. Air circulation should be provided over the stored ice.
7. The ice should be kept well covered during the entire period when ice is being used.

## Landscape Improvement.

The surroundings of many farm houses remain bare and uninviting year after year, due largely to the lack of time for landscape improvement and planting season. Trees and shrubs may be planted in November up to the time of freeze-up, just as successfully as in the spring. Large trees can be moved with greater ease and certainty of success during early December than at any other time. To move large trees or shrubs trench around and under in a manner that will leave a large ball of soil over the roots. A few cold nights will freeze this solid. When in this condition the frozen protecting soil with the tree attached may be pried or lifted out and transported to the new location, where a hole of sufficient size had been prepared before freeze-up to receive it. The planting of windbreak trees, forest trees in the woodlot, or shrubs and ornamental trees about the home, should be considered as an autumn job by the man that cannot afford the time to do this work in the spring.

## Greater Value of Dehorned Steers.

A striking substantiation of the wisdom of dehorning steers is furnished by the Superintendent of the Dominion Experimental Station at Charlottetown, P.E.I. In his report for 1923 he says: "Comparing horned steers tied with dehorned steers fed loose in box stalls, both of the pens of dehorned steers when fed in box stalls made greater gains than the corresponding pens of horned steers that were tied in stalls. The average gain of the dehorned steers was 40 pounds per pen in the 111 days of experiment. When steers are dehorned they can be fed in a more cheaply constructed shed. They can be fed in less time. If given sufficient bedding they will tramp down large quantities of waste material into the manure, making it more valuable; also a greater quantity is secured than when steers are tied in stalls. Dehorned steers are more contented, feed better, and usually command a higher price."

## POULTRY

A little time spent now in marking the pullets so as to indicate when each started laying will be a great help in culling the flock next summer. The only equipment needed is a catching crate and a supply of colored celluloid leg bands.

Once in three or four weeks is often enough to go over the flock. Bands of a different color should be used each time, and a record kept of what each color means in the way of egg production.

For example, a blue band may be placed on each pullet that begins to lay before reaching six months of age, a red band for each pullet that starts at between six and seven months, and a yellow band for those that start at between seven and eight months.

The value of this record next summer will be obvious. A pullet that starts to lay early and continues to lay until late in the fall is a most desirable bird. One that starts producing early and quits early is a better hen than one that starts late and quits early.

By putting these bands on the left leg every time it will be possible to make use of the same colors in reverse order, on the right leg, to indicate the time these same birds stop laying next fall. Of course the record is not equal to that made by a trap-nest, but it is a very satisfactory and thoroughly practical substitute.

Where the fowl's age can not be told by the legs, there is often a dull look under the eyes of an old bird, which an experienced poultryman can tell at a glance. But in all up-to-date poultry yards the birds are banded, and records are kept of their ages, so there can be no mistake.

One reason why meat spoils is because the salt used in curing does not penetrate to all parts of the meat. Sometimes this is due to taking the meat out of cure too soon, but quite often it is due to the use of a poor grade of salt that does not dissolve thoroughly. Or maybe the salt is too weak to do the work. Get good salt and be sure it dissolves. If the salt penetrates rapidly, there is better color to the meat, and saltpeter is not needed.

The amended regulations for grading butter and cheese for export are contained in the pamphlet, "Acts, Orders, and Regulations No. 14" recently issued by the Dept. of Agriculture at Ottawa, Canada. Four grades are provided both for cheese and butter, being designated "Special," "First," "Second," and "Third" grade. The regulations provide that every cheese, and every package containing cheese or butter, shall be marked at the factory with the vat or churning number, which should run consecutively throughout the calendar year, commencing with Number 1.

## Hospital for Sick Children

67 COLLEGE ST., TORONTO

Dear Mr. Editor:—Your readers have probably had their appetite for statistics satiated during the past few months. Still they will, no doubt, want to know something of the work accomplished by the hospital to which they have so generously contributed in the past. They are shareholders in a Mission of Mercy. Their dividends are not paid in coin of the realm. May I trespass upon your space to outline what those dividends are?

Firstly, the daily average of children occupying cots in the Hospital for Sick Children was 255. The total cared for as in-patients was 6,397. That is equivalent to the population of a good-sized Ontario town.

And secondly, the out-patient department. This is a wing of offices given over to consultation and minor operations. On an average there were 190 young callers a day.

That is where the dividends are earned—in the difference made in the lives of thousands of children through the voluntary contributions which render it possible to maintain an institution where pallid cheeks become rosy and twisted limbs are made straight.

