

Efficient Farming

CORRECT FEED FOR BABY CHICKS.

Whether a person is raising birds for show-room purposes, or for meat, or egg production, or a combination of both, the degree of his success depends upon the early growth made by the birds. He can make or break a bird during the first three months of its life.

And with the increasing number of incubator-hatched chicks each year there comes to man the feeding duties of the foster parent. Usually this means only teaching the young chicks to eat, for whether they are reared by man or hen the necessity still remains of supplying them with the right kinds of feed in the proper amounts to get them started and keep them growing.

Teaching the young chicks to eat is simple enough. Nature provides them with this instinct, and as soon as they are rested from the labors of breaking through the shell they go to pecking at pieces of egg-shell, or the toes of one another. All man has to do is to provide attractive, colored feed on cardboard or metal containers for a day or so and the feeding problem is solved. The noise of the more adventurous ones first starting to eat from these hard containers attracts the other chicks and soon the entire brood is eating. After a day or two of this it is a simple matter to change over to feeding in the litter to provide exercise for another natural instinct—scratching.

TOO EARLY FEEDING CAUSES TROUBLE.

The last step in incubation is the absorption of the yolk of the egg by the formed chick. This yolk is taken into the digestive system of the chick and is Nature's method of supplying it with its first food. It will last for several days, and therefore it is not necessary to feed the young chicks immediately after they are hatched. In fact, feeding too early is often the cause of much stomach trouble. The young chick is not able to handle other feed until this yolk is entirely digested. It is therefore unwise to feed a chick until it is 48 to 72 hours old.

When feeding does start, the poultryman must supply certain nutrients if maximum growth is to be expected. He must feed a balanced ration, which means supplying these various forms of feed in the proportions needed or used by the chick in the formation of its body. These nutrients are water, ash, protein, carbohydrates and fats. The principle and most expensive of these feed nutrients is protein. Protein is found in all meats, in eggs, in milk and a little is found in grains. Proteins in themselves are made up of amino acids. There are quite a few amino acids—numbering close to 20. The chick, in its body formation and its growth of feathers, requires the presence of all of these amino acids. If any are lacking the growth will be stunted, just as building operations will cease when there are plenty of brick on hand and no mortar.

NOT ENOUGH PROTEIN IN GRAINS.

Grains do not contain all of these necessary amino acids, and the proteins they do contain are not in the proportion needed by the chick. It is therefore essential that other protein be added. This is usually supplied from an animal source, as such proteins contain the amino acids lacking in grain.

The most useful forms of such animal proteins are infertile eggs, buttermilk or skim-milk, tankage, or powdered meat scrap. The lactic acid of milk aids digestion, and it contains one of the necessary growth-producing vitamins. It is almost essential that all growing chicks receive milk in one form or another. There is no other farm stock that will give better returns from milk as a feed than the growing chick. To get a chick to drink milk it is often necessary to dip its bill in the milk as soon as taken from the incubator. Withholding water from the chick for the first week will also help to teach it to drink milk. Dried buttermilk in the mash or semi-acid buttermilk undiluted are good forms for chicks.

Infertile eggs should be mixed with a mash feed and fed raw. Cooking eggs lowers the amount of food value that a chick receives from them. Be careful, though, that the young birds do not receive too much of such rich food at any one time. The tankage and powdered meat scrap are both fed in the mash.

Chicks should be fed both a grain and a mash ration in addition to having access to buttermilk or skim milk at all times. The grain ration supplies the necessary carbohydrates and fats.

The mash should be made so as to add the protein and ash nutrients lacking in the grain. The first week they should receive only the grain and milk. Feeding little and often is far better than feeding large amounts. Overfeeding causes diarrhoea, as Nature did not intend the digestive system to be forced too early.

Grain fed sparingly five times a day the first week will not overcrown them and will get them ready for the mash feed the second week. A good grain feed should consist of six parts of cracked corn, two parts of cracked wheat, two parts of any grain, not fibrous.

