

EFFICIENT FARMING

Picking the Profit Producers.

"Poultry culling" is a comparatively recent addition to the vocabulary of the poultryman. This term already means much to the poultry industry as poultry culling has become the best and most certain means of eliminating from poultry raising the enormous losses which have stood in the way of success and profit.

Poultry culling may be well compared with the Babcock test of the dairyman. By the use of the Babcock test and the scales, the dairyman has been able to eliminate the star boarders from his herd. Before it came in use, it was difficult for the dairyman to determine which of his cows were producing a profit and which were causes of losses. In the same way the practice of poultry culling enables the poultryman to select the hens which are his best layers, those which have a fair capacity for laying and also those of which it might be said that it would be throwing money away to feed except for fattening purposes.

The business of poultry raising has often been a haphazard affair. The few hens that were kept would be thrown feed of indefinite quality and quantity and often provided unsuitable houses both from the standpoint of sanitation and protection from the weather. Such conditions would make it impossible to produce profit from even the best hens. At first we learned of proper housing and the use of egg-laying rations and through these we would obtain increased egg yields, but we never could get down to what may be called efficiency in poultry raising until the poultry culling method became thoroughly established.

Poultry selection is based upon the conformation of the hen and her physical condition. One of the most important indications of the condition of the hen is the head. A study of its conformation will show many valuable points that will be substantiated by other examinations. For instance, if you find a healthy, refined head, you will be quite certain to find a similar body build of it. A head which indicates femininity, intelligence and alertness is one which will be found on all of the heavy producers. The skull should be moderately narrow and the face lean and delicate. A wide skull with hanging eyebrows and an indication of fatty wrinkles is common to the kind of bird which will put on flesh rather than to produce eggs. Preference should be given to the hen with an oval eye which shows considerable of the eye membrane directly in front of the eye-ball. The jaw should be refined, and not thick and heavy set. The beak should be short and strong and slightly curved, and the distance from the eye to the beak should be short.

The comb should indicate a good healthy red and should be of good size for the breed. When a hen is laying or is ready to lay, her comb and wattles are plump and full of blood and should have a somewhat waxy feeling to the touch. When she is not laying, she has a shrunken comb which is pale in color and hard, and is usually covered with whitish scales. A very dark comb is usually an indication of disease. A hen that has a crow type of head will never be a producer and she might as well be consigned to the market crate right away.

On the yellow legged birds, the pigmentation test is also of value to determine the laying qualities of the hen, especially her past record. It is a proven fact that the yellow legged bird will "lay out" the yellow color in her legs, around the vent, the wattles, and in the ring around the eyes. The hen that has bright yellow legs has been a low producer, or to say the least, has been resting for a long time. The legs of a heavy laying bird become almost white, although a short rest may cause some of the yellow pigmentation to come back or to be restored. In the use of this test, one must guard against the freaks in the yellow-legged breeds which are sometimes born with light-colored legs. The use of the pigmentation test is usually supplemental to the other methods used in determining the laying condition of the bird.

The condition of the egg sack is one of the most important things to take into consideration. A few years ago when poultry culling first became known, the flexibility of the pelvic bones was supposed to be the best indication of laying, however, since then it has been found that the capacity of the hen is best determined by the distance between the keel bone and the pelvic bone, and the flexibility of the egg sack. Hens which are non-producers often have the keel bone and the pelvic bone so close together that it is hardly possible to get more than one finger between them. Good layers show plenty of room for four fingers. This space between the keel and the pelvic bones indicates capacity for good digestion and it helps in the egg production. Depth from the back to the keel bone is also desired. The bird that is lacking there and is high on legs does not usually show capacity.

The quality of the egg sack is determined by examining that portion between the pelvic bones and the keel bone. On a good layer, this should be flexible and mellow to the touch and should feel full, warm and life-like. On hens of the beefy type, this part of the anatomy, while developed, is hard and lifeless to the touch.

To properly determine the capacity and quality of the egg sack, the bird must be properly handled. Unless she is properly balanced in handling, incorrect conclusions might be derived. Hold her firmly in the right hand, balancing and supporting her weight by the fingers, while the thumb grasps the left thigh. Held in this way, the hen makes no effort to escape and the measurements for capacity and quality can easily be made with the left hand. The right leg should be free, as otherwise a cramped condition of the abdomen may result and a proper determination could not be made. Mr. Foreman says that "capacity indicates the rate of yolk elaboration on the cycle of production, but the quality of the egg sack determines the rhythm or the number of months the hen will be productive."

