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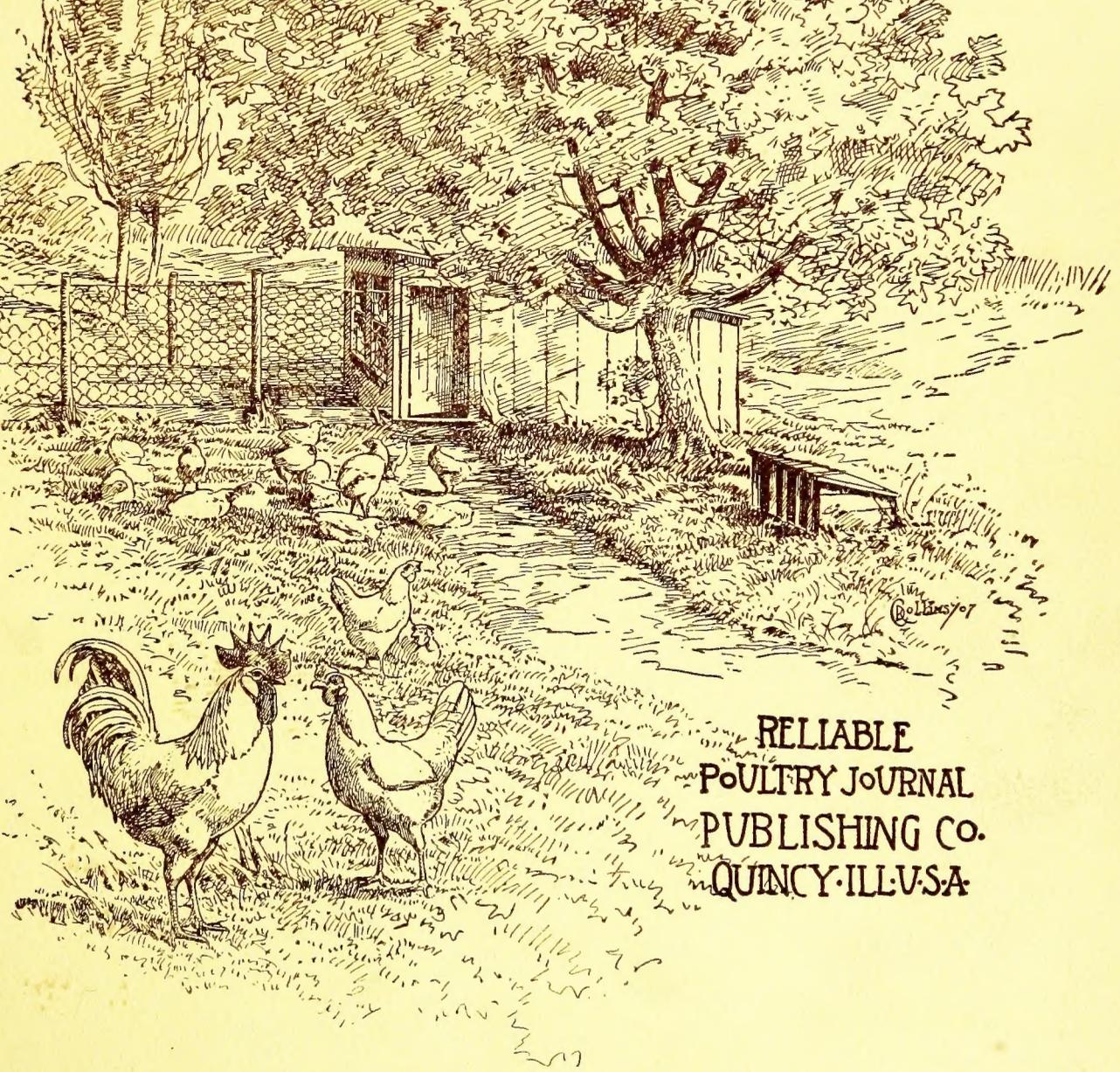
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SUCCESSFUL POULTRY KEEPING



RELIABLE
POULTRY JOURNAL
PUBLISHING CO.
QUINCY, ILL. U.S.A.

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STANDARD-BRED WHITE WYANDOTTES

Owned and exhibited by A. C. Hawkins, Lancaster, Mass., specialty breeder of Barred, White and Buff Plymouth Rocks and White, Silver and Buff Wyandottes

SUCCESSFUL POULTRY KEEPING

A TEXT BOOK FOR THE BEGINNER AND FOR ALL
PERSONS INTERESTED IN BETTER POULTRY AND MORE OF
IT—CONTAINS THE “SECRETS OF SUCCESS” BOTH FOR
PLEASURE AND PROFIT—NEW AND VALUABLE INFORMA-
TION ON ALL BRANCHES OF THE POULTRY BUSINESS

ONE DOLLAR

1907

RELIABLE POULTRY JOURNAL PUBLISHING CO.
QUINCY, ILLINOIS

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INTRODUCTORY



SUCCESSFUL POULTRY KEEPING means more to us than the mere words used as a title for this book. It means to us that we want you, valued reader, to be successful, not only in a financial way but also in deriving satisfaction and enjoyment from your venture in poultry keeping. We want you to learn to know the business, for poultry keeping is now one of our most important industries, to have a liking for it and in learning the business to attain success in such measure as your individual efforts entitle you.

This book is essentially a compilation of the writings and experiences of many practical, observing business men who are poultrymen first, then fanciers or purveyors to the poultry markets as their several interests dictate. We have endeavored to collect the latest and best reliable information for the beginner with poultry, telling him how to start, what others are doing and have done, the best houses to build, how to manage his flock, in fact we try to show him, in so far as we may, how to become a successful poultry keeper.

Successful poultry keeping depends upon much the same things that success does in any undertaking or business enterprise. To be successful in any line of work slothful, careless, extravagant habits must give way to thrifty, pains-taking and economical methods. Thought must be put into your work.

Cause and effect must be studied; all the details must be looked after with intelligent care, and the hand that receives the income must constantly watch the hand that pays out. There is money—"good money", as the saying goes—to be made out of poultry, but this business like any other, must be learned before great things can be accomplished. Like other human enterprises, poultry-raising pays better and better accordingly as you put more and more thought into the business. In the poultry business, above all others, ordinary common sense is the thing most needful.

It is not within the scope of this book to cover every case, but no matter where we go, certain things are true about poultry and poultry keeping, among the number being these: That poultry and eggs at all times of the year meet with a ready sale for cash; that the price of poultry and eggs does not fall below the cost of production, where intelligent methods are employed; that extra or gilt-edged prices can everywhere be obtained for first quality stock,—i. e., for extra choice, uniform and neatly dressed fowls and strictly fresh eggs; that it costs practically no more when one is rightly equipped for the work to produce a first quality article than an inferior one; that by the proper use of artificial means the highest market price can be obtained at all seasons of the year; that by adopting up-to-date methods, hundreds of dozens of eggs can be produced during the season of the year when they will command the higher prices, and that hundreds, yes, thousands of chickens or ducklings can now be raised with success and profit on a comparatively small plat of ground. A surprising amount of poultry and eggs can be produced on an acre of ground, while a full-fledged farm can be conducted on a five acre piece, where knowledge and good sense go hand in hand.

Not all men are qualified to succeed to the same extent, but we claim it is fair to cite exceptional cases of success in the poultry business, where the methods employed and the man or woman who employs them is not a wonder-worker in any way,

except that he or she has put heart and brains into the work. There are several branches of the poultry business that are separate and distinct from each other, although a number of successful men and women whom we know combine two or more branches of the business with success. What one man or woman has done, or is doing, others can do; hence, when we cite actual cases of success that have come under our personal observation, we feel that we are simply pointing out what others can do.

It is no doubt true that where one person succeeds with poultry several fail. If this were not true there would be no excuse for publishing this book, the chief object of which is to describe success as it exists, and to explain fully how it was achieved. It is not the object of this book to induce thoughtless, heedless persons to rush pell-mell into poultry raising. All such persons will do well to give poultry raising a wide berth. Their habits will not win in this business. We do not mean to convey the idea that it takes a specially high order of intelligence to succeed with poultry, for it does not, but we are frank enough to warn the reckless, the shiftless and the indolent that they will make a flat failure with poultry.

ORIGIN OF DOMESTIC POULTRY

No one can say positively where, when or how the ancestors of our present domestic poultry came into being. Some tell us that all our fowls are descended from a common ancestry whose present-day direct descendant is the Jungle Fowl of the benighted Eastern countries. While this may be true the fact remains that this descent or ascent or evolution, whatever you please to call it, must have occupied many, many centuries and today no one has thus far been able to prove his case beyond the shadow of a doubt. Ancient coins struck by ancient coiners 500, 600 and even more years before Christ bear the image of a cock bird on them, and these representations would some of them do credit to our poultry artists of today and portray birds that certainly must have had careful breeding at the hands of men. Undoubtedly as long as man has lived in a semi-civilized or civilized state, having some semblance of a home more or less permanent, just so long has poultry been domesticated and bred by man. The bones of domestic poultry are frequently unearthed in all of the excavations of ancient cities, in the Orient, and evidence is abundant that many ancient philosophers and writers had a decided leaning toward poultry keeping. Who shall say what breeds they may or may not have had in that long past age? Consider our own short experience, the poultry business is young in this country even now, for some forty years or more ago the art of breeding thoroughbreds, as we now know them, was having its beginning. In this short time new breeds have sprung up, flourished for a time, even boomed, and then have apparently vanished in-so-far as general publicity is concerned. Judging from what takes place in other life channels may not this have been going on for centuries? Many breeds may have lived and died in those ancient times, the history of which is even now most uncertain.

It may be that in the beginning the small, black, brown and red jungle fowl, itself of uncertain origin, was the original source from which our modern fowls have sprung, but inspection of the present day representative of this root of the domestic poultry family tree, makes it appear quite as far a cry as the evolution of mankind from a long-tailed ape. Still, wonders

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may be accomplished by domestication and careful breeding, and man undoubtedly did wonderfully develop and improve by domesticating and breeding such wild fowl as came his way and took his fancy.

That this is probably substantially true we have evidence in our present day standard varieties. More than half the varieties of fowls now illustrated and described in the American Standard of Perfection have been developed, or come into being, during the past half century and even within the past thirty years more than a dozen varieties have "arrived." Thirty years ago there were no Silver Laced Wyandottes, White Wyandottes, Buff Wyandottes, White Plymouth Rocks, Buff Plymouth Rocks nor Buff Leghorns in this country. During the last dozen years more new breeds have come into existence, and we now have Partridge Wyandottes and Plymouth Rocks, Columbian Wyandottes and still others, many of which are now described in the latest edition of American Standard of Perfection. The majority of these did not exist in the world twenty-five or thirty years ago.

ESSENTIALS OF SUCCESS

New varieties are being created from time to time, some claim too numerous, others think not. Regardless of which is right, the constant aim may be said to be improvement either in utility or beauty, or both, and the goal sought at all times in the breeding of every variety is greater excellence, and the man or woman who is able to "mix the paints" and use "an eye for outline" to the best advantage is certain to win a golden reward,

for the competition is keen and there is a widespread and constantly growing desire to "own the best."

THE STANDARD OF PERFECTION

The American Standard of Perfection, an illustrated book of some 300 pages, is often referred to as the national guide of poultrymen. This book is published under copyright by the American Poultry Association, a national organization devoted to the advancement of the poultry industry. In the Standard book each class, breed and variety is set forth, and each and every variety is described with great care as to size, form and color, and every breeder is aiming to produce fowls from year to year that will come as near as possible to the standard requirements. The illustrations of ideal fowls will prove a great help to all beginners. Wonderful progress has been made by intelligent and persevering breeders, and the choicest specimens from year to year are placed on exhibition at the annual poultry shows by the breeders themselves, or are sold to other breeders for exhibition purposes. At these poultry shows (some 500 or more or which are held every winter in the leading cities of the country, in addition to hundreds of poultry departments that are run in connection with annual district, state or county fairs), so-called poultry judges, or men who are well versed in the standard requirements and who make a business of judging poultry either by comparing two or more birds together, or by the use of what is called the score card, judge the fowls on exhibition, and cash premiums or ribbons are given to the birds that come nearest to perfection, that is, to the standard requirements.



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Q. 2. What was the highest cash price you ever paid for standard-bred eggs for hatching, stating number and price?		Q. 17. With your present knowledge and experience, if about to begin again, which breed or variety would you select if you were going into fancy poultry?
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CHAPTER ONE

AMERICAN POULTRY INDUSTRY

MAGNITUDE OF THE POULTRY BUSINESS

UNCLE SAM'S HENS PRODUCE FIVE HUNDRED MILLION DOLLARS WORTH OF POULTRY AND EGGS ANNUALLY—SURPRISING CONSUMPTION IN LARGE EASTERN CITIES—NO DANGER OF OVERPRODUCTION—BETTER OPPORTUNITIES NOW FOR SUCCESSFUL POULTRY KEEPING THAN EVER BEFORE



IN THE report of the Secretary of Agriculture for 1905 the farm value of the poultry and egg crop of the United States is estimated at about \$500,000,000. annually, while the total egg production of American hens is approximately 20,000,000,000 of eggs a year. It is difficult for the human mind to appreciate these big figures, they are really so far beyond our usual mental horizon. Stop a bit and think, five hundred million dollars is just about the annual value of the entire United States wheat crop. If reduced to one dollar greenbacks it would, if the bills were placed end to end, reach twice around the world at the equator and enough left over to paper the mail route between New York City and the Falkland Islands.

Then consider that gigantic egg crop. It is probable that statistics have not told the whole story by more than half, for the Statistical Bureau deals only with the farmer's hens, but even so the figures given are tremendous. Twenty billions of eggs is easy to write or say but what does it mean to you? It means that if those eggs, the yield of United States farmer's hens for one year, were placed end to end they would go around the earth at the equator *thirty* times and leave enough over to reach from New York City via San Francisco to Yokohama, Japan and thence to Pekin, China. At eight eggs to the pound the annual egg crop would reach the surprising weight of 1,250,000 tons of eggs. Packed in cases of thirty dozen each and these egg cases placed closely together on a square of land containing one acre, completely filling it, they would make a solid column 4,829 feet high or 629 feet higher than Mt. Vesuvius.

STRICTLY FRESH EGGS IN DEMAND

Liability of the poultry business being overdone you may say after reading the above. Not a bit of it. Prices of eggs have been high and growing steadily higher during the past several years. Market poultry, live and dressed, commands appreciably better prices now than heretofore. The supply of the really good article in both poultry meat and eggs falls far short of the demand. In our large cities, during the winter months strictly fresh nearby eggs reach what are really prohibitive prices, except for the rich, and it is owing to the scarcity of the product that prices are so high. Fifty, sixty and even seventy-five cents a dozen at retail is no uncommon figure for best quality, fresh, nearby, fancy table eggs in our biggest and best Eastern city markets in the winter season.

Even "case eggs", those shipped in from a distance, bring good returns the season through. We append herewith a table of wholesale prices of western eggs in New York market for the year 1905. Remember that these are not consumers' prices but prices paid by dealers who buy eggs in carload lots. These western eggs are good quality fresh eggs shipped from a distance

but never reach as high a figure as the nearby "fancy fresh laid" or "hennery eggs."

WHOLESALE PRICES OF WESTERN EGGS IN NEW YORK MARKET FOR THE YEAR 1905

MONTHS	RECEIPTS, CASES	Highest and Lowest Quotations for Western Fresh Firsts at Market Prices per Dozen
January	159,821	25 to 30c
February	83,324	30 to 35c
March	411,665	16 to 35c
April	584,289	17½ to 18c
May	551,255	17 to 18c
June	427,136	15½ to 17c
July	314,097	15½ to 18c
August	280,482	17½ to 21c
September	258,548	20 to 21c
October	207,513	20 to 25c
November	166,292	24 to 30c
December	137,209	26 to 30c

Total receipts: 3,581,631 cases

The average price of eggs for the year was 22 cents.

It will be noted that the heaviest receipts were during March, April, May and June, the period of lowest prices and also of greatest production, but at no time during this period of increased consumption did the prices fall below a profit making figure.

What becomes of all the eggs? Those that go through the regular market channels are easily traced, but there are millions of dozens consumed by families who grow their own eggs and poultry and millions more that are used for hatching purposes; of these it is not possible to take account or even make a reasonable estimate as to numbers consumed.

WHERE THE EGGS GO

The United States has a population of about eighty millions, and based on this the total consumption of eggs for the entire United States is at the present time a little more than half an egg daily for each person, assuming that the entire egg product of the whole country is used for domestic culinary purposes. As a matter of fact, however, a very large percentage of eggs, the exact amount not being determinable, are used for supplying the needs of factories, tanneries, bakeries and other trades, so that the actual consumption of eggs per capita for domestic purposes in the United States must be very much less than is shown by these figures. To have the whole country adopt the same average per capita consumption of eggs as New York City would require about a 50 per cent increase over the present proportions of our egg industry, making no allowance for increase in population.

CONSUMPTION IN LARGE EASTERN CITIES

Our largest market, New York City, which has a population of about 3,600,000 reports receipts during the year 1905 of

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3,591,631 cases of eggs. Estimated at 30 dozens to the case this would be 107,748,930 dozens.