A mash feed is fed to force the

birds. The birds do not have to grind such feeds and hence the mash is digested more rapidly, and this has a tendency to increase growth. Mash should not be fed before the second week and should be started gradually. After a week or so of gradual feeding the birds should have access to a dry mash at all times.

In the mash should be fed the animal protein and also the bone-forming nutrients. Animal bone-meal is the best form in which to supply this ash. A good mash for growing chicks is: Bran, 30 pounds; shorts, 30 pounds; cornmeal, 25 pounds; tankage or meat scrap, 10 pounds; bone-meal, 5 pounds.

IN A NUTSHELL.

In summing up, one may say the following rules are necessary for success in feeding chicks:

1. Do not feed until after 48 hours old.
2. Feed some form of milk.
3. Feed often and little the first week.
4. Feed no mash until the second week and then start feeding it gradually.
5. Have all nutrients lacking in the grain feed, such as animal protein, bone and ash, etc., present in the mash.
6. Supply plenty of green feed after the fourth day and supply plenty of fresh water after they have learned to drink milk.
7. Keep all feed and water utensils clean.
8. Feed clean fresh feed free from mold and let the birds run out as much as the weather will permit.

Lubricating Oil Emulsions as Spray for San Jose Scale.

During the last few years lubricating oil emulsions have been gradually superseding the lime sulphur wash in parts of the United States as a spray for San Jose scale, says Professor Lawson Caesar of the O. A. College.

These emulsions are cheaper than lime sulphur and have generally been more effective in the hands of the average man in destroying the scale. Lately it has been shown that they can be combined with Bordeaux mixture and in this way we have a combined insecticide and fungicide just as we have had for many years in the lime sulphur wash. This spray is a scale infested apple orchard at Font-hill was selected and emulsions made according to various methods both with and without Bordeaux were tested. The season, however, was very unfavorable to the development of the scale, and this made it difficult to draw definite conclusions as to the merits of these emulsions in comparison with lime-sulphur.

Total Exports of Dairy Products.

Including butter, cheese, milk powder and condensed, canned and preserved milk, Canada exported in the twelve months ending January, 1925, according to official statistics compiled at Ottawa and issued by the Dept. of Agriculture, 193,913,982 lbs. valued at \$36,293,205 compared with 174,126,779 lbs. valued at \$33,108,526 in the preceding twelve months. The exports of butter in the year ending January, 1925, were 22,539,327 lbs. worth \$8,043,881 and of cheese 122,768,700 lbs. worth \$22,828,056. In the previous year the exports were: butter 12,982,658 lbs. valued at \$4,839,801; cheese 115,337,900 lbs. valued at \$23,174,594. It will be noticed that in each instance the quantities were greater in 1924-5 than in 1923-4.

Control of Root Rot in Canning Peas.

Experiments were carried on by the Dept. of Botany of the O. A. C. during 1924 investigating the cause and means of control of Root Rot of Peas. Disease resistant strains give promise of relief from this fungus pest. From the mass of varieties and strains tested Rees 330 and Houli have proven highly resistant, in some cases producing nine-fold, while ordinary seed proved a complete failure. These strains are being multiplied and it is hoped within a comparatively short time to have available for the growers of canning peas in Ontario seed of a strain of canning peas having the qualities sought for by the canner, and being at the same time resistant to root rot and blight.

Dairy Exports to Germany.

In January of this year Canada exported 236,300 lbs. of butter and 112,700 lbs. of cheese to Germany, being more butter than to any other country. To Belgium in January, Canada exported 77,422 lbs. of butter and 301,800 lbs. of cheese, that country ranking second to Germany as regards butter and second to Great Britain as regards cheese.

Home Grown Seed Best.

At the last annual meeting of the fifty County Representatives of the Ontario Department of Agriculture, the importation of seed grain was discussed at some length. Without a dissenting voice or an opposing vote, a resolution was passed favoring the use of "Ontario grown seed of all crops."

"I calculate to get along," said the bookkeeper, "and it takes some pretty close figuring too."