General observations will help much in selecting a productive hen. A busy happy, singing hen is usually a productive one, and one which moults late is one which will usually fill the egg basket. Early moults usually take a great part of the season to do their moulting and will not be productive until the next spring. On the other hand, late moults have undoubtedly been busy in egg production during the summer, therefore have put their moulting off until fall. They usually moult quickly and start laying again when egg prices are up.

Many farmers have sent their most productive hens to the market at the time they cull them out in early fall. The usual practice has been to save the best looking hens and to market those which may look somewhat straggly. A hen that has been active in egg production is usually not in the best physical condition, because egg production is a great strain. Her feathers may not be as handsome as those of the hen that has been a star boarder, but she gets results. In this respect we can fitly recall the expression, "Fine feathers do not always make fine birds."

There is every reason why the farmer who raises hens, and the most of them do, should become acquainted with this method of poultry selection. In practicing it he has everything to gain and nothing to lose. Whereas, by the old method he is virtually throwing money to the winds when he is feeding a lot of hens that produce losses instead of profits.

It is understood, of course, that poultry culling will not take the place of proper housing and good care. It only eliminates the waste of time and money in giving proper housing and good care to hens that will never produce a profit. On the other hand, it stands to reason that a hen which fills all of the good-laying requirements, unless she is given the food with which to produce eggs and a house in which to live that is sanitary and protects her from the elements, cannot do her full duty.

During the summer when the hens have opportunity to pick their living, care should be taken to give them sufficient extra feed to keep them in good shape. Egg production very frequently falls off during the summer, because the hens are not getting sufficient feed to maintain their bodies and produce eggs. An examination of many farm flocks would show that the hens are too thin to even be called normal.

A hen properly selected and properly cared for will produce as much for the time and trouble involved as anything on the farm.

Easy Way to Mix Bordeaux.
A convenient modification of the safe way to make Bordeaux mixtures, assuring the most effective spray solution, is now recommended by several experiment stations.

The old method, long followed by careful and progressive growers, was to make the standard 5-5-50 Bordeaux by mixing five pounds of copper sulphate with twenty-five gallons of water in one container; by mixing five pounds of copper sulphate with twenty-five gallons of burned lime with another twenty-five gallons of water in another container; and by pouring the two dilutions together.

The modified method, said to be just as safe and more convenient, is described as follows:
Suppose you have a fifty-gallon tank to fill with 5-5-50 Bordeaux. Place in this tank five gallons of the stock copper sulphate solution, equivalent to five pounds of crystals, and then add thirty-five gallons of water.

Next, take five gallons of the stock lime, dilute it with five gallons of water, pour it into the copper sulphate solution, and stir the two together. Remember always to dilute the copper sulphate before mixing. Never add concentrated copper sulphate either to weak or strong lime solution.

Picking Apples.

One of the most important operations performed on the fruit farm is the picking of the fruit, because in many cases the next year's crop of apples depends on the way the apples are picked. By all means do not allow the apple picker to pick two years' crop of apples during one season, which is often done if the apple picker is not careful in picking the fruit.

The ladder should never be leaned into a tree, if it is possible to avoid it. Fruit spurs often cover the ground under such conditions; and not only is the crop for the succeeding year damaged, but openings for disease are left in the tree itself. The act of picking is a very simple one if correctly done. A simple twisting movement up and down on the fruit removes it from the spur without loss of stem, and this easy removal is usually a fair indication of the maturity of the fruit. The stem may be broken without hurting the fruit, but should never puncture the skin or be pulled out of its socket.

The receptacle selected for picking should prevent all bruising, as far as possible; and should give ease in handling. Theoretically, it would seem that bags or canvass bottom pails would be the best for picking, but practically such is not the case. There is a bad tendency among pickers to let the fruit fall into the receptacle, and this is one of the many ways by which a great deal of fruit is injured during the picking operations. Bags allow the fruit to be damaged by not protecting it against bruising when coming in contact with the ladder or tree. When bottomless bags are used the pickers will often let the fruit shoot into the barrel with a great deal of force, thus causing a great deal of damage to the fruit.

Lime in Agriculture.

The use of lime in proper quantity, in proper quality, and at the proper time will prove beneficial to most soils. Used otherwise, its effects are the reverse. That there may be no lack of knowledge on the subject, there has been issued by the Department of Agriculture at Ottawa a revised edition of a bulletin entitled "Lime in Agriculture," in which the Dominion Chemist, Dr. F. T. Shutt, has dealt comprehensively with the subject. From this bulletin it is learned that there are several classes of lime, such as quick lime, burnt lime, caustic lime, stone lime, etc., also that limestone of excellent quality is to be

found in many parts of Canada, especially in the East and at some points in British Columbia. Some exists in Manitoba in the vicinity of lakes Winnipeg and Winnipegosis. Otherwise there is none available on the prairies. What is known as lime kiln refuse is sometimes sold as "Agricultural Lime," but the advice is tendered that purchases should be made only on analysis as to the percentage of quick lime, carbonate of lime, etc., present.