Many thousands of dozens of eggs were undoubtedly consumed in Greater New York which do not appear in this record, and these should more than offset any of the reported number which may have been shipped out of the city. While it is not possible to get figures showing the actual consumption of eggs in Greater New York because of the large number of unreported shipments which must necessarily reach so large a city, and because of the great variety of uses to which eggs are put in the trades and for which no accurate data are procurable, the following figures will prove interesting although dealing mainly with averages.

The estimated population of New York is 3,600,000, while the average daily receipts based on the above figures are 3,532,567 eggs, or an average consumption of nearly one egg per day for each inhabitant of Greater New York. Consuming as it did over 1,289,387,160 eggs in the year, Greater New York used practically 6½ per cent. of all the eggs produced in the United States during the year 1905.

Figures for the City of Boston, Mass., with its population of 600,000, for the same year show total receipts of 1,393,456 cases, or practically an average daily consumption of 2½ eggs for each inhabitant. As shown by these statistics Boston takes 2½ per cent. of the total number of eggs produced in the United States.

FARMERS BENEFITTED

In writing on the "Causes Affecting Farm Values", Mr. George K. Holmes of the U. S. Bureau of Statistics, says of the poultry industry:

"It may seem a matter of small consequence to mention poultry and eggs as an instance (referring to the causes of improved financial condition of our farmers), but it should be remembered that the values of these products now reach an annual figure of half a billion dollars or more, or an amount about equal to the value of the wheat crop. The price of eggs has been high and growing higher for several years, because consumers have wanted more eggs than have been produced.

The exports are not worth mentioning. Apparently there is no limit to the consumption of fresh eggs at a moderate price."

Not long ago when talking with a poultryman who makes a business of shipping eggs to market, we asked him what was the lowest price he could afford to sell eggs at and still make a reasonable profit. He lives about one hundred miles from his market and makes two or three shipments a week. He assured us that he could produce eggs to sell at 12 cents a dozen delivered

in his market, and still make a profit that would be satisfactory to him.

THE POULTRY MARKET

So far we have concerned ourselves with eggs alone, but every egg farmer must at regular periods renew his stock of laying pullets and dispose of a proportion of his adult stock, and if he raises the chickens himself he will also have a considerable number of surplus male birds to dispose of. Lest he should become alarmed concerning the disposition of surplus birds, male and female, it may make his mind easier to know that during the past year (1906) prices of live poultry taking the country as a whole have been maintained higher and more steady than ever before. At the time of present writing (September) roasting chickens are selling alive at wholesale in the East at from 16 to 20 cents a pound, while old fowls range from 12 to 15 cents, according to quality.

The figures for New York City during the past year show a most surprising consumption of live poultry. During the year 1905, 2,073 carloads of live poultry are reported as having been received, the highest number received in any one month being in October, 271 carloads, the lowest in February, 105 carloads. The average wholesale price for live fowls for the year was 13½ cents per pound. These figures mean that New York City consumes an average of about 5½ carloads of 16,000 pounds each of live poultry per day.

New York State is credited with having produced during the year 1905—74,516,028 dozens of eggs, not enough by nearly 33,000,000 dozens to supply New York City alone. It would require practically all of the total egg product of the states of Maine, Vermont and Connecticut, added to the entire egg production of New York State to supply New York City. According to the latest figures that we have been able to obtain the egg production of the states mentioned was estimated for the year 1905 at,—Maine, 15,964,980 dozens; Vermont, 7,526,256 dozens, and Connecticut, 9,551,316 dozens.

Massachusetts is credited with an egg production for 1905 of 15,514,356 dozens, not enough by over 26,000,000 dozens to supply the city of Boston only.

Judging from the figures given herein and the fact that the population of the United States is increasing with surprising rapidity, the rate of increase between 1890 and 1900 having been shown to be nearly 22 per cent, there is little probability, for the present at least, of the supply even equaling the demand,



THE BIRD HE LIKES BEST

Uncle Sam's Hens Produce enough Eggs each Year to make a Belt for the Earth at the Equator 30 Eggs wide if placed end for end, and enough to spare to make a line of Eggs from New York City to Pekin, China, via San Francisco.

AMERICAN POULTRY INDUSTRY

and this should calm the tremors of those who fear overproduction.

GROWTH OF THE MARKET

The growth of the modern "market," as an institution, is an interesting study. It has been identical with the development of the great centers of population called cities. During the past quarter of a century there has been a somewhat alarming concentration of population in these centers, for we are confronted with a serious social problem when we contemplate the helplessness of these collections of thousands, tens of thousands and hundreds of thousands of people within an area that could not possibly feed a few hundred of them if they were to become dependent solely on the corporate limits of the different cities. Shut off the food supply from their numerous markets only forty-eight to ninety-six hours and they would become panic-stricken. To deny them coal is bad enough, but if they were deprived of their food supply even for a few hours, distress would be common, bringing terror to the hearts of millions.

Nothing now in sight gives any promise of retarding the concentration of the people into cities, either in this hemisphere or in the old world. Increase of population and its concentration in cities involves the future and indicates the possibilities of the poultry business on practical lines. To conclude that population will increase and that cities will grow in size, is to concede that the market for poultry and eggs is to be a permanent affair that will increase with the population and grow with the cities.

AN AGE OF SPECIALIZING

Naturally, as poultry production became a distinct and important industry, it was divided into branches representing special lines of effort. Mankind had entered upon an age of specialties and the poultry industry did not prove an exception. First, the growers of poultry were merely poultry keepers; now we have fanciers, duck growers, egg farmers, broiler raisers, etc. The development of these branches has been rapid, but not unnaturally so. It was natural that this development should result from special attention, special effort and singleness of purpose. The practical result has been that we now have thousands of fanciers, including hundreds of specialty breeders, and more than one hundred separate and distinct varieties; where twenty-five and thirty years ago the common puddle-duck, weighing three to four pounds, was the best this country produced, we now have the Imperial Pekin, weighing ten pounds to the pair at ten weeks old, and ten to fourteen pounds each as adults, and have numerous "ranchers" who produce from five to fifty thousand ducklings annually and find for them a ready and profitable market; where three or four decades ago a flock of one hundred or more hens was a curiosity and the egg basket was seldom larger than a man's hat, we now have egg farms that each carry five, six and seven thousand laying hens, and the eggs are gathered in bushel baskets, five to ten baskets being required to gather the average daily yield, and when only a few years ago broilers, squab broilers, roasters, winter chickens and capons were strange words because seldom used, they are now common expressions, while tons upon tons of expertly produced poultry meat are consumed daily, and we have made only a fair start.

The fancier, first and last, despite his "fuss" and "feathers," has been our good friend. What we have wanted, and asked for, he has supplied. We asked for a "general purpose" fowl, and he gave us the Plymouth Rocks. We asked for more eggs, and he has given us the "200-eggs per year hen" of several varieties. We asked for better squab-broilers, broilers and roasters, and he gave us the Wyandotte. We asked for more

meat and this demand was soon supplied by increasing the weights of the Asiatics, by deepening the keels of Pekin ducks and the production of Mammoth Bronze Turkeys and Toulouse geese that tip the scales at twenty to forty pounds each—too large, by half, for the average family or bake-oven.

AS AN INDEPENDENT BUSINESS

Admittedly our equipment of tools at present is by no means complete and we have mastered only the first principles of the production of poultry and eggs in large quantities as an independent enterprise. The improvement of the utility breeds, the invention of popular sized, portable incubators and brooders and the designing of suitable brooding houses have given us a fair start, and we may look forward with confidence that great progress will be made during the next few years. No man can safely set a limit to what will be accomplished in this direction within the next decade. Ten years ago the poultry business in this country, as an independent business, was insignificant as compared with present achievements, but there is good reason to believe that the next ten years will show still greater progress. It cannot well be otherwise. Where one man was interested in the problem and trying to achieve results ten years ago, one hundred or more are now employed at the same task. These later comers include the men with years of experience who now are profiting by their reverses and successes, and the outcome cannot fail to be desirable. Today America leads the world in the knowledge and employment of successful methods of poultry production on a large scale, and probably it will maintain this position. Other countries are adopting our methods, but we have secured a lead that will be hard to overcome. The financial risk is being eliminated from the business until it is not greater now than that involved in other business enterprises, and men of means and brains are taking up the work in rapidly increasing numbers. Nevertheless, it still remains a fact that nine out of ten, if not nineteen out of twenty of the average well-informed men of this and other foremost poultry growing countries have but slight conception of what actually is taking place in the poultry world. So much the better for those of us who have become interested in the subject, who have a correct idea of its importance and recognize the unmistakable signs of its rapid development and splendid possibilities. Snug fortunes are being made at the present time in different branches of the poultry business where ten and twenty years ago this would have been utterly impossible, and today is but a promise of the superior conditions that will exist five, ten and twenty years hence.

GOVERNMENT HAS BECOME INTERESTED

No one realizes the truth of the foregoing more than the United States government and the various state governments. This came about largely as a result of the facts disclosed by the census returns of 1880 and 1890. The Bureau of Animal Industry took up the question eight or ten years ago and now regularly issues valuable bulletins for free distribution, giving detailed instruction and advice for use in the production of an increased amount of better poultry and the obtaining of a larger egg yield per hen. Probably twenty states of the Union are now conducting poultry plants on their state experiment stations in connection with the state agricultural colleges. At half a dozen or more of these colleges regular poultry classes have been instituted, the members ranging from twenty to thirty each term and including, as students, men and women who are above the average in intelligence, some of them being well educated. These students, as graduates, are finding positions as managers of poultry plants, as lecturers at Farmers' Institutes, or are entering the business themselves. Numerous other public and semi-public institutions, are conducting poultry plants and in-

SUCCESSFUL POULTRY KEEPING

structing the students or inmates in practical poultry work, with a view to qualifying them for earning their living and taking up poultry production as a business, either in the employ of others, or independently. All this is "something new under the sun," and clearly points to a bright future for the poultry industry in its several branches.

STANDARD-BRED POULTRY

Where 30 or 40 years ago poultry exhibitions were seldom heard of, now they are common. In the neighborhood of five hundred winter shows are held annually at the present time, while thoroughbred, or standard-bred poultry is exhibited every summer and fall at not less than a thousand state, district and county fairs, the exhibits ranging from a few specimens in an open shed to three or four thousand choice birds shown in uniform coops and housed in buildings, each costing \$10,000. to \$25,000. that have been built by the fair associations, often at state expense, expressly for poultry. Long lists of cash premiums are offered, some of the state fair associations appropriating one, two and three thousand dollars each for this purpose, while of late years the great winter poultry exhibitions, like those held regularly in Boston, New York, Philadelphia and Chicago, have offered as much as five and six thousand dollars in cash premiums at a single show, besides nearly equal amounts in medals, prize cups and other valuable trophies.

THE POULTRY PRESS

Not one whit less remarkable and important than the foregoing has been the development of the poultry press. Today more papers in the United States are devoted exclusively to poultry than to any other branch of live stock; in fact, we believe there are more poultry papers than there are horse, cattle, sheep and swine papers taken together. We may be mistaken in this, but we do not believe we are. There are between sixty and seventy poultry papers and we doubt if there are as many other exclusively live stock papers all told. Furthermore, nearly every farm paper, in fact, practically every one of them that has a large circulation, now conducts a regular poultry department, giving it, as a rule, as much space and attention as are given to cattle, horses, sheep or swine. There is no need to apologize, at this time, and under present conditions, for being interested in poultry, or for being in the poultry business.

DEVELOPMENT OF LARGE PLANTS

Visible signs of the rapid development and present importance of the poultry business are to be met on every hand, especially in the states east of the Mississippi river, where the population is greatest. The farther east one goes the more numerous become the poultry plants, small and large. New England has been called "the cradle of the poultry business" in this country, and for good reason. Massachusetts and Rhode Island probably lead the Union in the production of poultry, area considered, but New York, New Jersey, Connecticut, eastern Pennsylvania and Ohio are following closely, while the great agricultural states of the Mississippi valley, notably Illinois, Iowa, Missouri and eastern Kansas and Nebraska, are producing vast quantities of poultry and eggs, as shown by the census returns of 1890 and 1900. These large and fertile agricultural states have the credit of producing more poultry and eggs than the eastern states, but this is not true in proportion to area. Further more, in the Mississippi basin the immense quantities of poultry and eggs are produced mostly in the old-fashioned way, on the ordinary farm by the farmer's wife and children, while farther east numerous poultry plants have sprung up whereon the production of poultry and eggs is steadily being reduced to a science.

Ten and fifteen years ago one had to travel far to find half a dozen successful poultry plants that were being conducted on independent lines, while now two or three dozen of them can be visited in a week's journey if one knows where to go. Travelers riding by train or electric car through the New England states are prone to remark that about every fourth farmer or villager seems to be in the poultry business, for on either side of the "right of way" are to be seen poultry plants varying from two or three small houses to a dozen long ones built on the continuous-house plan, each house being one, two or three hundred feet long, with attractive parks filled with hundreds of standard-bred White Wyandottes, White Leghorns, Plymouth Rocks, Brahas, or first crosses.

Even persons who consider themselves well posted are frequently surprised to learn of some extra large plant that has sprung up unheralded and become an established success before its existence was discovered by the poultry papers or the writers on poultry topics. Men of perseverance started them on a small scale and added to them little by little, thus building up large and profitable businesses on a safe and solid basis.

With the specializing of the work of poultry production, the dividing of the business into branches and the development of large specialty plants, there has come a natural and highly important improvement in the quality of the product. Twenty to thirty years ago no one had heard of "green ducks," meaning ducklings eight to twelve weeks old that have been specially fed, producing a most toothsome morsel, while now thousands of tons of them are marketed in the eastern cities every spring and summer. On Long Island upwards of a hundred thousand of these ducklings are produced within a radius of ten miles of the little village of Speonk. The Spring Lake Poultry Co., C. A. Stouffer, president, Harrisburg, Pa., produces forty-five to sixty thousand ducklings each season, besides several thousand broilers, and Messrs. Weber Bros., of Wrentham, Mass., now have an annual output of over forty-five thousand ducklings. Broiler plants are in successful operation, with capacities ranging from ten to twenty-five thousand broilers per season; "winter chickens," or roasters, are produced by the ton in different sections of New England, New York, New Jersey, eastern Pennsylvania and Maryland, and capons, or "Philadelphia chickens," as they were originally called, are being produced in rapidly increasing quantities in New Jersey, New England and the middle west. Chicago is now a reliable capon market, and the poultrymen and farmers of Illinois, Michigan, Wisconsin, Iowa and Missouri are turning their attention more and more to the production of capons.

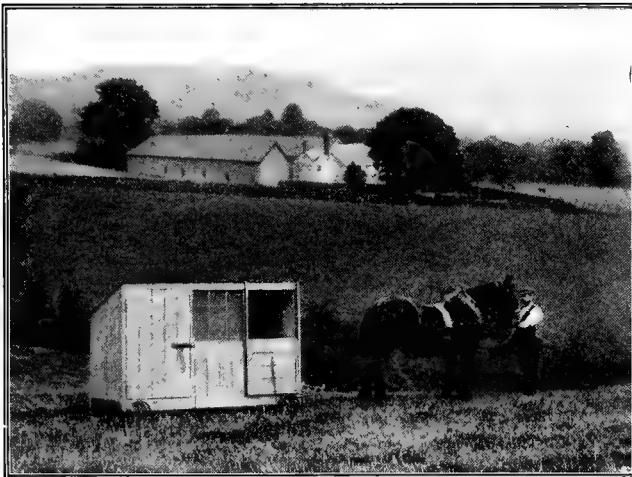
NOW HAVE BETTER TOOLS

While we are giving credit to the fanciers for increasing the number of varieties and developing the utility as well as the beauty points of the more popular breeds, while we are praising the poultry press and acknowledging the importance of poultry exhibitions, let us not overlook the fact that the improvement in the tools used by the poultryman has been invaluable to him in his work and progress. Poultry on a large scale, while not impossible without the use of popular-sized incubators and reliable brooding apparatus, is, nevertheless, impracticable, for if the hen has to be relied on to do the hatching she will not sit until she gets ready, and then not in sufficient numbers to give the business the necessary elements of certainty and proper management. Worse still, if the hen had to be relied on to brood the chicks or ducklings, her instinctive habits and erratic conduct would soon limit the ambitious poultryman to a comparatively small plant and would make his life a burden to him on account of numerous uncertainties. The great duck ranches are proof positive of this general statement. They do not use as much as one hen for incubating. They use incubators ex-

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clusively for hatching. Nor do they use a hen for brooding—not one. Their incubator cellars and brooding houses are built on the latest patterns and are as reliable, generally speaking, as an eight-day clock. They have far less trouble with their incubators and brooding apparatus than they have to make sure that the vigor and stamina of their stock are maintained. Inbreeding and close confinement are decidedly more threatening than any dangers that arise from the incubating and brooding apparatus. Much credit is due the incubator inventors and manufacturers of the country (this is especially true of America) for keeping pace with the demands of the progressive poultrymen who desired to establish large plants and could not have done so were it not for the improvement in the apparatus they must use.