Keep the Bull Full of Good Feed.

Proper feeding of the herd bull is just as important as the proper feeding of the milk cows. Too often the spoiled or musty hay is put to one side to be fed to the bull. Again, we find dairymen giving the waste feed, left by other animals, to the herd sire. All of which is a poor practice.

The herd bull ought for service should be fed enough to keep him in a vigorous, healthy condition, free from excess fat. Most breeders feed their regular grain mixture to the bull at the rate of four to ten pounds daily, depending upon the size and condition of the animal and the variety of roughage. A good grain mixture to use consists of three parts ground corn, three parts ground oats, three parts wheat bran, and one part linseed oil meal. Ground oats are especially good for bulls. Cottonseed meal is generally looked upon with disfavor, since it may cause impotency.

Legume hay, whenever available, should be fed at the rate of ten to twenty pounds a day. Legumes are high in protein and mineral matter and will keep the heavily used bull in good condition. When non-legume roughages, such as timothy hay, fodder or straw, are fed, it is necessary to feed more linseed oil meal than with the legume roughages.

Breeders differ as to the breeding powers of the bull when silage is fed. Silage fed in large amounts will have a tendency to distend the p aunch, which is very undesirable. However, ten to fifteen pounds of silage daily may be safely fed along with other roughages.

It is essential that the herd bull receive plenty of water, and where it has been found necessary to keep the bull in a stall or pen, he should be watered at least twice a day.

The value and importance of using good bulls is essential to the economical development of the dairy industry. The present use of good bulls is entirely too limited and when a good bull is once in service, his usefulness may be prolonged for an indefinite period through proper feeding and plenty of exercise.

The Dairy

In recent years we have learned that the cows should be in good condition at the time of freshening. During the dry period the cow stores energy and tissue for turning into milk after the calf has arrived. This cannot be done unless she has more feed than is necessary for mere subsistence. Now that we have learned how to treat for milk fever, the final argument for starving cows before calving is removed.

Good dairy cows are nervous creatures, so we exercise more care with them than with the draft mare or the sow, particularly at this time of freshening. A comfortable box stall is provided for the occasion. When the calf comes in cold weather, we also provide the mother with a blanket, lest she be chilled. Her udder is not milked completely dry for two days after the calf is born. Where necessary, the afterbirth is removed inside of forty-eight hours, and the cow is not permitted to eat it, as is too generally allowed.

While we take pains, at this time, to have the cows in good flesh, special attention is given to the matter of feeding for the first two or three weeks after calving. Over-feeding is dangerous. The first day or two only some warm water, a portion of scalded bran or oats, and some good hay is all that will be necessary or desirable. Gradually the cow is then worked out to full feed, which sometimes requires three weeks.

Patch the hole in your pocket-book with a garden patch.

When washing windows, wring a chamouis skin dry in clean water and wipe window. Then polish with a cloth.—Mrs. E. H.

THE PERENNIAL BORDER FOR A SMALL YARD

The back yard of a small lot that had to be filled in with such soil as could be obtained, was made to support a very satisfactory perennial border. The soil was enriched with suitable fertilizer and devoted to the growing of ordinary garden vegetables for the first two years. During this time perennial borders in the neighborhood were studied from time to time and specimens of desirable plants were secured in the autumn, when gardeners were overhauling their borders. The perennial border was located between the boundary fence and the walk which separated it from the vegetable section of the garden. The border was made five and a half feet wide and it extended a length of fifty feet. Climbing roses, and Alleghany vine were made to cover the fence, which was the ordinary board variety. This formed an effective background to the border itself. The border was planted in three irregular rows set out in conformity with the recognized principles for perennial borders. The back row consisted of hollyhocks, delphinium, perennial bellflower and helianthus. The next irregular row was made up of phlox, Oriental poppy, anemone, Shasta daisy and columbine, intermingled here and there with iris, cantenbury bells, sweet William, and lilies. The irregular front row consisted of daisies, pinks, alyssum, stone

TRAINING OUR CHILDREN

BY HELEN GREGG GREEN.