The chief objects of the application of lime, or carbonate of lime, are the neutralization of sourness and the improvement of the mechanical condition of soils. The characteristic of the soils that should be treated are pointed out and the influence of lime explained. The comparative values of the different kinds are set forth as well as the methods of application. Attention is given to the use and misuse of lime and results from detailed experiments. A table shows the composition of limestone found in fourteen places in New Brunswick, nine in Quebec, six in British Columbia, nine in Nova Scotia and ten in Ontario. Prince Edward Island is also shown to have deposits.

Hogs

Every year during July, August and September a lot of sows which produced spring litters of pigs are sent to market. Some of them are well fattened before shipment. Others are simply allowed to round out on grass and sent to market only partly finished, where they are known as "grass widows."

The carcasses of such hogs are suitable for the production of mess pork and lard rather than for sale as fresh meat. They sell at a big discount below well finished barrows and smooth young sows. "Butcher hogs" usually advance in price during the latter part of the summer but grassy sows advance but little after early July.

Is your farm losing its fertility?

Did you do it? What? Let your son in as a partner in the farm business.

Do not stop with the spraying of the dairy cows. Calves will not make proper growth, beef animals will not gain flesh and horses will not be able to do their maximum amount of work if they are forced to fight flies.

The Sunday School Lesson

AUGUST 21.

Paul Prepares for World Conquest. Acts 15: 1-16: 5. Golden Text—Acts 15: 11.

Connecting Links—The one great fact which this first adventure of the apostles of Christ into the great world outside of Palestine and Syria proved was that Gentiles as well as Jews were ready for the gospel, and that wherever they had gone men of all races had listened eagerly to their message, had believed and entered into the household of faith. This meant surely, if Christianity were to be triumphant, that the world of the future would not be a Jewish world only, and that the long expected salvation would embrace both Gentile and Jew. It meant the yielding of those national hopes and ambitions which the Jews held so tenaciously, in order to find a larger hope and a more splendid ambition in the prospect of a united world, the old barriers broken down, and peace, brotherhood, and goodwill taking the place of enmity, strife, and hatred. It is no wonder that the telling of their story shook the church both at Jerusalem and Antioch, and that those who held the old and narrow national idea should have been stirred to active antagonism. The opposition which Paul now encountered was to follow him with increasing bitterness for many years.

When Paul, with his little company of missionaries, reached Pisidian Antioch, he found himself on the great Roman road which ran east and west through Asia Minor, along which came heavily laden caravans, and Roman legionaries, and many a traveller and scholar seeking to know more of the world of their time. With these he must sometimes have conversed, and we can imagine his gaze turned westward to the rich cities of the Lycus valley, to Ephesus the great seaport, meeting place of east and west, to the ships which sailed over the sea to Greece and Italy and far off Spain, and to Athens and Corinth and Rome. Already he must have entertained the hope of some day carrying his victorious gospel along that westward road, and of winning the Roman empire for Christ.

15: 1-35. Certain men which came down from Judea. These were Jewish converts who held that all who believed in Jesus should conform to the Jewish laws. For them faith in them was not enough for salvation. They were willing to admit the Gentiles, if the Gentiles would submit themselves to the Jewish customs, and in particular to circumcision.

Paul and Barnabas had staunch friends and supporters in the Antioch church, but these trouble-makers from Jerusalem must also have had a following. There was grave danger that the little Christian community would be rent and torn by dissension. It was decided, therefore, that Paul and Barnabas should go to Jerusalem unto the apostles and elders about this question. At first informally, and then to a formal gathering of the leaders of the church, they told their story. Their antagonists were there also to present their case. In Jerusalem practically everybody kept the Jewish laws, so that the feeling must have been largely against the two brave missionaries. At a critical moment Peter came to their aid by telling the story of his visit to the Roman Cornelius, and how Cornelius and those with him had been baptized and had received the Holy Spirit.