Practically all of the large egg farms and broiler plants now use incubators and employ brooding houses for rearing the chicks. Hen's eggs hatch in incubators even better than duck's eggs, and numerous plants are in operation that require ten to twenty-five thousand eggs, including hen's and duck's eggs, every thirty days, in order to fill the machines. There are more than fifty poultry plants doing business in this country at the present time that use enough incubators to require five to thirty thousand eggs every three or four weeks. These plants could not exist if they had to depend on the hen-method of hatching



PORTABLE COLONY HOUSE

An English type of portable colony house recommended by Prof. Edward Brown, of Reading College.

and raising chicks. An incubator is ready for work whenever fertile eggs can be obtained. It is far easier to induce hens to lay out of season than to persuade them to sit before they want to. They will lay long before they want to. They will lay long before they become broody, and by breeding in line for egg production we now have flocks of hens that average one hundred and fifty to two hundred eggs per year, where, according to the census returns of 1890 and 1900 the average American hen lays less than one hundred eggs per year. Estimate for yourself the great addition there will be to the national wealth of this and other countries when the average egg yield of all hens that are kept for laying purpose is increased fifty to seventy-five eggs per annum. Millions of dozens of eggs are now produced and sold so readily that they are like wheat in the granary or cash in the bank; once the work of the methodical poultryman be-

comes the common property of the poultry keepers of the farm and village, then the annual egg production of the nation will be increased 25 to 75 per cent and the national wealth will be increased in this important extent. The real importance of this national opportunity lies beyond our comprehension, for figures, when they mount into millions, are baffling, and this increase of the egg yield is a problem of that kind.

IMPROVED POULTRY PRODUCTS IN DEMAND

Increase of wealth and population has resulted in a steadily increasing demand for the finest products of the poultryman's art. Wealthy families, fashionable clubs, leading hotels and high-class restaurants now compete for the guaranteed strictly fresh eggs and gilt-edged dressed poultry of the expert and dependable poultryman almost regardless of price, in fact, they will pay what they have to pay in order to get what they want, and they want the very best that can be produced, so that now we have not only broilers weighing one pound to two pounds each, but "squab" broilers weighing only three-fourths of a pound to a pound, and have roasters weighing five pounds each, that readily bring twenty to thirty cents per pound; also green ducklings that start early in April at thirty to thirty-five cents per pound and range down to twelve cents late in August when the season closes. Strictly fresh eggs guaranteed bring a premium of five to ten cents per dozen above current prices. Expert poultrymen tag or stamp their specially choice products, wrap them neatly in tissue paper, tie them with dainty ribbons and get "a price and a half" for them, as compared with the ordinary grade of stock placed on sale; and the "professional" egg-farmer stamps his eggs with the dates on which they were laid, with the name of his farm, or with his initials, puts these eggs in one-dozen or two-dozen pasteboard boxes, guarantees them "strictly fresh" and obtains a satisfactory reward for his enterprise.

Despite the greatly increased production, the prices of poultry and eggs have been higher the last year or two than ever before in the history of the industry. Increased wealth and population account for this, for it is a fact that in the eastern states where the production of poultry and eggs is greatest, the prices invariably range from fifty to one hundred per cent higher than they do in the great agricultural districts, where the population is much less per square mile and the cities are smaller.

Only a few years ago the man who went into the poultry business, or talked of going into it, was considered a crank, while incubators were looked on as fakes, or as a fad. Every year, recently, has seen the business of poultry production steadily improve, reaching a higher plane and resting on a more substantial basis, while the manufacture of goods for poultrymen, including practical, reliable incubators and brooders, handy time, labor and money-saving appliances and helpful poultry supplies of various kinds has become a permanent and substantial business. The men who are in the poultry business today, or who contemplate taking it up as a means to a livelihood, unquestionably have before them opportunities that will tax their enterprise and call in play all the ability and energy at their command. The poultry business, in all its important branches is at present "a man's business," and we are pleased to observe that men of ability and of means are "taking hold" in sufficient numbers. If these words should chance to be read ten or twenty years hence, the middle-aged reader, if endowed with a good memory, will give us credit for being a wise prophet, when as a matter of fact we merely have noted a few of the plain "signs of the times" that point out the direction of future achievement and rapid progress.

CHAPTER TWO

VALUE OF STANDARD BREDS

FANCY FOWLS BRING HIGHEST PRICES

“FANCY” MEANS FOWLS BRED BY EXPERTS TO STANDARD REQUIREMENTS COMBINING BOTH BEAUTY AND UTILITY—SYMPOSIUM BY LEADING SUCCESSFUL BREEDERS



FACTS count, and in this symposium we present facts showing the high prices,—fabulously high when compared with the popular idea of the value of “chickens”,—that are paid from time to time for standard-bred fowls of exhibition quality.

Leading successful poultrymen testify herein, concerning prices paid and received by them for first quality exhibition or fancy breeding fowls.

No theory or dreaming here but good solid facts, positive evidence from well known breeders who produced and sold these best specimens of standard-bred poultry.

To obtain this evidence we sent out a list of eight questions to twenty old-time patrons of the *Reliable Poultry Journal*,—men who have a national or international reputation as fanciers, owners, breeders and exhibitors of fine standard-bred, “fancy” poultry. Fifteen of the twenty have favored us with prompt replies in time for publication, and we are pleased to present them herewith. We quote and number the eight questions asked, the answers thereto are numbered to correspond and are given in condensed form:—

THE EIGHT QUESTIONS

Q. 1. What was the highest cash price you ever paid for a single specimen of standard-bred fowl? What was the highest price ever paid by you for two specimens? For three? For more than three on one order, stating number bought, and price paid?

Q. 2. What was the highest cash price you ever paid for standard-bred eggs for hatching, stating number and price?

Q. 3. What was the highest cash price you ever received for a single specimen of standard-bred fowl?

Q. 4. Why were you able to obtain the above named prices, i. e., what special merit did the specimen possess? (Note:—if it had received a high score, state score, tell by whom scored, also where and when. If it had won prizes, state where and when.)

Q. 5. Please state highest average price you ever received for any three standard-bred fowls of exhibition quality, sold by you since you have been in the poultry business.

Q. 6. Please state highest average price you ever received for any five standard-bred fowls of exhibition quality, sold by you since you have been in the poultry business.

Q. 7. Please state highest average price you ever received for any ten standard-bred fowls of exhibition quality, sold by you since you have been in the poultry business.

Q. 8. Please state highest average price you ever received for any twenty-five standard-bred fowls of exhibition quality, sold by you since you have been in the poultry business.

A. & E. TARBOX, Yorkville, Ill.

BREEDERS AND EXHIBITORS OF SILVER WYANDOTTES EXCLUSIVELY

A. 1. Highest price paid for single specimen, \$25. For

two, \$50. For three, \$60.

A. 2. \$10. for thirty-nine eggs.

A. 3. Highest price received for single specimen, \$40.

A. 4. We were able to obtain prices quoted because these birds were of high exhibition quality. The bird we received the highest price for (\$40.) was a cockerel, winner of first prize at Philadelphia. We sold two pullets at \$35. each, one won first prize at Chicago, December, 1904; the other won third at Chicago, December, 1904, and won fourth at the St. Louis World's Fair. We sold one pen to South Africa, consisting of five birds, a male and four females, for \$75. This pen won first and Silver Cup at Kansas City, Mo.

A. 5. Highest average price received for three, \$36.66 each.

A. 6. For five, \$28. each.

A. 8. For twenty-five, \$18. each.

ARTHUR G. DUSTON, South Framingham, Mass.

SPECIALTY BREEDER OF WHITE WYANDOTTES

A. 1 and 2. I have not paid high prices for stock and eggs. I find it cheaper to breed them.

A. 3. Highest price received for a single specimen, \$150. I have refused higher prices than this, where I did not wish to sell.

A. 4. Bird was sold on its merit as described by me, with four pullets. They went to the west and were the highest scoring pen ever shown up to that time, in that city. The buyer lost the females and mated the male to other stock of my strain. That year he sold \$900. in stock and eggs from the pen, besides replenishing his stock.

A. 5. Highest average price received for three standard-bred fowls, \$115. each.

A. 6. If to one customer, at one sale, is meant, my answer is, \$250. for one pen, four females and one male. This average would be \$50.

A. 7. I sold from the New York Show, three years ago, two pens of five birds each, for \$450. each, or \$45. per bird. I have sold ten show birds, mostly males, at an average of \$105. each.

A. 8. As I seldom get more than \$100. for a bird I would not say that I could take you to my order book and show you twenty-five sales that would go much over \$100. each, but if competition becomes much keener and the demand much sharper in Wyandottes, there is no telling where prices will go.

I. K. FELCH, Natick, Mass.

VETERAN JUDGE AND BREEDER OF BRAHMAS, WHITE AND BARRED PLYMOUTH ROCKS AND WHITE WYANDOTTES

A. 1. Highest cash price paid for a single specimen, \$50. For five specimens, \$225. I have been a breeder and seller, not a buyer.

VALUE OF STANDARD BREDS

A. 2. I have never bought eggs for this purpose; have preferred to buy fowls.

A. 3. Highest cash price received for a single specimen, \$100. Have sold thirteen male Brahmas for \$100. each; one hen for \$55.

A. 4. Simply on their merit, as a result of people seeing them in my yards and buying them to exhibit. I sold four Barred Rock pullets for \$30. each, to W. Haven, who showed them, won on them and refused \$100. for the first prize winner. I scored her at 95 points the day I sold her and again when she was three years old, giving her the same high score. I sold two Light Brahma cockerels, one for \$100., the other for \$50. H. S. Ball scored the \$100. bird at 96 points and the \$50. bird at 95½ points.

A. 5. Have sold several trios for \$150. each. I sold the get of one cock bird for an average of \$75. each. This flock brought me \$1,435. Enough birds were stolen from this flock, so that, at the same average, I would have received \$2,235. from the get of that one pen.

A. 6. Highest average price received for any five fowls, \$250. Remember I have never been an exhibitor. It has been my patrons who have got the highest prices. The year I sold the whole flock at the \$75. average per bird, these young birds were entered to win one hundred and one prizes and won eighty-seven out of the one hundred and one.

A. 7. I sold a cock and eight females to one purchaser at \$158. In those days this was a record price. As before stated, my birds were sold on their merits, early in the season, as a rule at living prices to those who wanted them for exhibition purposes.

A. 8. The pens have been sold at \$50. to \$100. for five, as a rule. Sold a pen for \$65. that was never beaten. They were shown in Massachusetts, Maryland and Kentucky. The cock won first prize at one show during four years in succession. It has been my policy not to name prizes my patrons have won and I have never advertised to whom my birds were sold, for to do so would be to rob my customers of the prestige of winning. We have shown but a few times, and as a rule the winning birds were sold. The pen of Brahmas sold by us at \$75. swept the deck at a Massachusetts exhibition on a score of 189½ by Judge Ballou. The cock in that pen was never beaten in his life. His score was 95½ points.

I could not do business if it were not for the breeding of exhibition specimens. The man who goes into poultry culture must kill half he raises, and sell them for poultry and eggs to pay current expenses. His profit must come from the exhibition stock he raises and sells.

If your birds win in your patrons hands you need not be worried about selling all the birds you can produce at good prices. Ten dollars for thirty or forty birds is not the question—the average sale is what tells the story. I have seen a cobbler who raised only thirteen chicks from fifteen eggs go into one of our largest exhibitions and he won three out of five first prizes. Quality is what tells, not quantity.

JOHN HETTICH, Bowling Green, Mo.

SPECIALTY BREEDER OF BLACK LANGSHANS

A. 1. Highest cash price paid for single specimen, \$25. For two, \$30. For three, \$40.

A. 2. Highest price paid for eggs for hatching, \$15. for twelve eggs.

A. 3. Highest price received for single specimen, \$35. for a cock bird, \$30. for a cockerel.

A. 4. This bird had won first as cockerel, score 95½ by Hewes at the Illinois State Show, 1901. Cockerel sold for \$30; was unscored, sold him on description. Afterwards he won

first prize and received a score of 94½ points by Ben. S. Myers.

A. 5. For five fowls of exhibition quality, \$35. Were worth \$100. of any man's money. January 2d, 1904, they were scored, cockerel 95½, pullets 96½, 95½; hens 94½, 93½; pen 190½. Poultry with me is a side line. Am in the retail show business and breed Langshans for fancy. I handle them on three city lots, but have a good many raised for me on farms; I furnish the eggs and buy the stock back in the fall.

GARDNER & DUNNING, Auburn, N. Y.

BARRED PLYMOUTH ROCK SPECIALISTS.

A. 1. Highest cash price paid for single specimen, \$200. For two, \$350. For three, \$450.

A. 2. Highest price paid for eggs for hatching, one sitting, \$10.

A. 3. Highest price received for single specimen, \$100. We have sold a number at this price, but to give a list of the prizes won would be to injure our customers. We never claim winnings of birds we sell, unless by customers' express permission. Will say, however, that two of the birds here referred to won first prize at Chicago.

A. 5. Highest average price received for three, \$100.

A. 6. For five, \$100. each.

A. 7. For ten, \$50. each.

A. 8. For twenty five, \$50. each.

J. C. FISHEL & SON, Hope, Ind.

SPECIALTY BREEDERS OF WHITE WYANDOTTES

A. 1. Highest cash price paid for single specimen, \$50. For two, \$100. For three, \$150.

A. 2. Highest price paid for eggs for hatching, one sitting, fifteen eggs, \$10.; a number of times \$25. per hundred.

A. 3. Highest price received for single specimen, \$150.

A. 4. The cockerel was a very fine bird; was bred from a strain of line-bred birds and well advertised. He was good enough to win in fast company.

A. 5. We sold three cock birds for \$300, i. e., \$100 each.

A. 6. Highest price received for five, \$150.

A. 7. For ten, \$20. each.

A. 8. For twenty-five, \$18. each.

W. R. GRAVES, Springfield, Mass.

SPECIALTY BREEDER OF WHITE WYANDOTTES

A. 1. Highest price paid for single specimen, \$35. For two, \$60.

A. 2. Highest price paid for eggs for hatching, one sitting of fifteen eggs, \$10.

A. 3. Highest price received for single specimen, \$200.

A. 4. Won first cock and special for best shaped male at Madison Square Garden, January 1903. Used as a model by Mr. F. L. Sewell, in making illustrations for the American Standard of Perfection.

A. 5. Highest average price received for three, \$133.

A. 6. For five, \$110.

A. 7. For ten, \$82.50.

A. 8. For any twenty-five, \$48.

J. H. DOANE, Gouverneur, N. Y.

BREEDER OF SINGLE COMB BLACK MINORCAS

A. 1. Highest price paid for single specimen, \$35.

A. 2. Highest price paid for eggs for hatching, 13 Minorca eggs at \$3.

SUCCESSFUL POULTRY KEEPING

- A. 3. Highest price received for single specimen, \$75.
- A. 4. Cock was bred in the purple and won first at Madison Square Garden, in 1902. F. B. Zimmer was the judge. A son of this bird won first the next year, but I lost him, with nearly all my other Minorcas, in a fire the following April.
- A. 5. Highest average price received for three, \$50. each.

W. L. DAVIS, Berlin, Conn.

OWNER WILLOW BROOK FARM AND BREEDER OF SINGLE COMB
BUFF, BLACK AND WHITE ORPINGTONS

- A. 1. Highest price paid for single specimen, \$150. For two, \$225. For ten, \$650.
- A. 2. Highest price paid for eggs for hatching, \$20. per dozen; six dozen, \$90.
- A. 3. Highest price received for single specimen, \$300.
- A. 4. I was able to obtain the above named prices simply because they had merit and were the finest specimens that



A SIMPLE WATER FOUNTAIN, BUT ONE THAT IS PRACTICAL AND CONVENIENT

parties could buy. Hardly a week passes that I do not receive \$50. for some individual fowl. I have sold a good many at \$100. each and I have specimens upon my plant that \$500 cash could not buy.

- A. 5. Highest price received for three, \$350., sold on one order.
- A. 7. For ten sold at one time to one party, \$350. I sold a breeding lot of birds a few days ago, including twelve

females and one male in Single Comb Buff variety for \$300. These were simply breeding birds, not intended for show purposes.

I wish to call your attention to the fact that our farm is devoted to fancy or standard-bred poultry exclusively. As our young stock matures, the specimens that show serious defect are consigned to the market, but there are only a few such birds; therefore, what little we do in this line of business can hardly be called utility poultry breeding. We are sparing neither money nor labor to perfect our strains and each year the number of defective specimens grow less.

A. 8. In reply to the latter part of your blank I would state that we have received some very high prices throughout the country. I have sold no doubt over 100 birds in the last two years at \$50. each. This morning's mail brings me an order for one at \$50. to go to Tennessee and also three to go to Mexico for \$100. I was offered \$600. for my first prize Buff cock at New York, 1903, but I could not afford to sell him, as I was just starting and had a reputation to make, and had to have the breeding of this bird to get better stock from. I could hardly afford to keep him, being offered that price, but I considered it better business judgment to keep him, even though we needed the money, than to be minus his breeding.