RAINNY DAY SURPRISES.

I happened to be calling on Patty's mother one rainy, gloomy day, when the little one became a bit restless. Excusing herself, my hostess said, "I'll be back in a minute, I want to get Patty her rainy day surprise package."

She returned with a most enticing large envelope, full of bulges. Patty jumped up and down excitedly, clapping her small hands.

"Oh, Mother Marie, how lovely!" And away ran Patty with the bulky envelope.

"The package looks interesting," I said. I was about as curious as Patty. "I have a number of such packages put away for days like this one," Mother Marie explained. "I've taught Patty to entertain herself, and she's very resourceful, but when I have time I make these surprise packages for special occasions."

A half-hour later Mother Marie called to Patty to bring in her surprises. Patty danced in, eyes shining. "Look! Aren't they gorgeous!" And she held up brightly-colored squares, triangles, oblongs, a paper lantern, and a put-together puzzle. She handed me a slip of paper on which her mother had written in colored crayon:

1. Cut out a red, a green, and a black two-inch square.
2. Cut a blue and a red triangle.
3. Put "Boy with torn hat" puzzle together, very neatly.
4. Cut an oblong, three inches long and two inches wide. Crayon one side purple, the other yellow.
5. Paint Lady Louise's gown and hat. Be sure the colors are attractive.
6. Cut a surprise.

"You see," my hostess explained, "you can buy a package of colored art paper, and heavy white paper which is ruled into half-inch, or inch squares. With these you can make a hundred rainy day surprises. Patty's second grade teacher taught her how to use a ruler, and measure correctly, but if she hadn't I could have done so in a short time. The puzzles are easy. I cut a colored picture from a magazine, often using a lovely cover, and paste it on thin cardboard. Then I cut it in many pieces and put these in an envelope.

"The paper lanterns are very simple. You use a sheet of the colored paper, or white paper which has been painted, or some which has been colored with crayon. First, fold it evenly, then make attached strips by cutting on the fold to within an inch of two of the edges; next, unfold and paste the side edges together; last, paste on a small strip of paper for a handle."

"My dear," I interrupted, "of course you have all these clever ideas because you were a teacher. But what about you who have never taught?"

"O, fe!" she laughed, "use a little imagination!"

"Tell me the rest," I eagerly coaxed.

"Well, of course the Lady Louise stunt is obvious. I simply have Patty color some paper dolls cut from a magazine, always giving them fanciful names, however. It makes things a bit more interesting. I know you made the surprises when you were a child. You simply fold a bright sheet of paper many times, and cut it in fancy shapes, until, when it is opened, it makes an attractive pattern."

"I felt really grateful for what she had taught me and I hurried home to tell you about it.

If common wood ashes are put into one of the sifter cans and used for cleaning the sink, bottom of kettles, in fact, anything where the cleaning powder has been used, will be found to do the work just as well.—Mrs. W. B. W.

The Sunday School Lesson

APRIL 5.

The Blessing of Pentecost, Acts, ch. 2. Galilee Tenth—Pentecost, and be baptized every one of you in the name of Jesus Christ for the remission of sins, and ye shall receive the gift of the Holy Ghost—Acts 2: 38.

ANALYSIS.

I. ESTABLISHES A MIGHTY FACT, 38. II. OPENS A GREAT OPPORTUNITY, 37-40. III. ACHIEVES MARVELOUS RESULTS, 41-47.

INTRODUCTION—Pentecost is to be regarded as, first and foremost, the birthday of the Christian Church. Hitherto the followers of Jesus had been a small body, a weak and forlorn remnant. Now all at once the fire of heavenly inspiration falls on the smoldering embers of their faith and kindles a great flame of enthusiastic devotion. There comes to the Christian community a new consciousness of itself, a new sense of its unity and power, resulting from the clear evidence of the working of God's Spirit in its midst.