The decision of the Council was spoken by James, who was a brother of Jesus and the acknowledged head of the Jerusalem church. He recalled the fact that the ancient prophets had foretold not only the restoration of the Jewish kingdom, the tabernacle of David, but also that the Gentiles should, with the residue of men, seek after the Lord. The council enjoined only that Gentile Christians should, for the sake of peace and unity, abstain from certain things which were peculiarly offensive to their Jewish neighbors and fellow Christians (vv. 20, 21). Letters were written and sent by two trusted men to the Christians of Antioch, in which the work of Paul and Barnabas was commended. A great victory had been won for Christian faith and freedom.

15: 36-16: 5. Let us go again. The victory was won, and the way was open for the apostles of the Gentiles to continue their work. They could go everywhere now, with the full consent and accord of the great leaders and founders of the Church, and open the door wide to their Gentile converts. In Christ there was to be no more Jew nor Gentile—all were to be one in faith, whatever differences of practice or custom, or law there might be. The way was open for a triumphant progress of the gospel to all the nations.

The thought of Paul turned now to the young and struggling Christian communities in Galatia, and he proposed to Barnabas that they should go and visit them. Perhaps his thought reached out beyond them, too, to the road that ran westward to the Egean Sea, to Ephesus and Smyrna, and the other Greek cities, and the islands and coast beyond.

The contention, which arose about John Mark, could not be settled. He was nearly related to Barnabas, who was naturally ready to forgive him for having left them on their first journey. But Paul would not take him again. Long afterward we know that he was reconciled to Mark, and that Mark was with him in his Roman prison (Col. 4: 10 and 2 Tim. 4: 11). The friends parted, and Paul took with him Silas (or Silvanus), one of the two messengers who had been sent with the letters of the Jerusalem council to Antioch (15: 22). This time he went overland, travelling northward and westward from Antioch.

Timotheus, or Timothy, was a native of Lystra, a young man who had been led to faith in Jesus Christ when Paul's first visit to that city. Of his mother and grandmother Paul speaks in a letter written many years later (2 Tim. 1: 5). The company of three went on, visiting and encouraging the churches.

Application.

In last week's lesson we saw how Paul and Barnabas were horrified when men thought they were gods. "We also are men of like passions with you," they protested. To-day's lesson teaches how true this word was. Apostles, leaders though they were, they were very human, and perhaps it is a good thing for us that we have this account of the sharp difference of opinion which took place. Some people are very fond of talking about the "good old times," and the wonderful people who lived long ago. They disparage everything modern and praise everything which happened in the past. If such people would just take their New Testaments and read over the Acts of the Apostles or some of the epistles which had to be written to correct grave abuses, they would not rave so much about the past.

Alexander Maclaren used to say that one of the surest proofs of the truth of the Bible was its perfect candour. We all know what it is to read a book of fiction in which the hero conducts himself so that there is never a flaw to be found either in his conversation or his conduct. The heroes of the Bible are not set forth in that light. If Moses loses his temper and strikes a rock we are told about it. If Elijah becomes depressed and cowardly we have an account of it. If Job loses his patience and David his purity we have a full recital of the events down to the most sickening details. And so here in the New Testament we read of the innumerable crimes of Peter and Paul and Barnabas, and many other servants of God.

Imperial Fruit Exhibition.

Entries to the Imperial Fruit Exhibition close September 30th. All entries and entry fees in the Overseas and British Empire Sections must be in the hands of the Fruit Branch, Department of Agriculture, Ottawa, on or before September 20th.

British Empire and Overseas exhibits must be entirely separate.—C. W. Baxter, Fruit Commissioner.

A dairy farm should have a silo, and a farm that can afford a silo can afford a bathroom.

Why Women Stay on the Farm

If you are one of the many women whose work is made ten times as hard as it need be by an inconvenient kitchen and a misplaced pantry, this story of how another farm woman completely changed her home by moving a partition along five feet, and eliminating the pantry altogether, may give you an idea of how you can overcome some of your difficulties. You wouldn't believe unless you saw it, how much difference just changing that partition and altering the position of stoves, tables and cupboards could make in a day's work.

Mrs. Baird owned the kitchen. It was much such a kitchen as the average farm kitchen, too small for all the things which should be in it. In fact, it was the summer kitchen, with all that implies in the way of moving stoves twice a year, and having to see

corner. A door led from the kitchen onto the porch.