If that were not dividend enough, one might try to estimate the enormous salvage of child-life in Ontario which has taken place since "Sick Kids" doctors and "Sick Kids" nurses have been going out through this province equipped with a knowledge of children's diseases, which they could not get except in some such highly specialized and pre-eminently efficient institution as the Hospital for Sick Children.

On this year's service the Hospital expended \$345,126 and finds itself in the hole to the extent of \$134,284. What comes in around Christmas-time keeps the Hospital going. So long as the word "Christmas" retains its original significance could any charity possibly enlist more of the sympathy of your readers or entitle itself to more of their support?

Faithfully yours,  
I. E. ROBERTSON,  
Chairman Appeal Committee

A MINUTE OF MERCY COSTS FIFTY CENTS

## TRAINING OUR CHILDREN

Snowflakes sifted down softly. Now and then the sledge was broken by the jingle of a passing sleigh-bell or the protesting snort of a motor trying to buck the drifts.

In the living room Stancia was elbow deep in tissue paper. She was doing up the parcels that were to be sent out of town. There came a bang of the door, the stamping of feet, and little Delicia stood in the doorway.

"Oh mother," she sniffed appreciatively, "it smells lovely in here." Stancia Varney smiled. "It's the satchet in the present for Aunt May. Just think how busy old Santa Claus must be these days."

Little eight-year-old Delicia paused a moment, then hurried her bomb: "Oh, Mother dear, there isn't a Santa Claus, now is there? Janie says there isn't, and last year Alice SAW her mother and father trim the tree!"

For one panicky second Stancia Varney felt the smart of tears. It had come—the end of Delicia's babyhood, the time when she no longer believed in Santa Claus.

Now Stancia had been reading of the blow dealt to a child's trust when he discovered there was no Santa Claus. She had been worried by the article's prophecy that she would see in the child's eyes the dawning of distrust of Mother; a look of anguished disillusionment at such rank betrayal by an adult. At the memory of that article, Stancia quailed. Then she beckoned to Delicia.

"Come here, Delicia," Mother's manner was delightfully mysterious and important. "I'm glad you asked me about Santa Claus, darling. There is a Santa Claus but not the kind you have thought. That's where the surprise comes in. You see, mothers and daddies tell their little children about the Santa Claus that comes with reindeer and sleigh. It's a lovely make-believe story, just like when you play school with little Ted."

Delicia's eyes were fixed on her mother's in interested wonder.

"The real Santa Claus," smiled Mother, "is right in here." She placed her hand on Delicia's thumping little heart. "It's the love you have for other people. It's the thing that makes you want to be kind and to make others happy."

Mother paused impressively. "This is the big surprise. You and Mother and Daddy and Aunt May, and all children who are big enough, and all the grown-ups are the Santa Clauses. Instead of just one Santa Claus there are millions. But you won't tell that secret to little Ted, will you?"

"No," promised Delicia breathlessly, "no, I won't."

"You see," Mother was careful to explain, "Ted isn't big enough yet to understand. We'll have to wait a year or two before we tell him, and won't he be surprised!"

Delicia's eyes were twin blue stars. "And now, you new young Santa Claus, get busy," ordered Mother. "You'll have to help me now with the Christmas work. Just put your finger on that string while I tie the knot."

And Delicia, almost bursting with happy importance, pressed her chubby finger on the gold cord.

The Santa Claus myth had been explained without unhappiness or disillusionment for Delicia. Something worth while had been given to take the myth's place.

## Spring Wheat Varieties Dockage for Seed.

Uncleaned and ungraded samples of spring wheat were collected by the Cereal Division of the Dominion Experimental Farms from most of the branch Farms in 1923, and subjected to a uniform system of cleaning and grading, with a view to determining, from the standpoint of the seed grower, the percentage of small grains which have to be removed in order to produce a first class sample of seed.

In the report of the Dominion Cerealist, Mr. L. H. Newman, for the year referred to, a table is given of the results achieved from samples sent in by seven Farms and Stations in the West. Then varieties were subject to the test. As Marquis Ottawa 15 is the variety most popularly used, the per cent. dockage of that variety at each Farm or Station is here given: Brandon, 85.3; Indian Head, 55.3; Rosthern, 6.7; Scott, 14.9; Swift Current, 7.5; Lacombe, 7.9; Lethbridge, 8.9.

The other varieties used were Early Triumph, Garnet Ottawa 652, Kitchener, Kota, Red Bobs, Red Fife Ottawa 17, Reward Ottawa 928, Ruby Ottawa 628, and Supreme. Results from all of these are detailed in the report, and the percentage of dockage from Brandon samples being generally high, Mr. Newman explains that this was due chiefly to the effects of the epidemic of wheat stem rust, which reduced not only the total yield, but size of kernel materially in most cases. The variety Reward Ottawa 928 ranked relatively high at all the Stations as regards the percentage of good plump grain obtained. This variety and Kota, which is relatively resistant to rust, exhibited the same percentage at Brandon, namely 27.5, but Reward was much the superior in strength of straw.