The signs or phenomena which created the new self-consciousness of that ecstatic or rapturous mode of speech, produced by intense religious emotion, which is called "speaking with tongues," and (2) a new awakening of prophecy.

Pentecost—the term means "Fiftieth," and the feast was so called because it took place fifty days from the Sabbath following Passover—was one year as the regulations of their observance may be read in Lev. 23:15-21. In the later period of the Old Testament religion it had come to be specially associated with the giving of the Law on Sinai, when according to Jewish tradition, the Law was offered to all nations, though only the Jews had accepted it.

It was fitting, therefore, that the birthday of the church of Jesus should coincide with the festival of the giving of the ancient Law.

On this day, the disciples having met together in some appointed place—possibly the temple—the above described signs occurred, and the disciples became convinced that the Spirit of God, which the prophet Joel had said would descend "in the last days," and which Jesus had encouraged his followers to pray for and expect as their true helper and guide (Matt. 10:19, 20; Acts 1:6, 8), had really come. This conviction greatly strengthened and reassured the disciples, and from this time onward we find them looking always to be guided and inspired by the Holy Spirit.

The lesson to-day is from the closing section of the great discourse which St. Peter delivered to the Jewish people in explanation of the new and extraordinary signs which had appeared in the midst of the Christian assembly. The apostle says three things:

I. PENTECOST ESTABLISHES A MIGHTY FACT, v. 36.

V. 36. The first thing that the Descend of the Spirit proves is the Messianic of Jesus. Jesus is the long-promised Saviour of Israel.

The Jewish nation had rejected Jesus' claim to be the Messiah as blasphemy, and when they nailed him on the cross, they thought it was as good as proved that God also had rejected him. But, as Peter points out, the new flame of spiritual life which has broken out among Jesus' followers is convincing evidence to the contrary. It shows that God has made Jesus "both Lord and the Christ."

(1) "Lord." Even on earth the disciples had called Jesus, Master, and had submitted themselves to his authority. But now through the resurrection and through the testimony of the Spirit in their midst, there has come to them a new vision, and they see Jesus exalted to the throne of the universe.

(2) "Christ." The term Christ or Messiah means "Anointed One," and denotes the divine agent through whom, according to Scripture, God is to work out the redemption of his people.

In the words "God has made Jesus both Lord and Christ" we have the simplest and earliest form of the Christian creed. The Christian is the one who believes in Jesus as Redeemer and submits to him as Lord.

II. PENTECOST OPENS A GREAT OPPORTUNITY, 37-40.

V. 37. Peter's inspired eloquence produces a deep impression on the minds of his Jewish hearers. They are stung by remorse for their part in Jesus' death, and cry, "What are we to do?"

V. 38. Peter answers that repentance, or a changed spirit towards God, alone will save them from their guilt and danger. Let them confess their grievous sin against God, and turn towards the Messiah, whom they so blindly rejected. And in token of faith let them be baptized in the name of Jesus Christ, that is, with the confession of Jesus as the Christ. Then they may hope for forgiveness and for the gift of the Holy Spirit, which belongs to the society of believers, and will be bestowed on every member.

Vs. 39, 40. Peter reminds his hearers that God's salvation is offered primarily to the Jews and to their children (Psalm 103:17-18), though God has his eye on other peoples, even those who are "afar off." All are to save themselves from "this crooked present world," as Bunyan's Pilgrim saves himself from the City of Destruction. The present world is "crooked," or, as we might say, off the rails. It has put itself grievously in the wrong by its rejection and murder of the Messiah.

III. PENTECOST ACHIEVES MIGHTY RESULTS, 41-47.

Vs. 41, 42. No less than 3,000 converts are added to the Church as the result of Peter's preaching. The writer describes the zeal of the new converts, particularly (1) their constant attendance on the apostles' teaching;

(2) their joyful acceptance of the doctrine of the Christian brotherhood (3) their constant observance of common meals, in which bread is broken in remembrance of Christ (4) their meetings for prayer in Jesus' name.