U. R. FISHEL, Hope, Ind.

SPECIALTY BREEDER OF WHITE PLYMOUTH ROCKS

- A. 3. Highest price received for single specimen, \$800.
- A. 4. This bird won second prize at Indianapolis show, 1906. I would not sell the first prize cock bird at this same show, although I was offered \$1,000. for him by the man who paid \$800. for the second prize bird.
- A. 5. Sold three cock birds to one party for \$1,300.
- A. 6. Sold seven White Plymouth Rocks for \$1,750. This includes the \$800. cock bird.
- A. 7. Highest average price received for ten, \$250. each.
- A. 8. For twenty-five, \$160. each.

A. C. HAWKINS, Lancaster, Mass.

BREEDER OF ROYAL BLUE STRAIN PLYMOUTH ROCKS BARRED, WHITE AND BUFF; ALSO SILVER, WHITE AND BUFF WYANDOTTES

- A. 1. Highest price paid for single specimen, \$100. For two, \$200. For three, \$300.
- A. 2. Highest price paid for eggs for hatching, four sittings at \$10. per sitting.
- A. 3. Highest price received for single specimen, \$300.
- A. 4. This bird was the first prize cockerel at the New York Show. I refused \$500. for him before the breeding season. After breeding him one season I sold him for the price named. (Note:—Mr. Hawkins has omitted to state the variety to which this bird belonged, but we are of the opinion it was a Barred Plymouth Rock.—Ed.)
- A. 5. Highest average price received for three, \$200. each.
- A. 6. For five, \$200. each.
- A. 8. For any twenty-five fowls of exhibition quality, \$100. each. These were to different parties. Have sold twenty-five to one party at an average of \$50. each.

J. M. WILLIAMS & CO., North Adams, Mich.

BREEDERS AND EXHIBITORS OF ALL VARIETIES OF SINGLE AND ROSE COMB ORPINGTONS

- A. 1. Highest price paid for single specimen, \$100. For two, \$125. We bought one lot of fifteen birds for which we paid \$500.

VALUE OF STANDARD BREDS

A. 2. Highest price paid for eggs for hatching, \$10. per thirteen.

A. 3. Highest price received for single specimen, \$100.

A. 4. Our customer came here and picked the bird out to strengthen his flock. Their birds were off a little in some show points. We refused \$300. for the first cock bird at the World's Fair, St. Louis, Mo.; also another offer of \$100. for this same bird to be used during one week at Madison Square Garden Show.

A. 5. Highest average price received for three, \$86.66., i. e., \$100., \$85., and \$75., respectively, for each of the three specimens. The \$75. bird was sent to Professor Saunders of the Experiment Station, South Dakota.

A. 6. Outside of those mentioned above, we average \$50. each on one-half dozen or more birds each year. These are show birds for other fanciers.

A. 7. We sell at least a dozen \$25. cockerels each year besides those above mentioned.

A. 8. We sold twenty-five birds last season that averaged us \$30. each. We have received as high prices as this on the average during the last three years.

HARMON BRADSHAW, Lebanon, Ind.

SPECIALTY BREEDER OF SINGLE COMB WHITE LEGHORNS

A. 1. Highest price paid for single specimen, \$15. for a pullet.

A. 2. Highest price paid for eggs for hatching, \$5. per thirteen.

A. 3. Highest price received for single specimen, \$15. Have been offered \$50.

A. 4. Because I had won several first prizes in hot competition. Have decided that I have been selling my birds too cheap.

A. 5. \$10. for trio.

A. 6. \$30. per pen.

L. C. PISER, Shushan, N. Y.

SPECIALTY BREEDER OF BUFF WYANDOTTES

A. 1. Highest price paid for single specimen, \$75. For two, \$125. For three, \$150.

A. 2. Highest price paid for eggs for hatching, \$50. for one hundred eggs.

A. 3. Highest price received for single specimen, \$75.

A. 4. Owing to their high merit I obtained \$75. for one specimen, because of his show record. Bird won first at Boston and New York.

A. 5. \$200. for three birds.

A. 6. \$275. for five birds.

A. 7. \$40. per bird.

A. 8. Could not give this exactly, but would say \$30.

KNAPP BROS., Fabius, N. Y.

SINGLE COMB WHITE LEGHORN SPECIALISTS

A. 1. Highest price paid for single specimen, \$50. For two, \$75. For three, \$100.

A. 2. Highest price paid for eggs for hatching, \$5. per thirteen.

A. 3. Highest price received for single specimen, \$100.

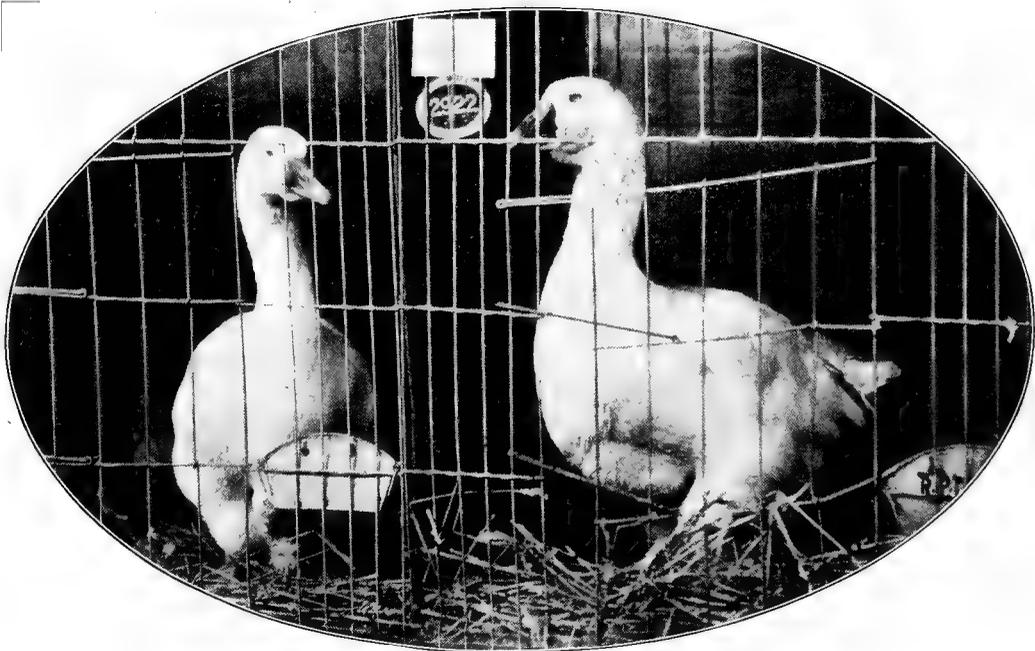
A. 4. Was a winner of the first prize at New York Show. This bird was sold before leaving Madison Square Garden to a fancier who bought him on sight.

A. 5. We have received \$255. for three birds, making an average of \$85. each.

A. 6. We have received \$375. for five birds or an average of \$75. each.

A. 7. We have received \$625. for ten birds, making an average price of \$62.50 each.

A. 8. We have received \$1,260. for twenty-five birds, making an average price of \$50.40.



CHAPTER THREE

STARTING IN THE BUSINESS

REPRESENTATIVE FOREMOST AMERICAN BREEDERS

UNITE IN A SYMPOSIUM OF THE SECRET OF SUCCESS—HOW TO START RIGHT—
PRACTICAL ADVICE FOR FANCIER, FARMER AND MARKET POULTRYMAN



WISHING to present to our readers the latest, best and most authoritative information on starting in the poultry business we decided that the best way would be to ask leading successful experienced poultrymen, how they would start if they were to begin again and possessed their present knowledge of the business. With this idea in mind we prepared a set of fourteen questions on this subject and mailed them, with request for a prompt reply, to a number of old friends and patrons of the *Reliable Poultry Journal*.

These poultrymen and women have learned the secrets of success and are experienced breeders and fanciers of note. They are in a position to tell the beginner how to start right and avoid the pitfalls of inexperience. Their advice should prove of great value to the novice whether he intends to become a breeder of fancy poultry, a market poultryman, or, as many have wisely chosen, expects to devote himself to a happy combination of both interests, fancy and utility. The farmer and the farmer's flock is not overlooked, for him also good sound common sense advice is given.

On first reading, some of these answers may appear to conflict, but closer study will show that these fifty-nine successful breeders are practically of one opinion as to the essentials. Where one apparently disagrees with the majority his answer will usually contain a qualifying clause which modifies it according to the case in points or there is given good reason for his particular dissension from the verdict of the majority.

The only way to get full benefit of these questions and answers is to study them all carefully, apply them to your own particular case and circumstances according to your own best judgment, and then be guided by the advice of the majority who have given answers that fit your own situation. No beginner can go far wrong who will study this symposium carefully and then properly apply its teachings.

The majority of these breeders agree that it is best to start with breeding stock where means will permit, and they give the reasons why; yet nearly all agree that eggs for hatching will give a good low cost start to one who does not possess sufficient means to start with stock. There is an element of chance in eggs for hatching that cannot be overlooked,—it is really a gamble or lottery. You buy the breeders chances in that particular lot of eggs, say a sitting of 15 eggs for \$2., \$3. or \$5. You may hatch and raise half a dozen birds worth a dollar each, you may get three worth from \$5. to \$100. each and you may lose the whole lot and get nothing. It is for you to decide whether or not you wish to take chances in this egg lottery; the breeders have given their views and you must decide. Even though the element of chance enters largely into this egg problem, experience has shown that fortune more often than not favors the egg buyer. There are chances also to be taken in the purchase of stock: The change may affect the birds, they must become acclimated and losses may result.

Every reliable breeder you patronize, whether you buy

eggs or stock, will do his best to help you to start right, and if losses result, from no fault of your own, will do his best to meet you half way and help you to overcome your disappointment and loss.

Mongrels are spoken of in no uncertain terms in this symposium. The day of the mongrel on successful poultry plants has gone forever; it no longer pays to keep scrubs. Pure-breds cost no more to raise and keep and they bring in much better returns in eggs and meat, besides being salable at good prices as breeding stock. The farmer who is abreast of the times has no use for mongrel stock, his horses, cattle, sheep and hogs must all be pure-breds, the best he can get, for the same reasons he should keep pure-bred poultry, not alone because they are more beautiful and make the farm more attractive, but because they grow thrive, produce and pay better.

HOW TO STUDY THE SYMPOSIUM

This symposium may be well termed "the voice of experience." Men of mark in the poultry world have contributed their advice and judgment freely. The reader should first study the questions and then compare them with the answers which are numbered to correspond. Each question has been given a number and under each of the fifty-nine separate divisions of this chapter, devoted to the replies of a prominent breeder, the answers will be found bearing the same number as the question asked. We believe that this is the simplest and best way to handle the subject satisfactorily. The reader is earnestly urged to carefully read and study each question and answer by itself and then compare the opinions of the different breeders. Herewith is the list of questions:

THE FOURTEEN QUESTIONS

Suppose you possessed your *present knowledge* of the poultry business and were about to begin again,

- Q. 9. Would you buy eggs or fowls with which to start?
- Q. 10. What would be your reason?
- Q. 11. What course would you advise for the farmer who wishes to improve his flock of mongrels by the addition of pure-bred blood with the object of raising better poultry for market?
- Q. 12. What course for the farmer who wishes to raise and sell fancy poultry as well as poultry for market?
- Q. 13. What course for the beginner with ample funds who wishes to keep a limited number of fine fowls and breed exhibition specimens?
- Q. 14. What course for the beginner without much money to invest who wishes to go into the fancy poultry business?
- Q. 15. What course for the beginner with ample funds who wishes to establish a large business in fancy and market poultry?
- Q. 16. What course for the beginner with moderate means who wishes to establish a large business in fancy and

market poultry?

Q. 17. With your present knowledge and experience, if about to begin again, which breed or variety would you select if you were going into fancy poultry?

Q. 18. What would be your reasons for this choice?

Q. 19. Which variety would you select if you were going to embark in market poultry raising?

Q. 20. Your reason for this selection?

Q. 21. If you wished to combine both fancy and market poultry raising, what breed or varieties would you select?

Q. 22. Your reasons for this choice?

OLD, TRIED BREEDS PROVE SAFEST

KEEP IN VIEW THE PRACTICAL WHILE
BUILDING UP A TRADE IN PUREBREDS—
CROSSES RECOMMENDED FOR STRICTLY
MARKET PURPOSES—THE REASON WHY

I. K. FELCH, Natick, Mass.

VETERAN JUDGE AND BREEDER OF LIGHT BRAHMAS, WHITE
WYANDOTTES, BARRED AND WHITE PLYMOUTH ROCKS

A. 9. I would never buy any eggs if I could obtain first class fowls at a reasonable price.

A. 10. First; chicks from eggs shipped any distance will never be as fine as those from the same hen's eggs set at home. Again, there is the liability of accident and of trouble with sitting hens, so that the investment may be a total loss if eggs are bought.

Second; when eggs are laid and set at home we do not mind the accident of a poor hatch; we have eggs enough coming to repair the loss.

Third; what does it amount to in the end; if you pay \$100. for a pen of five fowls and raise from them one hundred chickens, it makes the flock cost but one dollar each for blood and you have the pen left. The fact that the flock was from such a pen would enable you to sell them for a dollar more each, than you could a flock raised from eggs bought.

A. 11. I cannot conscientiously advise a farmer to do such a thing. He had far better buy average specimens of Brahma hens with a White Leghorn cockerel and raise half-breeds for poultry and eggs than to cross up mongrels with pure-bred males. Such a cross will be the most profitable where eggs and poultry for market purposes are desired. The days of mongrels have long since passed. If he chooses to use these half-breeds let him mate a White Wyandotte male with the females, and the third year breed back the pullets of this mating to White Wyandotte cocks. Buy for the third year good White Wyandotte males and so secure from this mating a flock of fowls that are practically pure-bred White Wyandottes.

A. 12. I should choose from among the American breeds the variety I liked best. My choice would be White Plymouth Rocks from this class and Light Brahmas from the Asiatics. These two breeds will lay the most satisfactory eggs for a family trade. Raise White Plymouth Rocks for early roasters and first class eggs. Brahmas are the best winter layers of all the breeds. Brahmas are good birds to "carry over" and in March the male birds not sold for breeding purposes can be readily sold as heavy roasters. There is no breed that pays to feed the males through winter like the Brahmas, for they are soft roasters, if kept in celibacy, from the time they are five months old until spring. We often get \$3. each for these males as heavy roasters in March. The White Plymouth Rock males killed before they are five months old will pay for raising themselves and the

pullets up to a laying age, practically giving us the pullets free of cost.

A. 13. The day is past when one can count on selling every chicken raised for breeding or exhibition if one is to retain his reputation as a first class breeder. He must calculate on raising at least 40 to 50 per cent of each one hundred chicks to be disposed of as market poultry. For such he should choose a breed that can be raised to perfection by the single mating system so that he will have the smallest percentage of culls. One breed is all that he should try to handle on a backyard lot or small farm. There is no doubt that all do the best with a variety they like best, but the breed the vast majority buy is the safest for the novice to start with, for thousands of breeders are telling in their advertisements of its merits. If one chooses an isolated breed he has to do an immense amount of advertising before he will make his variety popular, even if it has merit. The old tried breeds will prove the safest for him, Brahmas, White Wyandottes or White Leghorns as his taste dictates.

A. 14. Such persons must keep in view the practical while building up a trade for the pure-breeds. The beginner should choose a breed that he has made up his mind to tie to all his life, for no man yet has ever increased his trade beyond the reflex influence last seasons' advertising has on the current year business. He had best buy a trio of good birds and spend his first season in breeding his stock rather than trying to buy a full complement. He will learn the requirements of the business in his first years' labor. He will find that the male birds will sell for market poultry for enough to raise his pullets, so that the pullets will cost only the time it takes to care for them. The first year will be the hard year for such a beginner, but the second year the flock will begin to care for him. Take but one breed the first year. Put an ad. in a poultry paper no larger than you can afford to carry as a yearly advertisement.

A. 15. Such a beginner has no excuse if he does not succeed, provided he secures the right kind of help and puts sufficient money into the business to make it pay. As we have said above, on a large plant at least 40 to 50 per cent of the product must be disposed of in the markets as poultry and eggs. He should choose three or four breeds so assorted as to insure the very largest uniform daily production of eggs the year round. My advice would be Light Brahmas, White Plymouth Rocks and White Leghorns, or Light Brahmas, Buff Plymouth Rocks and Buff Leghorns. If I lived near New York market I would choose Buff Orpingtons, Light Brahmas and White Minorcas. I would not keep more than these three varieties and would push them for all they were worth.

A. 16. It matters not whether a man has little or much means, he is bound by the same rules and breeds. This breeder of moderate means must begin small and grow up from year to year until he becomes a breeder with ample means.

A. 17. My breeds today: Light Brahmas, Barred and White Plymouth Rocks, and White Wyandottes.

A. 18. I live in New England where yellow legs and yellow skin has the call, and as half one raises must go to the butcher's block the above breeds pay the best and all are first class egg producers. In New England the breed that is both the best for poultry and for eggs pays better than the breed where the eggs are the prime consideration.