Hens need bulky food. Clover or alfalfa hay cut in half-inch lengths help to make an ideal ration. The hay not only promotes digestion, but also largely assists in supplying the elements necessary for the albumen.

# The Sunday School Lesson

DECEMBER 7.

The Man Born Blind, John 9: 1-41. Golden Text—One thing I know, that, whereas I was blind, now I see.—John 9: 25.

## TWO STAGES IN A CONVERT'S EXPERIENCE

I. JESUS IS A PROPHET, 13-17, 26-34. II. JESUS IS THE MESSIAH, THE KING OF KINGS AND LORD OF LORDS, 35-38.

INTRODUCTION—The narratives of the Blind Man in John ch. 9 serves a double purpose: (1) To illustrate the healing power of Jesus, and (2) to illustrate the truth, who brings the inward illumination of divine truth to souls darkened by sin and ignorance. We are, therefore, to see in it not merely a literal, but a spiritual meaning. The blind man represents not merely one individual whom Jesus cured of a physical defect. He stands before us as a convert, a type of those Jews formerly blind to the spiritual world, who through Christ have had the eyes of their souls opened to divine things. That this is the real meaning, appears by the questions and answers at the man's trial before the Pharisees, which constitutes today's lesson. The Pharisees arraign him because he has dared to think different thoughts about Jesus from what they think. They accuse Jesus of being an imposter, an adventurer, but the man whose eyes Jesus has opened sticks to his confession that only one who was from God could thus have revealed to him the Night of Life. Taking him, therefore, as the type of all Jewish converts to Jesus, we are able to see the stages of experience through which he passes, and how from his first discovery regarding Jesus, he is led to a greater and still more glorious discovery.

The First Stage of Faith: I. JESUS IS A PROPHET, 13-17, 26-34. Vs. 13, 14. The Pharisees, ever critical of Jesus, make it an accusation against him, that by healing the man on the Sabbath, he has violated the law of God. This seems to the Pharisees to dispose forever of the claim of Jesus to act and speak with authority from God. They do not realize that it is just because of Jesus' higher understanding of God, that he has chosen to heal the man on the Sabbath.

Vs. 15, 16. On the other hand, none can deny the fact that a good work has been wrought on the man who has received his sight. Even the Pharisees are not all agreed that Jesus is a "sinner" because he has healed a man on the Sabbath. While to some the violation of the Sabbath commandment is sufficient condemnation, others argue rightly that no "sinner" could do for men what Jesus has done for the convert who stands before them.

V. 17. The convert on his part has no doubts whatsoever. While the Pharisees try to tear his evidence to tatters, he adheres steadfastly to the one confession,—Jesus is a prophet. Here we have the first stage of the convert's experience. He has realized the opening of his own eyes that Jesus, whatever else he is, is a man of God, a prophet whom God has sent to speak the truth to the people.

Vs. 26, 27. It serves no purpose for his judges to cross-examine him further as to what Jesus did to him. He has already told them, and no further progress can be made unless the Pharisees, too, will admit the authority of Jesus, and become his disciples.

Vs. 28, 29. This last suggestion raises a storm of wrath. Become disciples of Jesus! Never! They are Moses' disciples. They know that God spoke to Moses, because the Bible says so, but they have no such guarantee regarding Jesus. In their eyes Jesus is only an adventurer.

Vs. 30-33. Once more the convert presses the fact of his own experience. He says it is unreasonable for the Jews to pretend that they do not know "where Jesus comes from," when by the fact of what Jesus has done for him they have all the evidence that need ever be asked for Jesus' divine origin and authority. "If this man were not from God," he pleads, "he could do nothing."

V. 34. The answer of the Pharisees is to excommunicate the man from the synagogue, to cast out his name as evil.

## The Second Stage of Faith:

II. JESUS IS THE MESSIAH, THE KING OF KINGS, 35-38. V. 35. Jesus finds the excommunicated convert, and now grants him a more wonderful discovery. He asks: "Dost thou believe on the son of man?" (Rev. Ver.). The title, "Son of man" connects with the glorious vision of Dan. 7: 13, 14. There the prophet sees a vision of "one like a son of man" coming with the clouds of heaven, and receiving an everlasting kingdom. Jesus adopted for himself this title of the "Son of man" and on his lips it means that he is the Messiah, the one who has authority to set up God's kingdom. And thus it is to a second stage of faith, to a belief in himself as the divine Messiah, exalted above every earthly authority, that Jesus now seeks to lead his convert.