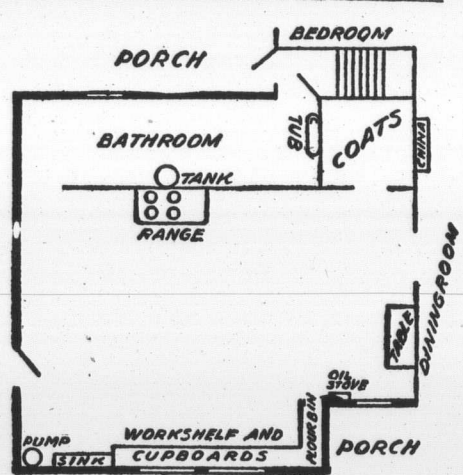
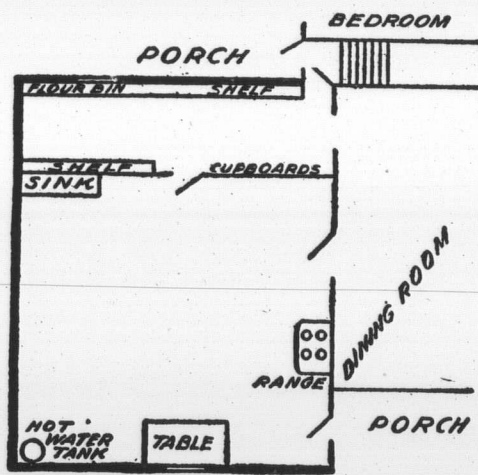
The alteration was made by taking five feet off the large dining-room, thus making the kitchen irregular in shape, but giving room to bring the cupboards from the pantry into this workroom. Not all the space taken from the dining-room was needed for kitchen space, so this was made into a closet for the men's outside garments, the entrance being just at the south of the door between kitchen and dining-room.

In the old arrangement of rooms there were no cupboards in the kitchen. Dishes and supplies were all kept in the pantry, the china in cupboards which ranged down the kitchen side of the pantry to the pass window. The flour bin and bread shelf were on the opposite side under a window which looked out on a screened-in porch.

up by the pantry door, the cupboards coming out of the coat closet in the kitchen.

A door which in the old arrangement led from the pantry to the cellar has been utilized to give an outside entrance to the bathroom so that workmen may enter that room and wash up, without bothering workers in the kitchen. This door opens into a little vestibule, which opens out upon the screened-in porch. The window in the old pantry has been made into a half-window in the new bathroom.

The electric light system and the pump for the water supply are in a cellar under the kitchen, which, being separated from the vegetable cellar is always clean and is utilized as a laundry. Water, pumped from the well by a windmill is stored in a storage cistern underground outside. The pump is automatic, starting when



These diagrams, before and after remodeling, show inconvenience changed to convenience in the kitchen.

your dining-room steamed up in the winter months with cookery. The pantry, as you can see by studying the first illustration, opened off the dining-room. There wasn't a door into it from the kitchen, just a little pass window through which dishes and food might be put. Flour bin and moulding board were in the pantry. This meant that on baking days in summer, you stood in the pantry to get your cookies ready to bake, and while you might put them through the window into the kitchen, you had to travel around out there through the dining-room to get them into the oven. It meant no end of steps that shouldn't be taken, and Mrs. Baird being a progressive farm woman took steps to eliminate them.

The old kitchen, as you will see, was a rectangle, about 11x12 feet. The range stood against the wall separating the kitchen from the dining-room, the sink was in the farthest corner by the pantry wall. The table was on the opposite wall under one window, and the hot water tank filled another

The cupboards were torn out of the pantry and taken to the kitchen. A second window was cut through alongside the other, and a work-shelf with cupboards beneath built along this entire north wall, with the exception of space enough for the sink and cistern pump. The door leading onto the porch was walled up and boards built in this niche, with flour bin and moulding board beneath. This brings the things for baking altogether. The old pantry was then converted into a bathroom. The range was moved from its position by the dining-room wall, and set next the bathroom wall, where connection could be easily made with the hot water tank in the latter room. The tank was placed in the bathroom to assist in heating it, as the house has no furnace.

The table, little used as the work-shelf under the windows takes its place, was put in the space to the left of the dining-room, with the oil stove on the porch side of this alcove. In the dining-room a china closet was built in the wall space formerly taken

by the tank, which holds only a pailful, is emptied.

An electric washing machine, electric vacuum cleaner, and electric iron are among the labor-saving devices which make life on the Baird farm easy, but in spite of these conveniences Mrs. Baird declares that if she could have but one—electricity or running water—she would take the water.

"Nobody knows unless they have had to go without it, just what running water means to a housekeeper," she says. "You can't imagine how much water it takes to do the day's work on a farm, especially a dairy farm like ours, with all the milk cans and pails and strainers to care for. We used to have a jar which held twenty-five gallons, and was filled from the windmill, but many a day we emptied this and had to have more water. Now just to turn a tap and have all the water you want to run out seems to me a greater labor-saver than even the electric washing-machine, though I wouldn't want to give that up now, either."