A. 19. Brahmas, and cross them with White Wyandottes.

A. 20. They would reach broiling age 4 lbs. to the pair in eight weeks. The females lay dark-shelled eggs and this first cross will give about 200 eggs a year per hen. They will make larger roasters at from six to seven months old, besides they would be in grand shape during the whole seasons' growth.

A. 21. Brahmas as the best large breed. White or Buff Plymouth Rocks or White Wyandottes.

A. 22. I think them all prolific layers when bred to an

oblong shape of body and close plumage. Excessive blocky shape is a robber of merit both as to normal growth and egg production.

BEGIN WITH FOWLS

**NOT PULLETS AND COCKERELS BUT HENS
AND COCKS—NO GUESS WORK THEN AS
TO QUALITY OF FOUNDATION STOCK**

THOMAS F. RIGG, Iowa Falls, Iowa

BREEDER OF HOUDANS AND WHITE WYANDOTTES

A. 9. Fowls, not pullets and cokerels, but hens and cocks.

A. 10. By so doing would secure breeding stock of known quality, as they would be fully developed in size, shape and color markings. There would be no guess work about the quality of the foundation stock.

A. 11. Buy a pen of standard-bred fowls. Raise every chick possible from this pen. At the close of the breeding season market the mongrels. If not this, buy a number of standard-bred males of the American class, one breed or variety. Turn these in with the flock of common stock. Breed to males of the same breed or variety each season. Use incubators and brooders, thus getting out early chicks. These early pullets will produce an abundance of eggs during early fall and winter. The early cockerels can be profitably marketed when price for young stock is comparatively high.

A. 12. Put up comfortable but not expensive buildings. Resolve to handle but one breed or variety, White Plymouth Rock or Orpington, and stand pat on that resolution. Operate incubators and brooders. Early hatched birds will be demanded by breeders and exhibitors for the early shows and for the winter shows, and such exhibition stock brings the very highest price. The early hatched pullets reserved will supply an abundance of eggs which will command the highest market price. Advertise the breeding stock in the poultry press every month in the year and every year. Exhibit stock annually.

A. 13. Make the start with one or two pens of fowls, not cockerels and pullets. Secure the very best stock obtainable regardless of price. Make the matings each year carefully and for quality, not quantity. Cull early each season. This is very important. Keep only the specimens of extra choice quality; get all others off the place as soon as possible. Exhibit in a number of the leading shows each season. Advertise liberally in the poultry press.

A. 14. Same as the answer to No. 13 except that he must cut his cloth to the garment; must proceed more slowly, denying himself somewhat of the conveniences which the man of ample means can and should have, but which are not absolutely necessary to success—but he must not cut the quality of the foundation stock. Better start with a pen or trio of extra choice stock than with several pens of fair to good stock. Here is where most beginners fall down.

A. 15. Same as the answer to No. 13 in regard to laying the foundation of the business. Should locate near a city and own the land, several acres, enough land that grain in particular at least may be raised. Select one variety of Wyandottes, Plymouth Rocks, Orpingtons or S. C. White Leghorns. Use incubators and brooders. Establish a personal trade for market poultry and eggs. Deliver to customers daily in neat packages, each package bearing name of producer and his guaranty of quality. Charge a little more than the market price and make the goods worth it. This alone will greatly aid in the selling of the produce. Advertise and exhibit the stock.

A. 16. Same as the answer to No. 15, bringing the business to the full capacity of the farm and the owner's resources more slowly.

A. 17. White Plymouth Rocks and S. C. White Leghorns.

A. 18. They represent the best in market poultry and egg production. They possess all the points required by the fancier and market poultryman; beauty and utility.

A. 19. White Plymouth Rocks.

A. 20. Consider them the best market fowls. They fully meet the demands of the American market and can be brought to marketable size and condition more quickly than any other breed or variety.

A. 21. White Plymouth Rocks.

A. 22. Answered in No. 18 and 19. Also that they are one of the most popular fowls with the breeders and exhibitors.

BUY PLENTY OF EGGS

**MOST BEGINNERS BUY TOO FEW—YOU WANT
A FAIR NUMBER OF CHICKS TO START WITH**

H. J. BLANCHARD, Groton, N. Y.

SPECIALTY BREEDER OF SINGLE-COMB WHITE LEGHORNS

A. 9. Eggs—from a long established, well known, successful and reliable breeder who has made a specialty of the breed I want.

A. 10. I should buy a goodly number of eggs; most beginners make the mistake of buying too few, so as to have a fair number of chicks to start with. I would raise them carefully, keeping them growing right along without setbacks if possible, giving free range when old enough, watching them carefully in every stage of growth. If they pleased me at maturity I would then select from the lot the most promising birds for breeders. In this way I would be more able to detect any weakness or undesirable qualities inherent in the strain, and would also run a chance of having some as good birds as the old breeder of whom I purchased the eggs. Furthermore, my chickens would not be of so many different ages and sizes as they would be if I had bought a few breeding birds and produced the eggs from which to hatch my chickens.

A. 11. Buy some low-priced but good-sized and vigorous pure-bred males and cross on his mongrels. However, he might better sell his mongrels and buy pure-bred stock for breeders, as it costs no more to maintain them and much finer and more uniform poultry would be the result.

A. 12. Buy a fine breeding pen from a well known, reliable and successful breeder for foundation stock. Or, if he prefers, it would perhaps be as well to fill an incubator with first-class eggs instead of the fine breeding pen, whichever appeals to him most favorably.

A. 13. Buy the very finest breeding pen obtainable from a well known, reliable and successful specialty breeder of exhibition birds, for his foundation stock. Would recommend line-breeding in his case.

A. 14. Buy eggs from exhibition matings of a well known, reliable and successful specialty breeder, hatch and raise his breeding stock.

A. 15. Buy enough good breeding stock to supply eggs for running one or two 240-egg incubators during the hatching season. Also buy enough eggs from fine exhibition matings to fill one or more incubators, from a specialist of reputation and experience.

A. 16. Buy 1,000 or 2,000 eggs for hatching from good general purpose matings, of an experienced, reliable and successful specialty breeder, hatch them in incubators and raise with

brooders. Select a pen of your finest pullets for breeding exhibition stock and buy from the same breeder a fine cock to mate with them. Select the next best pullets for your utility matings and if you have the means to spare buy vigorous cocks from the same breeder, if possible, to mate with them. Or, if your cash is running low, use some of your strongest and best cockerels to mate with the pullets.

A. 17. Single Comb White Leghorns.

A. 18. I consider them the handsomest and most graceful fowl. There is a great and growing demand for them, their popularity arising largely from their known ability as layers and the handsome, large white egg bringing a good premium above regular prices in the best markets. They are hardy, vigorous and do well both confined and on free range. They



AN ARTISTIC LOCATION FOR DUCKS

are a good table fowl when well fattened, the flesh being fine grained, sweet and juicy. They are in great demand for exhibition purposes at good prices, being one of the largest and most popular classes in most shows.

A. 21. Single-Comb White Leghorns only.

A. 22. For reasons already stated in No. 18. Also the surplus cockerels at 12 to 16 ounces each alive make delicious squab broilers and sell at high prices. They are great foragers and particularly adapted to free range.

NEVER GET DISCOURAGED

THE POULTRY BUSINESS WILL PAY A GOOD
PROFIT—MUCH DEPENDS ON DETAIL WORK

KNAPP BROS., Fabius, N. Y.

SINGLE-COMB WHITE LEGHORNS SPECIALISTS

A. 9. We would buy poultry for main dependence from the best breeders of the variety we wished to start with.

A. 10. For the reason that one has a much better opportunity to select and know what his foundation stock is; a few sittings from most reliable breeders would be a safe proposition.

A. 11. Would advise him to purchase male birds from one of the general purpose varieties to breed with his mongrel females, and one or more pure bred females of same variety, and so work into pure bred stock of the variety he likes best. White Wyandottes or White Plymouth Rocks are sure to be right.

A. 12. Would advise purchasing a grand pen of breeding birds of the desired variety as foundation stock, and add to this stock by purchase and stock raised until a good business is developed.

A. 13. First, select the variety that has the most ready sale; secure breeding stock that has been bred right so that a large per cent of the progeny will conform to standard requirements. Study the breed and best methods of breeding. Learn to love the business, let others know in any way you can that you have the best, the most popular variety, and you are sure to succeed. Attend the leading shows, compare results, never get discouraged. Very much depends on the little detail work.

A. 14. Select the S. C. White Leghorns, the greatest egg producing breed; they will pay their way in eggs at the common market price. More money in market eggs than market poultry. This variety helps the profit side, while you are working up the fancy business. Pay a well known reliable breeder a good price, all he asks, for your foundation stock, and you are well started in the right direction. Attend the poultry shows; it will well pay. Study the breeding problem thoroughly.

A. 15. Engage a competent man of experience to take charge of and build up the plant, a man who has had sufficient training, possesses good sound judgment and is a hustler. See that buildings are ready in the fall. Select the best one or two varieties. Secure the best to be had in yearling hens and early cockerels to mate with them in sufficient numbers to well stock your buildings, and your man is sure to make a success from the first start off.

A. 16. First, acquaint yourself with your business thoroughly by attending some Agricultural College having a poultry department with a thoroughly good man at the head of it. Prof. Jas. E. Rice, of Cornell University, Ithaca, N. Y., is just such a man. Take the time to learn the business. Prepare yourself further by spending a few months with some good poultryman on the farm, taking up the details and practical work along the lines you wish to follow. Your buildings should be ready to receive your breeding stock in the fall. Now, select the best of breeding stock and have everything in readiness for early spring.

A. 17. S. C. White Leghorns.

A. 18. Because we believe this variety is the best egg producing variety on earth; it matures early; the large sized, pure white eggs are sure to command highest market price; costs less for feed than the larger varieties; etc. We believe there is the greatest demand for breeding and laying stock and show birds of this variety at good prices. The country is dotted over with money-making poultry plants stocked with Single-Comb White Leghorns exclusively. The great popularity of this breed for the past fifty years is sufficient proof for the beginner that this variety is the one to select without a shadow of a doubt. The old breeders, exhibitors and beginners are the buyers. For proof that the poultry business is not overdone, notice the fact that all poultry products bring higher prices with each succeeding year or substantially so. Twenty years ago we sold surplus stock at six cents per pound; this fall same quality of stock brought 15 and 16 cents per pound live weight at wholesale. We believe that the poultry plant in a large or small way properly managed to combine fancy and the market egg business will pay a much greater profit,—prove a source of greater enjoyment and satisfaction than if run for market poultry. As proof we cite one or two cases in our history along this line and we could cite hundreds of similar examples.

Our order books show that a customer sent us an order for two breeding pens S. C. W. Leghorns, four pullets and a cockerel in each pen. The amount he sent us at that time, sixteen years ago, for these two pens or ten birds, was \$108.00. This party is still breeding S. C. White Leghorns and has bought many hundreds of dollars worth more stock for new blood in

SUCCESSFUL POULTRY KEEPING

breeding and exhibition birds and heavy layers. An order recently received, from this same party without waiting to write and ask a question, was for five of our best breeding cockerels, N. Y. draft \$200. enclosed to pay for them, and in same letter \$100. was enclosed for ten choice pullets. One other case we cite is that of an order just received, Nov. 13th., from one of our old standby customers in Australia, enclosing sight draft on New York of £15. sterling for three pullets, practically \$25. each.

START WITH STANDARD-BREDS

BUY FOWLS RATHER THAN EGGS—DO
NOT CROSS DIFFERENT STRAINS—
MISTAKES YOU MAKE THE FIRST
YEAR HELP YOU TO SUCCEED

A. C. HAWKINS, Lancaster, Mass.

BREEDER OF BARRED, WHITE AND BUFF PLYMOUTH ROCKS;
WHITE AND BUFF WYANDOTTES

A. 9. Fowls.

A. 10. I would buy fowls rather than eggs for the reason that eggs often give unsatisfactory results. Sometimes they prove infertile, often they are injured in transit, and often the incubator or sitting hen does poor work. If you buy fowls the eggs will be in better hatching condition, and if one lot does not give good results others can be incubated.

A. 11. I would advise a farmer to purchase males of pure-bred stock to breed on his common farm fowls, and to buy a pen of utility stock of some pure breed and breed up from them, changing males each season. Select the breeds that lay eggs of the proper color and that make the best fowls for the local markets.

A. 12. Select one of the varieties of Plymouth Rocks or Wyandottes, and purchase a good pen of a reliable breeder. Breed up a flock from them. Cull the flocks closely and breed from the best specimens each season. You will soon have a stock of fancy breeding birds as well as market fowls.

A. 13. Purchase the very best exhibition specimens of a reliable breeder, and have them properly mated by the party who breeds them. Do not cross different strains if the one you have breeds to please you, but if they do not, drop the strain you have and take up a new one.

A. 14. Purchase a trio of breeding birds at \$25. to \$50., the best you can afford. You should raise 75 to 100 chicks from a trio the first season and from such a flock you should select some choice pens for the next seasons' breeding.

A. 15. Purchase 10 breeding pens, 100 females and 100 males of first class breeding stock, costing \$5. to \$10. each. You should stock a large farm from the progeny of these breeding pens the first season, and have a good number of choice breeders and show birds for sale.

A. 16. Purchase a breeding pen of 10 females and one male and raise 500 chicks the first year from them. Select the best for breeding, and the second year you should stock the farm with good birds from these matings. The mistakes you make the first year will help you to succeed.

A. 17. Barred Plymouth Rocks and White Wyandottes.

A. 18. I select these breeds as they are the most popular and sell for the highest prices. They are practical table fowls and those that do not sell for breeding or exhibition will sell at a profit for table use.

A. 19. White Plymouth Rocks.

A. 20. I select the White Plymouth Rocks because they lay a uniform dark-colored egg, are quick growers and have no black pin feathers.

A. 21. Barred Plymouth Rocks, White Plymouth Rocks, White Wyandottes, Columbian Wyandottes.

A. 22. Because they are in good demand for breeding and show purposes, and are all practical utility fowls.

GOOD BUSINESS FOR FARMER

BEGIN RIGHT—BUY THE BEST—KEEP
ONLY STANDARD BREDS — BETTER
RETURNS FOR MONEY INVESTED

C. H. WELLES, Stratford, Conn.

SPECIALTY BREEDER OF BARRED PLYMOUTH ROCKS

A. 9. I would buy both fowls and eggs provided the eggs were from fowls mated as I want them.

A. 10. I should buy the best fowls of whatever breed took my fancy. These would be good for two or three years breeding. Every observing poultryman learns something each year and the practical experience gained by breeding one's own birds leads me to say, buy the fowls first. If you think some other breeder has blood that you want and you can't buy it, then do the next best thing—buy the eggs.

A. 11. I would advise every farmer to dispose of his mongrels and procure the best all purpose fowl suited to his trade. It costs no more to raise and keep them, and they will command a better price and give better satisfaction both to himself and his customers. Any reliable breeder who has spent time and money in breeding his flock to a high standard is in a position to furnish this stock, as there are lots of birds raised that are not quite good enough to show that are well suited for this purpose.

A. 12. This is a good business for every farmer but I would advise beginning in the right way—buy the best. No good farmer wants a poor horse or cow and it is just as essential to have good fowls. They will give better results for the amount of money invested when given the same good attention. The first expense may run high but you will be surprised how soon your next neighbor will get the fever and pay you for it.

A. 13. Again I say, buy the best and if he don't succeed, buy some more. This beginner has probably got an automobile and when they need the most attention he won't be there but the cats will.

A. 14. Start in a small way but buy the best and get your experience as you get interested. Buy the best, life is too short to begin any other way. Get on as near the top as possible and climb up.

A. 15. I am afraid this fellow is going to be hard to teach. He has probably read all the poultry literature on the market and is going to do as he likes, right or wrong. His experience will cost him something but we can't help it.

A. 16. Go slow. The water may run warm when he goes in and he will be liable to get beyond his depth.

A. 17. Barred or White Plymouth Rocks.

A. 18. I have three reasons.

First, they are the most popular birds in America and are found in the yards of more poultrymen than any other one breed or variety.

Second, they are the best general purpose fowl, being excellent layers and fine market birds, maturing early and of good size.

Third, they are par excellence as show birds and there is no class that attracts more attention or meets stronger competition in the show room. The supply of choice specimens has never equalled the demand.

A. 19. Barred or White Plymouth Rocks

STARTING IN THE BUSINESS

A. 20. The same as given in No. 18, only pay more attention to large size and less to fine feathers.

KEEP PEDIGREE RECORDS

VALUE CANNOT BE OVER-ESTIMATED—IT IS THE ONLY SURE WAY TO BREED RIGHT

W. W. BYWATERS, Camden Point, Mo.

SPECIALTY BREEDER OF BARRED PLYMOUTH ROCKS

A. 9. Would buy a couple of trios or pens, the best obtainable and then several hundred eggs.

A. 10. This would be a very good way to start to line breed and it is hardly ever best to depend on one particular mating. In this case I could thoroughly test the breeding merits of the pens and if they bred true I could select males bred from them for next season. If the eggs were from the same breeder and I had carefully kept pedigree record of pens and eggs I could mate no doubt as well as if they were all bred and raised at home. The value of a carefully kept pedigree record cannot be over-estimated as it is the only sure way to breed.