V. 36. The convert does not understand. He has confessed Jesus as a prophet of God, but the reference to the Son of man mystifies him. "Who is he, Lord, that I might believe on him?"

Vs. 37, 38. Then Jesus reveals that he himself is the Son of man, the divine Messiah. So he brings his confession to this higher confession, which is the faith of all true Christians. In Christian experience Christ is raised above all other powers and authorities. He is not only prophet and revealer of God, but King of Kings and Lord of Lords. "God also hath highly exalted him, given him a name which is above every name: That at the name of Jesus every knee should bow. . . . And that every tongue should confess that Jesus Christ is Lord, to the glory of God, the Father," Phil. 2:

9-11. This is the attitude in which we see the convert at the close of the present lesson. He answers: "Lord, I believe," and falls on his knees before Christ. So ends one of the loveliest chapters in the gospel history.

BLINDNESS. Diseases of the eye are far more common in the East than with us. Cases of ophthalmia (trachoma), cataract and glaucoma are met with everywhere. They may be connected with the intense light, and with the general prevalence of skin diseases. In any case, they do great harm for lack of proper hygiene and medical care. The blindness left by disease is often only partial, but it is widespread. You are continually meeting men and especially children with their eyes inflamed, a discharge gathering at the inner corners and flies hovering about the spot. I have seen a score of flies settled on a child's nose and eyelids, the parents prevented by superstition from driving them off. A great deal of a mission doctor's time is taken up with eye diseases. At Jerusalem there is an English mission hospital devoted almost exclusively to diseases of the eye. It may be that diseases of the eye were not so common in ancient times as they are today, but the Master encountered a good many cases of blindness in his healing ministry.

APPLICATION. Jesus was always deeply interested in the troubled folk, and especially in the blind. This story of the man born blind exemplifies several important principles.

We see how the problem of this world's ills provokes a double reaction according to the temperament and training of the onlooker. The disciples were good men, better than we, very likely, but the sight of this poor blind man stirred in their hearts chiefly the speculative instincts. "Who did sin, this man, or his parents?" Needless to say, speculation can never save the world, nor relieve its needs.

We see also how Jesus, though supernaturally endowed, makes use of material means along with divine, direct action. The clay mixed with spitte applied to the eyes, was a gentle satire upon the Pharisaic way of curing the world's blindness through the use of outward ceremony, creed and code. They were blind leaders of the blind. They had no vital vision and gave none to that groping generation.

The pool of Siloam, washing away the helpless clay and opening the eyes, was a reminder that only by dipping into the waters of regeneration can true sight come to benighted souls. There must be that inward cleansing of the inward parts. "Purge me with hyssop, and I shall be clean: wash me, and I shall be whiter than snow."

The presence and power of Jesus Christ lay behind the clay and the pool of Siloam. All the sacred waters of the world could not of themselves restore sight, nor all the machinery of redemption give the power of vision to him who hath it not. For Jesus Christ himself the quickening beam of splendor falls. Through him we receive our sight. He is the pioneer and finisher of our faith.

## Protecting Young Fruit Trees from Mice and Rabbits.

Many young trees as well as fruit bushes and roses are damaged each winter by mice and rabbits. These animals, finding their usual food scarce in the winter season, eat the succulent bark of these plants. If the girdling extends completely around the tree or bush, the plant cannot live, and even though only one side is barked, the plant is greatly weakened. Different systems of protecting young trees and bushes from injury from girdling have been tried at the Experimental Farms. The most reliable practice has been found to wrap either building paper or a metal wrapping around the trunk. This applies particularly to trees. Even one ply of ordinary white or grey paper of a tough variety is satisfactory. This is cut into strips and tied closely around the trunk. This material has to be put on the tree each fall and lasts for only one year. It costs from a cent to two cents per tree, depending largely upon the size of the tree wrapped. After tying the paper in place it is well to mound up a little earth at the base which will hinder the little animals from getting under the paper and tearing it off.

A more permanent sort of protection is secured by the use of expanded metal similar to metal lath. This, in either galvanized or paper form, will last for many years. It can be obtained in small individual strips ready to put on and costs about eight cents a tree according to the size of the piece.

A protection of this character can be left on for years but it must be made of sufficient size to allow for growth without pinching the tree. Another plan, and a still cheaper one, for protection against mice is to tramp the snow tightly around the trunk of each tree. This may also be done with young bushes where wrapping is impracticable.

Three varieties of fruits and two of plants were accepted for recording at the recent meeting of the Plant Registration Committee of the Canadian Horticultural Council. The Golden Delicious apple, and the Newman strawberry. The George C. Creelman lily and the Lady Atholstan fern were the new varieties of plants.