Vs. 43-45. So marked a devotion produced profound impressions on the Jewish community. Most wonderful of all in the spontaneous witness which the Christians, putting into practice the principles of Jesus, freely resign their property and possessions in order to relieve the wants of poorer members. Such brotherliness was a new thing in the world, and created lasting impressions.

V. 46. The worship of the Christian community is next described. (1) The Christians remain loyal Jews, and are never absent from the temple. But they have also their own private house meetings for the observance of the Lord's Supper. Joy in God and simple sincerity of purpose are everywhere the distinguishing notes of the new society.

V. 47. No wonder, then, that the Christians win golden opinions everywhere among the people, and that the Church goes on steadily increasing. The Christian Church presents itself in a very beautiful light, as the true or ideal Israel, and through the power of its spiritual zeal, and through the love which inspires its members, it makes extraordinary accessions to its ranks from day to day.

The Big Thing.

The sculptor takes a rough block of marble and by inspired labor, fashions out a beautiful piece of statuary. This is called genius. He creates something that represents an ideal. This ideal first existed in his own imagination. The composer and author are also creators.

The live stock breeder takes his raw material, his living, breathing subjects, animals, and by careful mating, selecting and developing, changes them to conform to his ideal; but he, too, must have that ideal before he begins. The inventor conceives first in his own mind a complicated machine that, when produced, accomplishes the work of many men. The engineer applies his genius to harnessing some of the forces of nature and creates vast power for man.

Who will say which of these is the greatest genius? Who can say which one most benefits mankind?

Australia's "Kangaroo" Butter.

Being resolved to send to the United Kingdom a butter of uniform quality and excellence Australia has adopted a national brand to be known as "Kangaroo" butter. The brand is to be affixed by expert official graders, and to earn this distinctive mark the butter must be made from pasteurized cream, pass severe grading tests and earn an award of 92 points, which means a very high standard in flavor and texture. It is expected that 65 per cent of butter exported from Australia to Britain this year will be of this brand. At the recent dairy show in England this "Kangaroo" butter took first, second and third prizes in the colonial section.

Enriching Garden Soil.

A dressing of barnyard manure to about one-half or one-third of the garden each year, is claimed by the Superintendent and Head Gardener of the Dominion Experimental Farm at Brandon, Man., in their joint bulletin on Prairie gardening, to be advantageous. The manure should be thoroughly rotted before applying. Coarse straw manure opens and dries out the soil and is likely to bring in weed seeds. Manure that has been piled for at least a year, is heavy, solid, full of moisture, with the straw rotted and the weed seeds killed, is best for the garden. This should be applied evenly over the surface of the land and plowed or dug in. Under special circumstances some benefit might be derived, say our authorities, from the use of special fertilizers, but if farmyard manure and good cultivation are made use of the owner of the home garden may safely ignore commercial fertilizers.



How the Pussies Came on the Willows.

An Indian legend retold by Annie G. H. White.

Once upon a time, in the Mphawk country, a cotton-tail rabbit was sitting upon a willow-tree in the winter time. He jumped down, and some of his hair stuck in tufts on the bark. The next spring, tufts of white came on all the branches and the people called them "Pussy-Willows."

In jumping down the rabbit lit on his nose and split it, and that is why he has a split nose to this day. When the new hair grew on the rabbit's tail it was white, and that is why Molly Cottontails have white tails to this day.

St. John's, N.B. the successful of fishing operations when the highest in the history of during the great realized, there was prosecution of t coming summer.

Halifax, N.S.—of coal sold in New year ending September according to official buyer was Nova 782,413 tons. Q tons. New Brunswick, and 209,230 tonland. The 5,706 tons, which took 37,764 tons.

St. John, N.B. of freight and port John (not including tankers), number 11th from the best port season on N were 142 arrivals, period of the season 23 arrivals t 400 to the large gaged in the p this point and H.

Montreal, Q. ties for handling surprised by a according to a S. W. Harvie, general port. At the port's vessel equipped with grain, making it three ocean vessels taneously with 450,000 bushels a time 150,000 bush each hour from

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