A. 11. Get good males that are strong in the points you wish to establish, and use them two years; the second year breed them back to their own pullets. Males can be bought from some reliable fancier from \$2. to \$5. each or they may come cheaper by buying a few sittings of eggs and raising them at home. Don't let a dollar or two prevent your getting the best for the purpose.

A. 12. Stock up with pure-breds as soon as possible and handle one variety. The cheapest method to make the change would be to buy several hundred eggs. Use the mongrels to hatch and rear the chicks and dispose of the mongrels as soon as the youngsters are old enough to wean.

A. 13. Buy the very best breeders obtainable and trust to the fancier you buy from to mate them for best results.

A. 14. Buy a first class trio and then a limited number of eggs, the best obtainable.

A. 17. Barred Plymouth Rocks.

A. 18. They are more extensively bred than any other variety, thus insuring a better market for your product.

A. 19. Barred Plymouth Rocks.

A. 20. They combine about all the qualities desirable for this purpose and the surplus males can be sold to better advantage for breeding purposes.

A. 21. Barred Rocks.

A. 22. Because I have tested them thoroughly and know them to be desirable for both fancy and market.

A. 11. Light Brahmas make the best poultry. Rhode Island Reds for an all purpose fowl fill the bill. Large R. I. Red males crossed on such hens would give good results, and better still if the males are from a great laying strain.

A. 12. First, decide on the breed and decide wisely, as the demand for some breeds of fowls is very limited. The all around fowl has the greater demand. I have tried most all breeds and find the breeds of the American class the most profitable.

A. 13. Buy eight or ten yearling hens and a cockerel, the best to be had, of some reliable breeder whose stock is vigorous and has stood the test in the strongest shows. Most everything depends on the breeding stock, so the old saying that the best is none too good certainly holds true in this case. I get the best results when using a cockerel on hens; the chicks come stronger; the reason is plain, the hens not laying much during the winter, not being forced, come along naturally. I never allow my breeders to be forced during the winter, only to come along naturally. The chicks from such stock are much the stronger.

A. 14. He should go slow and grow up in the business. He must advertise or no one will know where he lives. Don't buy a trio and expect results, as two females with one male may prove a failure. Have six birds at least with a young male, or perhaps four females with a cock might do, but with a cockerel four would be too few. The best way for such a beginner would be to find work for himself on some successful poultry plant or plants. He would gain immeasurably and surely save a lot of time and money.

A. 16. If he cannot get a place on a successful plant and has a certain amount of common sense, let him tackle it without. Don't jump into it all at once, as it takes some capital after everything is bought to carry on the business. If one uses little theory and much common sense he will be more apt to succeed.

A. 17. Rhode Island Reds.

A. 18. They have proved to me to be the most profitable as an all around fowl for both meat and eggs. They mature early and are the best of winter layers. Cocks weigh about 9 lbs. and hens 7 lbs. You can hatch a month later than you can with any of the other so-called general purpose fowl, and get them to laying at the same time in the fall.

A. 19. If I were to hatch during the fall I would use Light Brahmas; during the late winter and early spring, Rhode Island Reds.

A. 20. The Brahma is so slow to mature that you can hold them longer than any other breed, as they remain soft. The longer into the spring you can hold a fall chicken the more you get per pound for it as a roaster.

A. 21. Rhode Island Reds.

A. 22. I honestly believe that one breed is all any man can properly attend to on the same plant. Rhode Island Reds have given me the best results as layers and for fancy purposes.

ALL DEPENDS ON BREEDING STOCK

THE BEST ARE NONE TOO GOOD—GO SLOW AND GROW UP IN THE BUSINESS—LITTLE THEORY AND MUCH COMMON SENSE NECESSARY

W. S. HARRIS, Mansfield, Mass.

BREEDER OF RHODE ISLAND REDS EXCLUSIVELY

A. 9. I should buy the fowls if I wanted to breed many, but eggs if few.

A. 10. If one is to breed a large number, it would be cheaper to buy enough breeding stock to give a sufficient number of eggs, and he would know better what to expect from the eggs.

CHEAP START WITH EGGS

PURE BRED FLOCK IN SHORT TIME AT SMALL COST

GARDNER & DUNNING, Auburn, N. Y.

BARRED PLYMOUTH ROCK SPECIALISTS

A. 9. Both.

A. 10. If one buys of a reliable breeder he can get started for less money by buying eggs. It would doubtless be necessary to buy a few birds to enable one to properly mate up the pens for the first seasons' breeding.

A. 11. Buy pure-bred male or males, or better still buy

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50 or 100 eggs from pure-breds; mate the best cockerel raised with a pen of the best females and raise all his chicks from this pen. In this way he can have a pure-bred flock in two years at small cost.

A. 12. Buy 100 or more eggs from a reliable breeder. If not enough suitable males are raised to mate with the females, buy from some breeder.

A. 13. Buy best pair or trio of fowls obtainable and use them for foundation stock. Would prefer to start with one pair and that pair the best money would buy.

A. 14. Buy eggs.

A. 15 and 16. Buy both stock and eggs.

A. 17. Barred Plymouth Rocks.

A. 18. Better demand at better prices than for any other variety, so far as I know.

A. 19. Barred Plymouth Rocks.

A. 20. Best utility fowl we have. Good layers, quick grown, hardy and marketable at any age.

A. 21. Barred Plymouth Rocks.

A. 22. Choice exhibition specimens sell readily at \$50. to \$100. each. As market fowls they have no superior.

to enter the poultry business is to start slow, learn the business and add to the plant as you know the details. Don't build a thousand dollar poultry house and buy ten dollars' worth of chickens, expecting the business to pay. It takes the chickens to make the business profitable.

A. 16. A man with moderate means will generally start right for he cannot start except on a small scale. Buy a few good birds, do not spend too much money for fine buildings, and you will be all right.

A. 17. I would by all means breed White Plymouth Rocks.

A. 18. They command the best of prices both for fancy and market poultry. They are easy to breed by breeding true to color; are the very best of egg producers; the best table fowl we have, in fact, the White Plymouth Rocks are the most beautiful and profitable fowl bred today.

A. 19. White Plymouth Rocks.

A. 20. They are by all odds the best money makers there are; splendid layers, fine table fowls, in fact, they combine every good quality and have no poor ones.

A. 21. White Plymouth Rocks.

A. 22. As mentioned above, they sell for more money and breed truer than any other variety.

FARMER, SELL YOUR MONGRELS

PURE-BREDS MAKE DOLLARS WHERE
SCRUBS MAKE CENTS—GET THE BEST
PURE STOCK YOU CAN BUY AND
MAKE MONEY FROM THE START

U. R. FISHEL, Hope, Indiana

SPECIALTY BREEDER OF WHITE PLYMOUTH ROCKS

A. 9. I would buy fowls by all means.

A. 10. In buying fowls you save one year's time, also in buying fowls they pay their way right from the start. A few dollars more than that required for the purchase of eggs will buy a good mating of breeders. If you buy your foundation stock of a good reliable breeder there is no reason why your investment should not prove a profitable one.

A. 11. If I was a farmer and wanted to make more money out of my poultry I would sell every mongrel I had and buy a small flock of one variety of pure-bred fowls. With this flock as the foundation I would in a few seasons have a flock of fowls that would be making dollars where the mongrels make me cents.

A. 12. The only wise course for the farmer to take in rearing poultry for fancy and market is to stock his farm with one breed of fowls that are in great demand, and select a variety that will breed true to color. Reserve the best for the fancy trade and sell the ordinary ones to the markets, realizing from one to three cents more per pound for them.

A. 13. The way for the beginner to follow who wants to breed only a few fowls and those good ones should be to buy a small pen of the very best quality that he can afford to buy. Secure the birds of a breeder that you know breeds his winners. You then know that you are getting stock that will produce your winners. Always tie to a specialty breeder. You can then bank on it that you are getting pure blood and stock that will give you excellent results.

A. 14. To the man that has but little capital I would say buy a small pen or trio of as good quality birds as your means will permit. Breed them and sell their progeny until you have enough money to get better birds. If you take the proper variety and buy of the right party you will make money from the start.

A. 15. The proper way for one who has plenty of capital

QUALITY BEFORE QUANTITY

BETTER TWENTY-FIVE GOOD BIRDS THAN ONE
HUNDRED INFERIOR ONES—SELECT A POPU-
LAR STANDARD VARIETY THAT SUITS YOU

WILBER BROS., Petros, Tenn.

SPECIALTY BREEDERS OF SINGLE COMB WHITE LEGHORNS

A. 9. Would buy stock, considering well quality and not price.

A. 10. On buying stock well mated for extra results, paying a reasonable price and considering quality before quantity (from an honest breeder who deals with his patrons as he would desire to be dealt with), one is started for the front, having gained a foundation that will keep him right with the breeding and long experience behind him. However, if the beginner is not financially able to purchase a foundation flock of good birds, would advise him to well consider the above and order eggs of the best possible stock.

A. 11. Would advise the farmer to cull down very close, considering his best laying and table quality specimens, selling off his scrubbiest birds and be sure he has selected his best; rather 25 of his best birds than 100 little, big, all colors and shapes. Afterwards buy from some good reliable breeder of his choice of variety, purpose considered, a good cockerel, strong and vigorous, to be mated with hens, a good yearling cock to be mated with pullets, not mating more than 10 or 12 females to a male.

A. 12. The farmer wishing to raise fancy stock as well as poultry for market should consider well his market and the color of the birds, color of skin, color of eggs, etc., his market requirements, such as will meet with ready sale at top prices. Select the most popular standard breed, suitable to fill these requirements, make his foundation stock of extra quality, selecting and separating his better specimens for fancy and selling the lower quality birds to the market.

A. 13. The beginner with ample funds wishing to keep a limited number of fine fowls will not find everything in this line smooth sailing. Before engaging and entering into the business he should study well the leading poultry journals, adding to his library a copy of the American Standard of Perfection,

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visit some good shows, then select the variety that best suits his taste and that he has a love and fancy for, not overlooking one of the popular varieties. Make a very close study of the subject, have your houses and yards properly built, buy for foundation stock a good trio or pen mated to produce high class exhibition birds. Get them of some reliable and noted breeder who has won for years in the better class of shows and you will have the correct start, after which your future success depends upon your own efforts.

A. 14. Make a close study of the chosen variety. Go to some good shows if possible. Get in communication with some good breeder, telling him your circumstances and wishes, and order a sitting or two of eggs from the breeder's best matings. Do not buy cheap sittings.

A. 15. We would well consider location, market, houses of modern types, but convenient and comfortable to fowls. Having attended some good shows and studying the Standard and poultry journals he would be ready for the foundation stock. Would consider well the quality and the variety best suited, choosing one of the popular ones. Reserve the best birds for

SELECT BREED TO SUIT LOCALITY

LEARN MARKET REQUIREMENTS AND
BE GOVERNED BY THEM—CATER
TO THE DEMAND OF THE PUBLIC

W. L. DAVIS, Berlin, Conn.

BREEDER OF SINGLE-COMB BUFF, BLACK AND WHITE ORPINGTONS

A. 9. I certainly should advise buying grown stock with which to make a start.

A. 10. The reason for buying full grown stock would be simply because I know what I want and with that in view I should proceed to secure just the kind of specimens that I wanted to carry out my ideas on breeding. There never can be any doubt when you buy stock, as the material is there for you to see and judge. In buying eggs there is always a doubt whether you get that which you pay for or not. If I could buy from a reliable dealer eggs from his best yards I would consider this a



PEKIN DUCKS AT HOME

A flock of Pekin Ducks at the Echo Poultry Farm, Great Valley, N. Y.

breeding and fancy trade, selling the lower quality on the market.

A. 16. Start as per our answer in previous question, building from the ground up, not being too hasty, but keeping in view his future, and the amount of money he has to invest. Do not overlook the quality of the foundation stock.

A. 17. Single-Comb White Leghorns, the best to be had considering size, standard qualities and egg production.

A. 18. Because they are unexcelled as layers and are found on the world's greatest poultry plants where eggs are wanted in abundance the year round, the eggs of good size, high flavor, with a white shell, that are in demand at a good price. There has never been and never will be enough of these birds reared to fill the great demand for first quality breeding and exhibition stock. They are beautiful, profitable and the greatest of all layers.

A. 21. Single-Comb White Leghorns.

A. 22. Because they are unexcelled layers, non-sitters, make very plump, small roasters and broilers, their skin being creamy or yellow and the meat very sweet, fine and juicy.

fair way to start into breeding the very best. If I could not be sure of this I would buy stock by all means.

A. 11. I should advise the farmer in addition to buying new blood to buy eggs for hatching from a good reliable breeder. If I liked the offspring and they did well with me I should go still further and buy some stock from this same breeder.

A. 12. Go to some good breeder and buy the best grade of birds that he thought he could sell. Pay the breeder a fair price and let this be the start. If the farmer lives in a locality where there is a call for high class poultry with good prices for same, I should advise paying a good price for a pen of birds to start with. If the farmer was a novice at raising poultry a cheaper pen would be better to start in with, and he could correct his mistakes as he went along, at the same time getting educated in the breeding business.

A. 13. Buy the very best that he can procure. Pay the breeder for the best and be sure that attention and time are given to them in securing same.

A. 14. Would advise him to buy several sittings of good eggs from a reliable breeder. You understand all through my

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remarks I am laying great stress upon buying stock of reliable breeders. We have lots of them in this country that I would just as soon send to for eggs and know that I would get what I ordered as I would to go and see them laid at the plant. There are, however, some unreliable breeders that cannot be dealt with in this way. Also, advertisements are misleading, and a look at their stock would convince an experienced breeder at once that they were not all that they should be

A. 15. Hire a thoroughly competent man to attend to the business for the first year or so at any rate, paying him from \$60. to \$100. a month. Go with him to some good breeder and buy extra good stock, also make arrangements with that same breeder to secure a sufficient number of eggs for hatching.

A. 16. I would advise him to buy eggs of the variety he liked best. Begin small and grow up with the business, learning as he goes along.

A. 17. Orpingtons.

A. 18. They are bound to be one of the most popular varieties in America, and they have the good qualities back of them to make them so. You cannot keep a good man down nor can you keep this good variety of poultry down. They have real merit and anything in this country that has real merit back of it has got to be a success in time. They are among the best layers, as the Australian egg laying contest proves. They command the highest prices in the fancy trade of any breed that I know. They are handsome, attractive birds; they will forage for their feed better than any other variety I know of; easy keepers, making finest of mothers, and can be broken of sitting easily. They have white skin that is fast becoming popular in our great public markets. To lovers of the very best things to eat they appeal the strongest.

A. 19. If I was to embark in market poultry raising I would take the variety that was best adapted for the locality into which I was going. If it was around New York I should take Orpingtons by all means, as they are in such demand. Boston is a great town for yellow skin and I should select some varieties like the Wyandottes or White Rocks for that locality, although I believe if Orpingtons were selected it would not be long before the market would find out their good qualities, and the up-to-date poultryman could get a better price than his neighbor who is breeding yellow skinned birds.

A. 20. My reasons for these selections are purely business ones to make the most money where I can, by catering to the demand of the public.

A. 21. I can only answer this question by stating that I am in both lines, and I breed nothing but Orpingtons.

A. 22. My reason for this choice is that I have been very successful in the poultry business, and this is the reason of my holding to the Orpingtons exclusively. I formerly raised Games, Leghorns, Light Brahmas and Barred Plymouth Rocks. For the past five years my Orpington business has increased each year, therefore my choice of this breed is perfectly satisfactory to me.

MORE ECONOMY TO BUY FOWLS

COST OF ONE THOUSAND EGGS WILL
PAY FOR STOCK THAT WILL PRO-
DUCE THREE TIMES AS MANY

W. R. CURTISS & CO., Ransomville, N. Y.

SPECIALTY BREEDERS OF WHITE WYANDOTTES; SINGLE COMB
LEGHORNS AND PEKIN DUCKS

A. 9. Would buy fowls.

A. 10. It is more economical. The same money you would invest in one thousand eggs will buy a pen that would

produce at least three times as many eggs of the same quality, and your eggs are fresh and will hatch better than eggs shipped from a distance. Eggs are a lottery; you do not know what you have till the season is over.

A. 11. We do not believe in cross breeds. Get a pen of pure blood stock and get the mongrels off the place as soon as possible. It might pay to introduce males in a flock of mongrels, but a pen of good birds would not cost any more than pure-bred males for a big flock.

A. 12. Buy a good pen of breeding stock; it is the best way to start.

A. 13. We do not advise buying birds in a show room. Go to some good reliable breeder and pay him to mate a few pens that will produce just what you want. We believe a better start can be had this way than in any other; as in our way, it is up to the breeder to make good. He is responsible for what the stock breeds.

A. 14. Go on a practical poultry plant, learn the business and get a position as manager. Would not advise starting in the poultry business without capital, unless it is to start small and work into it in connection with another business.

A. 15. Secure a good reliable manager and be governed by his experience in building up the business. Experience is a great help and there is no chance of success without it.

A. 16. Learn the business and be governed by circumstances. No two men can make a success in just the same way. A man must be adapted to the business to succeed.

A. 17. Should breed White Wyandottes.

A. 18. They are the most popular variety and easiest to breed right, as to standard requirements, less culls and more specimens that can be sold at a good figure to show or breed.

A. 19. Pekin Ducks, White Wyandottes for roasters, S. C. White Leghorns for eggs and broilers.

A. 20. Pekin Ducks are the most hardy and best sellers, with not so much risk of losses by disease and death. White Wyandottes are hardy, mature quickly, fatten easily, and look well dressed. Good White Leghorns lay white eggs of good size, lay well and make $\frac{3}{4}$ to $1\frac{1}{4}$ lbs. weight, well feathered, more quickly than any other breed.

A. 21. White Wyandottes, S. C. White Leghorns, Mammoth Pekin Ducks.

A. 22. Pekins best for green ducks; Wyandottes best for crate-fattened roasters; Leghorns best for eggs, for market and squab broilers.

BUY THE BEST BIRDS YOU CAN

DON'T LET PRICE STAND IN THE
WAY—GOOD BIRDS WELL MATED
SAVE TIME, AND TIME IS MONEY

J. C. FISHEL & SON, Hope, Indiana.

SPECIALTY BREEDERS OF WHITE WYANDOTTES

A. 9. I would buy fowls, not eggs.

A. 10. I believe I could get started in a much more satisfactory way and would get in the business much sooner. I do not fancy starting with eggs. I want to see the birds that lay the eggs and want to know how they are mated.

A. 11. By introducing some good, thrifty, pure-bred male birds a flock of mongrels can be wonderfully improved.

A. 12. Buy a good pen, say 8 or 9 females and one male, properly mated. A pen poorly mated will disgust a beginner the first year. Watch that point. It is in the mating. Of course you must have good blood back of the breeders.

A. 13. Buy eggs of some responsible breeder who has

STARTING IN THE BUSINESS

won the prizes at the leading shows year after year, not from a breeder that has won say five or ten years ago and is still advertising the old winnings.

A. 14. Buy the best birds you can buy; don't let price be in the way. Remember your time is worth as much as your money and in mating means one year's work gone.

A. 15. Buy stock birds and good ones, also eggs.

A. 16. Buy eggs from some responsible breeder.

A. 17. White Wyandottes first and last.

A. 18. They are the best general purpose fowl today. They are the best layers in the American class. They feather out nicely, and are always nice, plump birds at any age.

A. 19. White Wyandottes.

A. 20. Being a white bird they always demand the top price as market fowls. They mature as early as any American variety and earlier than some.

A. 21. White Wyandottes.

A. 22. I believe I could always sell the majority for fancy and in that way could realize a much better price. We have never yet been able to supply the demand.

EGGS A GOOD START

MAN WITH SMALL MEANS SHOULD START
BY BUYING EGGS—BIRDS WORTH \$100.00
RAISED FROM \$10.00 WORTH OF EGGS

J. H. JACKSON, Hudson, Mass.

SPECIALTY BREEDER OF WHITE WYANDOTTES

A. 9. If I wanted high class show birds would get a few of the very best from a noted line breed strain.

A. 10. I believe from my experience like begets like. A few good ones bred from fowls of many years good breeding are bound to give or produce several like themselves in a seasons' breeding. In buying eggs you have to run more chances but the expense is not so large, and it is the best way for one that cannot afford to buy high class stock. I have seen birds well worth \$100. raised from \$10. worth of eggs.

A. 11. The best way would be to make a deal with some good breeder for one hundred or more eggs at best price, which is much lower by one hundred lots than sittings. One season with fair results would give him a good flock if the eggs were from a good strain. He would be able to select a pen of large, vigorous and good laying birds to breed from another season for the best results.

A. 12. Would recommend same course as given in answer to No. 11. Buy eggs from a noted strain that has been bred for egg production as well as fancy. Have them selected and mated by an expert. Show some of the best at local shows; it is a chance to compare them with others. When able to breed some good ones begin to advertise in a small way; a steady advertisement is best.

A. 13. Buy some high class birds, not chance birds, but fowls from a breeder of note that is able to breed high class standard specimens. Such a breeder will be able to furnish one with stock or eggs from time to time that will put the beginner in the front as a breeder and exhibitor of fancy fowls. If yards are limited chicks could be put out to raise with some farmers that can be depended upon to give them plenty of good food and free range. He could afford to pay more for this service than a farmer or his wife could get out of raising common farm fowls.

A. 14. Buy a few, one or more sittings, from a reliable breeder of note and select only the very best, if only a pair. A sitting should produce one or more real good birds. I saw a

cockerel recently that could not be bought for less than \$50. that was raised from a sitting of eggs, and he was well worth the price to one that wants the best.

A. 15. Buy a large number of eggs from several noted breeders and compare the results of the quality raised. A large number of chicks raised from each strain would soon prove which is the best and in a fair way. Engage an experienced poultryman to look after all details.

A. 16. Buy as many eggs as your means would allow for raising chicks and other expenses. If satisfied that any one breeder would give him satisfaction or results wanted, place an order with that one. Lack of means does not allow as much experimental work as may be done by one with ample means.

A. 17. White Wyandottes.

A. 18. Because I believe them to be the best all purpose fowls. They make the best for market from a half-pound broiler to a medium-sized roaster, what the market demands at best prices. Always free from dark pin feathers, have rich, yellow skin and legs, deep, broad breast, very close comb; one of the best winter as well as summer layers of large brown eggs; a breed that has been well tried.

A. 19. White Wyandottes.

A. 20. They meet all the best market requirements. Would use a strain that has size as well as laying qualities.

A. 21. White Wyandottes.

A. 22. They are as large as fowls can be and still be active, and good layers must be active to be good layers and stand forcing. Also command best prices in market as broilers or roasters on account of shape of body.

STUDY THE STANDARD

READ LEADING POULTRY JOURNALS—
GET AND BREED QUALITY—SHOW YOUR
BEST—ATTEND THE SHOWS AND GET
ADVICE FROM JUDGES AND BREEDERS

EDWARD E. LING, South Portland, Me.

WHITE WYANDOTTE SPECIALIST

A. 9. A trio, or breeding pen.

A. 10. Would visit a reliable specialist of the breed I preferred. Would select the best trio or pen that I could induce him to sell me. If I could not buy the birds I wanted, would buy eggs from the best pen he would sell me eggs from, bearing in mind first, last and all the time, quality and not price.

A. 11. Buy a standard-bred cockerel of any of the American breeds you prefer and mate to a few of your best females. The second season select the best pullets from this mating and mate back to this cock bird, or preferably buy a cockerel and mate to a few of these pullets. Each season select the best of their offspring of these matings for your breeding pens.

A. 12. First subscribe for one or more leading poultry journals. Obtain a "Standard." Study the section pertaining to the breed and variety you have selected. Visit the yards of a successful specialist of the variety you desire. Obtain a trio of good standard line-bred birds, or, if you prefer, as good eggs as he will sell you. If you have studied your Standard carefully, you will be able to select your best birds for your breeders. Reject such birds as show serious defects, as deformities or weakness. Take your best birds to some of the fairs and poultry shows. Even if you do not win you will know what the judges think of your birds. Try each year to remedy defects and mate more carefully.

A. 13. Subscribe for one or more of the leading poultry journals. Buy a Standard of Perfection. Study both care-

SUCCESSFUL POULTRY KEEPING

fully. Buy a nice breeding pen from some specialist of the breed preferred. Have him mate the birds for you, which is very important. Tell him frankly that you are a beginner and if he is honest he will be glad to help you get results, for if you are pleased you will be more than likely to tell your friends, which in turn helps the specialist. Have a judge or specialist select your exhibition birds and also mate your breeding pens. Send your best birds to the shows, even if you do not win you have a chance to compare your birds with other good birds. If a score card show, you can learn much by studying the defects; try and overcome them in your next year's matings.

A. 14. Invest in one or two good poultry journals, also a Standard of Perfection. Study carefully the breed you prefer. Buy one or more sittings of eggs from a specialist in the breed you desire. Select a fancier that you believe breeds the birds he exhibits.

A. 15. Same as answers to Nos. 13 and 14.

A. 16. Would buy eggs from a specialist in the breed I desired. Would if possible obtain the assistance of some successful fancier in selecting my birds both for exhibition and breeding pens. Have them assist in mating the breeding pens. Obtain a Standard of Perfection and become familiar with the breed that you intended to keep. Cull faithfully and look carefully to the same details.

A. 17. White Wyandottes.

A. 18. First: They have been more successful with me. Second: Because the demand for White Wyandottes is not confined to any one section or state, but extends all over the country, and high class birds find ready buyers.

Third: If the number of birds exhibited at nearly all the leading shows means anything, they are by far the most popular variety today.

Fourth: They combine both fancy and general utility and they have the largest Specialty Club in America behind them.

Fifth: They have built me up a prosperous, fancy poultry business from a single investment of \$5.00 in eggs, my original capital invested.

A. 19. White Wyandottes.

A. 20. They can be marketed at top prices from an eight-ounce squab broiler to a large roaster. I have, today, cockerels a few days under six months old that weigh $8\frac{1}{2}$ lbs. strong, and some that weigh from 7 to $7\frac{1}{2}$ lbs. They will stand heavy feeding without losing use of legs, and with their plump, stocky bodies, are nearly always ready for market.

A. 21. White Wyandottes.

A. 22. Because I believe no breeds or varieties stand so high for a combination of both fancy and market qualities as the American breeds, and I consider White Wyandottes at the head of the class.

BUY BREEDING STOCK EARLY

FALL OR EARLY WINTER BEST TIME TO
START—GIVES TIME TO KNOW FLOCK
AND LEARN SUCCESSFUL MANAGEMENT

N. V. FOGG, Mt. Sterling, Ky.

SINGLE COMB WHITE LEGHORN SPECIALIST

A. 9. I would buy fowls in the fall or early winter.

A. 10. By buying a small flock of good birds in the fall one can feed and care for them during the winter and gain a great deal of practical experience, which is very valuable to anyone in the poultry business.

Feeding and caring for the breeding stock during the breeding season will give some good ideas for feeding and caring

for the young birds. If one is successful in raising the young birds he will have a good sized flock for the next winter and by caring for the small flock the winter before he will know better what the fowls need, and thus will not make the mistakes on the large flock that he made on the small one. By buying stock from a reliable breeder the birds will be mated as they should be and the owner will get better results.

A. 11. First of all, get him to realize the value of good, warm, well-ventilated houses in which to care for his birds. Dispose of the three, four and five-year-old hens and the cock birds, retaining a good flock of his best young hens. Buy a few pure-bred male birds to mate with the hens, also buy a few sittings of eggs of the one variety best suited to his purpose.

A. 12. I would advise him to keep only one breed and give the pullets and hens free range. Be careful that everything is clean about the place. Would keep the cocks and cockerels in a nice grassy yard of good size. If he is going to raise many young birds would advise him to use the very best incubators and brooders, as they are better than the natural method when many young birds are raised.

If he has many fowls to sell or is going to sell eggs for hatching during the breeding season, would advise him to advertise in a small way at first and advertise more as he has birds or eggs to sell. If for market, furnish a choice article, delivering it to your consumer direct for a fancy price.

A. 13. After deciding on the variety which he wishes to breed I would suggest that he purchase a high-scoring pen properly mated from a reliable breeder. He should have a small incubator and a sufficient number of brooders to properly care for the chicks, which should have plenty of room.

He should take one of the best poultry journals and more if he has the time to read them; also read the writings of the best writers of poultry subjects. All his houses should be modern. For feeding the chicks, growing and breeding stock would advise the use of the very best feeds.

A. 14. Would recommend to the beginner with small means, that he fit a house that is warm and has plenty of ventilation, with as little cost as possible, and then buy a few common hens to use to incubate the eggs which he buys during the breeding season. After deciding on the variety he wishes to breed, buy some eggs for hatching from some of the best breeders, get eggs from as good breeding stock as he can afford to buy. If he intends to show at any of the fall shows would advise buying some eggs early in the season so as to have birds ready for these shows.

A. 15. First of all, he should locate as near as possible to a high class market with good shipping facilities and grain markets. He should find if possible a farm with a good location for poultry houses. I would prefer land that is rolling with drainage toward the south; this will let all the poultry houses face the south, as they should be to get the best results. The farm should be high and dry with a good water supply. One starting the business on a large scale should get a farm large enough to raise feed for his birds; all buildings should be modern and as convenient as possible so as to save labor. He should have one to help him who has a thorough knowledge of the business.

A. 16. He should consider market, location, and get as large a farm as he can afford so he may raise products that will help to pay for the farm. His houses should be warm and as convenient as possible. If he can not have a man with him that knows the business would advise him to get the very best books and read them carefully; also not to go into the business too fast, study your business and add more to the plant as you think best.

A. 17. Single Comb White Leghorns.

A. 18. I have bred several different breeds and find the S. C. White Leghorn comes nearer my ideal than any other;

STARTING IN THE BUSINESS

high scoring birds are sold for high prices. There is always a good demand for breeding birds. All pullets that can be raised will bring extra good prices if sold as layers.

The S. C. White Leghorns, are coming to the front fast; they are active, fine layers, very hardy, mature early and always present an attractive appearance.

STUDY YOUR BREED

BUILD UP THE FLOCK—SHOW—ADVERTISE—AS BUSINESS GROWS LET THE ADVERTISEMENTS GROW ALSO

B. S. HUME, French Village, Ill.

WHITE WYANDOTTE SPECIALIST

A. 9. Fowls.

A. 10. Because eggs are so uncertain and when you buy fowls you know just what you are getting.

A. 11. By placing White Wyandotte males with his flock thereby infusing new blood year by year, building up his flock, enabling him to have more and better poultry.

A. 12. Buy a lot of graded utility White Wyandotte females and buy several high grade males to mate with them, and as soon as this is begun he must commence to advertise.

A. 13. Go to some reliable breeder who has plenty of good birds for sale, and pay him the price. He will tell you how to mate for best results. But before doing this make up your mind as to what breed would be most satisfactory, and



A PORTABLE HOUSE USED FOR REARING CHICKENS

study their habits. Let the public know what you have, through the poultry journals. Be honest and upright in your dealings and success will be your reward.

A. 14. Buy a trio of good birds as cheap as you can get them, and study their qualities. Insert a classified advertisement in a poultry paper after one year's experience. As your business grows let your advertising grow also. If you have a poultry show nearby, show your birds. Nothing will teach you the fine points of an exhibition bird as experience in the show room will.

A. 17. White Wyandottes.

A. 18. Because I think they are the best all purpose fowl before the public today. As table fowl they are not excelled by any other variety. For hardiness they stand the test in both hot and cold weather. As prolific layers, they are in a class by themselves.

GET AND KEEP THE BEST

CHOICE SPECIMENS WILL SERVE FOR SHOW, SALE AND BREEDING—CULLS SELL READILY IN THE MARKET—FOWLS PREFERRED TO EGGS FOR START—"GO SLOW."

G. W. BROWN, Camden, Arkansas

BREEDER OF WHITE WYANDOTTES, BARRED ROCKS, INDIAN GAMES, BUFF COCHINS, LIGHT BRAHMAS, LECHORNS, PIT GAMES, WILD AND BRONZE TURKEYS

A. 9. I would buy the fowls by all means.

A. 10. In buying eggs we take many chances of getting poor results, as many things can keep eggs from hatching. I would buy of an honest breeder, who could be trusted and who by his show record had proven the quality of his breed, and have him select and mate up for me each bird in line the very same as he would breed them himself.

A. 11. Simply to improve common stock for the market, my advice to the farmer or poultryman is to get good, large, strong, well bred males each year, improving and bringing the stock up to the desired qualities.

A. 12. To breed fancy poultry as well as market stock, my advice would be to get a pen of some American variety, and buy the very best line-bred blood to be had, urging the breeder to use his best judgment in selecting and mating them the same as for himself. All the choice specimens raised can be sold for fancy breeding or exhibition, while the culls can be readily sold on the market. No matter how fine the quality may be, there will be many unfit for anything but the market. With the best a fine strain can soon be built up, getting the cream of the fancy as well as market business.

A. 13. Buy the very best line-bred blood to be had from a breeder that will select and mate them in line, just as the birds were bred. Don't buy too many birds, no matter how much cash you may have, for first you must go slow, and prepare yourself to handle the stock. Jumping in the poultry business, with plenty of cash and no experience, is the cause of many failures.

A. 14. If I had but little money, the larger part of it would go toward buying the very best line-bred blood to be had and a good cheap, comfortable home for the birds. Then, instead of buying quantity, get quality every time, as a choice trio of birds at \$25. to \$50. is far better than a score of poor birds at the same price.

A. 15. With ample funds, go slow and buy the very best. Employ men of experience and study the work night and day. Go slow and watch and study as you go, and success will crown your efforts.

A. 16. Buy the best if only a very few, and try to build a foundation with the best blood, then study the work, and enlarge the business as the means and experience will justify. No matter how much or how little cash we may have, all depends on our experience and knowledge of the business, just as in all other work. No one could jump into any business without experience and ever hope to make a success. All large industries have been built up slowly and have had men of experience at the helm.

SUCCESSFUL POULTRY KEEPING

A. 17. I have bred over 40 varieties of poultry, and after four years of close attention and study, began to cull out, keeping only what I found to be in the greatest demand, the best all round combination birds. Of all the best, my choice would be the Barred Rocks and White Wyandottes.

A. 18. They are in the greatest demand and combine, nearer than any other varieties, all the good qualities; being the best of table fowls as well as egg producers, and a great farmer's and fancier's fowl.

A. 19. White Wyandottes.

A. 20. They mature quicker and make a large early bird, and are easily dressed for market. They have a very choice quality of flesh as well as the best appearance.

A. 21. Barred Rocks and White Wyandottes.

A. 22. The Barred Rocks as a fancier's fowl, bring the best prices and are in the greatest demand. White Wyandottes are also a great fancier's fowl, as well as the best of market fowls.

DISPOSE OF ALL MONGRELS

BOTH TIME AND MONEY ARE LOST TRYING
TO IMPROVE MONGRELS—GET PURE-BREDS

CHARLES E. VASS, Washington, N. J.

BREEDER OF SINGLE AND ROSE COMB BUFF ORPINGTONS. AND
SINGLE COMB WHITE AND BLACK ORPINGTONS

A. 9. I would buy choice fowls, if only a pair.

A. 10. In buying eggs the different climates oftentimes prove a detriment to a satisfactory hatch, which is very discouraging to both buyer and seller. If stock is purchased one is not buying something he has not seen, and as a rule prominent poultrymen assure the buyer satisfaction.

A. 11. Farmers lose both time and money in trying to improve a flock of mongrels. Better dispose of all mongrels and purchase a pen of pure-breds. Any of the heavy varieties, especially the Orpington, make excellent market fowls. Farmers should remember that clean legged fowls are the most eagerly sought after.

A. 12. Fancy and utility are profitable if one is competent to select the prize birds at the proper age. I would suggest that all birds not intended for breeders, especially males be marketed when six to eight weeks old in order to secure the highest market prices for broilers and to give more room for the growing prize birds.

A. 13. First and most important of all is a proper location; one should be selected with a slight slope to the south and gravel soil if possible. The second consideration should be the buildings; there has been a great deal of stress laid on buildings. One that suits the writer best is a building not over 30 feet in length divided into three pens each, and as many of this kind as necessary. Third, look up a breeder of sound reputation who has a good show record and is a specialist, and purchase your choice of the 70 or 80 varieties.

A. 14. One with limited means should go very slow. Better start with a pair of first class specimens and study your birds from year to year, than to invest too heavily and fail with an utter disgust for the poultry business.

A. 17. Single or Rose Comb Buff, White or Black Orpingtons.

A. 18. The Orpingtons being a new variety, combining qualities for both the fancy and utility side of the business, are eagerly sought after. They are grand layers and a desirable table fowl as well as being among the foremost at our leading exhibitions.

A. 19. Buff Orpingtons.

A. 20. Always ready for market from six weeks on being plump and juicy. -

BEGIN WITH YEARLING HENS

MORE ECONOMICAL—QUALITY KNOWN
FROM FIRST—EGGS FOR HATCHING
AN UNKNOWN QUANTITY—PRACTICAL
ADVICE FOR THE FARMER

ALBERT F. DIKEMAN, South Peabody, Mass.

SPECIALTY BREEDER OF WHITE WYANDOTTES AND
WHITE PLYMOUTH ROCKS

A. 9. Fowls, consisting of yearling hens and a good cockerel.

A. 10. Fowls are more economical,—the quality can be determined as soon as bought. Eggs bought for hatching are an unknown quantity. The best might be paid for, while the quality of them would depend entirely on the integrity of the breeder from whom they were purchased. I would prefer to put my money into a few fine specimens rather than to see how many the same money would buy. In buying eggs I would be obliged to lose a whole season before seeing any results and, even then, might have to start all over again.

A. 11. Select the best hens, on the farm, that nearest conform to the size and color of flesh and leg that his market demands. From these select those most uniform in color. Buy enough good, pure-bred cockerels of any one variety that are nearest in shape and color to the hens. From the progeny mate the cocks (cockerels bought previous season) to the pullets that nearest approach the females of the cock's variety in shape and color. Mate the best cockerels back to the hens. This makes the second seasons' chicks $\frac{3}{4}$ of the blood bought, and gives the quickest and best start possible without first buying all pure blood.

A. 12. Buy as many good birds as his means will permit. Select the breed or variety, within the range of his market requirements, that appeals to him most. The second season mate the best cocks back to their best pullets and the cockerels back to their dams. When in need of new blood go to the breeder from whom the first purchase was made. Don't try to improve your stock by buying males from a different strain, as the usual result is a lot of culls caused by too violent crossing of alien strains.

A. 13. Attend all the representative shows that you can during the season previous to your starting in the business. Select the breed or variety that you like best. Question breeders and judges closely; make notes of their answers. Be governed by the preponderance of this cumulative evidence. Select a breeder in whom you can place confidence and allow him to select the stock and mate it for you. Buy the best he has if he will sell it. Buy a "Standard" before you buy your stock. Make yourself familiar with, at least, that part of it that describes the particular kind that you are to purchase. Stick to the breeder from whom you first bought and if you want to make a change clean out all of his strain and try a new one. It is only by breeding birds in line that the best results are obtained in raising exhibition poultry.

A. 14. Buy a trio of the best your means will permit, then proceed as in answer to question No. 13.

A. 15. Buy the best to be obtained of the breed or variety that, within your market requirements, best suits you, weight, color of feathers, skin and legs, being given due consideration. Mate and breed as in answer to question No. 13. Always select the most vigorous, up to weight specimens, with

STARTING IN THE BUSINESS

due regard for shape and color. Use plenty of printer's ink (advertising) and show every where possible. These two requirements are absolutely essential to success.

A. 16. Hire out for at least a year, and this would be much better with some progressive plant. When you think you have mastered the general principles of mating, breeding and raising, put all the cash you can spare into the best stock obtainable, then proceed as in answer to No. 15.

A. 17. First: White Wyandottes; Second: White Plymouth Rocks; Third: Rhode Island Reds.

A. 18. White Wyandottes are the most popular show birds today. If they should cease to be such they would still be the best "general purpose" fowl, being always plump, lay large brown eggs, and mature quicker than the Rocks. White Plymouth Rocks second, for the reason that they make a larger soft roaster than either of the other two. The Reds are persistent layers but are very prone to go broody besides having black pin feathers when in the broiler stage of growth. White Wyandottes are fit to kill at any time after they are four weeks old, and do not show such long legs and neck, when dressed, as do the Rocks.

A. 19. White Wyandottes.

A. 20. Quick maturity, preponderance of breast meat, prolific layers of good sized brown eggs, tractability when incubating eggs, quiet, gentle mothers. Always command the top price in the market either for eggs or meat.

A. 21. White Wyandottes, Rhode Island Reds.

A. 22. White Wyandottes for fancy and market, Reds for winter eggs. The Reds have a heavier coat of feathers, making them able to withstand extreme cold better than any other American variety. Are made up of three or four different breeds, thus insuring great vitality.

START WITH A SMALL FLOCK

INCREASE AS FAST AS MEANS PERMIT—
EXHIBIT AT LOCAL SHOWS—ADVERTISE

ROWLAND G. BUFFINGTON, Somerset, Mass.

SPECIALTY BREEDER OF WYANDOTTES, BUFF, SILVER PENCILED AND COLUMBIAN; PLYMOUTH ROCKS, BUFF AND PARTRIDGE; BUFF ORPINGTONS; R. I. REDS. WHITE AND PARTRIDGE COCHIN BANTAMS

A. 9. Fowls.

A. 10. We could begin to do business sooner. A small flock of fowls bought early in the season and all eggs hatched until first of July would, if we had fairly good success in raising, give us quite a large flock for business the next season.

A. 11. I would advise the farmer to do just as I would do, purchase a flock of the breed desired and raise all he could the first season. Another course might be advisable,—buy male of pure blood and cross with the mongrel hens.

A. 12. Do as advised in No. 11, only purchase some of the best blooded stock and he will have fancy poultry and improve the market poultry as well.

A. 14. Without much money to invest, the best plan would be to begin with one variety on a small scale in connection with some other business and increase the poultry part as fast as means would permit. Show some birds at local shows; advertise sparingly at first and increase as you have goods to sell.

A. 15. The first course for such a beginner is to learn the business, as it is impossible to get any one to do it for him without spending \$5. to get \$2.

A. 17. Buff Plymouth Rocks, Buff Wyandottes and Buff Leghorns.

A. 18. While some of the other American breeds may be equally as good for market poultry, no breed will equal them for egg production. The Buff Leghorns are hardy, large size, lay a large egg. Some of the other varieties of Leghorn may have these good qualities. I prefer them on account of color.

A. 19. I should have to experiment some with crosses to decide this question.

KEEP PURE-BREDS

MORE SATISFACTORY THAN CROSSES—DON'T SELL
BIRDS YOU CAN'T REPLACE FOR THE MONEY

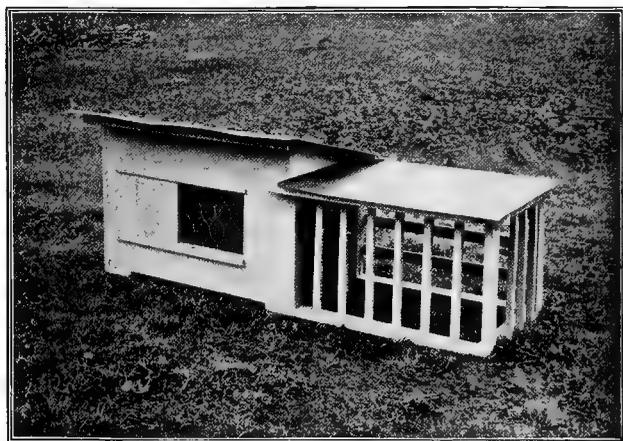
W. B. CANDEE, De Witt, N. Y.

WHITE WYANDOTTE SPECIALIST

A. 9. Fowls.

A. 10. Results much more certain, that is your eggs would be better than those bought. Advantage of seeing just what you are breeding from.

A. 11. For the farmer, buy a good sitting of eggs, put them under a hen, mark the chicks, get a good man to sort them in the fall. Keep the best cockerel, mate him to the pullets that are not disqualified, set all eggs the following spring, have them sorted that fall again, by which time he should begin to learn what a good one is; then he can do his own sorting. The next spring get a cock or cockerel from the same party from which he purchased the eggs, and mate him to a small pen of



AN EXCELLENT BROOD COOP AND RUN

the very best females. Keep only pure-breds; do not cross. In time he can kill all the mongrels and he will have a flock that will be more satisfactory than if he undertakes to cross up with pure-breds.

A. 12. Same as No. 11.

A. 14. Same as No. 11 for his birds. Build a small colony house, say 8 by 10, or 10 by 12, and use as a breeding house. Then as he goes on if he wants to build a large house he could use the small one for a chick colony house, or if he decides to quit he has not lost a small fortune in the business.

A. 15. Get an expert to lay out a good sensible plant and let the same man, if he is a good judge of birds, go to some reliable breeder and select as many good birds as the beginner wishes to buy. Put these in the new house with a competent man to take care of them. Use all eggs for hatching and keep

SUCCESSFUL POULTRY KEEPING

all the young birds until the required number is reached. Don't sell what you can't replace for the money, no matter how flattering the offer.

A. 16. Same as answer to No. 11, but buy both eggs and a good pen and follow advice given in answer to No. 15.

A. 17. White Wyandottes.

A. 18. Popular, good sellers, good mothers, and market birds for the farmer, or for the one wishing to keep only a few birds good broilers and roasters, and will lay eggs in winter if properly bred, hatched and cared for. Attractive in appearance, stand confinement, are not flyers, will stand severe cold, and when ready to sell at market prices, they bring good prices.

A. 19. White Wyandottes.

A. 20. Same as answer to No. 18.

VISIT THE SHOWS AND BREEDERS

STUDY YOUR CHOSEN VARIETY—ONE IS ENOUGH—
KEEP ONLY THE BEST—MARKET THE BALANCE

GEORGE A. BARROWS, Groton, N. Y.

SINGLE COMB WHITE LEGHORN SPECIALIST

A. 9. I should buy fowls.

A. 10. With my present knowledge I believe that I could buy fowls that would suit me and therefore get a quicker start than I could with eggs and be more certain of having good stock.

A. 11. My advice would be to discard the mongrels entirely and start with pure-bred stock.

A. 12. I would advise the purchase of a pen of the very best birds that could be found of some one of the large breeds. If the object is to sell fancy poultry, my advice is to buy the very best birds that can be found regardless of cost.

A. 13. If I were a beginner with ample funds the first thing I should do would be to decide on what one breed (not several) I most desired and why. Second: I would then study that breed from the "Standard" and would visit several shows and make it a point to study the variety I desired.

Third: I should then visit several of the reliable breeders of my chosen variety and if possible take a competent judge with me.

Fourth: I should buy a few of the best specimens that I could find regardless of cost, but in buying I should buy from the flock that was the best as a whole, and not from the flock that had a few fine specimens but as a whole was inferior.

Fifth: After buying I should make that variety a constant study.

A. 14. The beginner without much money would have to study his chosen variety but probably visit less shows, less breeders and do without a judge. He would do well to pick out the breeder that he had the most confidence in and then trust him to furnish him some of his very best eggs or a few birds. I think a few eggs would be the best and then let him study the birds as they grow up.

A. 15. I should advise one variety for both fancy and market, and with ample funds would purchase as many birds as I desired of one of the large varieties, all good stock. As I bred them year by year I should keep only the best from which to sell fancy birds and market the balance.

A. 16. The beginner with moderate means would probably do better to purchase eggs of some large variety, buying only as many as his money will care for, feed, and house after hatched. Then as his sales of eggs and market poultry and fancy stock come along he can enlarge his business.

A. 17. White Leghorns.

A. 18. I believe S. C. White Leghorns to be the best breed for laying purposes, also to be the most popular breed of heavy layers of large white eggs.

A. 19. Probably White Plymouth Rocks.

A. 20. First: I have taken a fancy to this particular variety of large fowls.

Second: They are among the most popular breeds.

A. 21. White Rocks or White Wyandottes.

A. 22. Simply a liking for these kinds.

START WITH WELL MATED FOWLS

THEN CAN SEE AND KNOW
QUALITY—RAISE PURE-BREDS

H. H. FIKE, Libertyville, Illinois.

WHITE WYANDOTTE SPECIALIST

A. 9. Fowls by all means.

A. 10. Could see the quality of fowls and know what I had. If I bought eggs they might be from a dozen different pens of stock not mated properly, and it would take me years to breed up.

A. 11. Sell off all mongrel stock, and raise full blood White Wyandottes.

A. 12. Same answer as No. 11. Selling the culls for market poultry.

A. 13. Buy birds from a known breeder, and pay at least \$25. to \$50. per bird.

A. 14. Buy just as good birds. If compelled to, start with one pair.

*A. 15. The two don't go together on a large scale; fancy and market cannot be combined and run on a large scale profitably.

A. 16. Don't start at all.

A. 17. White Wyandottes.

A. 18. Because they are as salable as twenty dollar gold pieces. The demand is far greater than the supply for top notchers.

A. 19. White Wyandottes.

A. 20. Can be brought to broiler age sooner than any other breed, their yellow skin and legs commanding highest market price.

GET A GOOD FOUNDATION

WORK CONSTANTLY FOR BETTER POULTRY AND MORE OF IT—HAVE FAITH IN YOUR FLOCK—CULL THE YEAR ROUND

WILLIAM H. ROBINSON, La Fayette, Ind.

BREEDER OF BARRED PLYMOUTH ROCKS AND
WHITE WYANDOTTES

A. 9. I would buy fowls, a few, and the best.

A. 10. With eggs you cannot see what your stock is until matured; when buying stock you can buy on approval from most any reliable breeder and if not satisfactory it may be returned for good stock or money refunded. When starting with the fowls you have a good foundation to begin with, and can see what your coming youngsters, if properly cared for, will develop into when matured.

A. 11. Would cull quite severely to my best stock in one and two-year-old females, throwing out all male birds, and buy

STARTING IN THE BUSINESS

from a reliable breeder some good pure-bred cockerels which would not require nearly as many as to buy the females. In this way and by constantly introducing new blood by pure-bred male birds, a good flock of farm poultry can be secured.

A. 12. Work himself constantly to "better poultry and more of it," buy nothing but the best blood, advertise, and advertise the best, have faith in your flock; if you do not, your neighbor certainly will not and will look elsewhere. Cull almost the year round, keep your flock looking well and vigorous, and you will be surprised how your surplus cockerels will sell.

A. 13. From experience, would work slow, keep but a few, but the best your means would permit, do not house too many in your coops or buildings, breed for constitutional vigor, and breed for exhibition specimens only; this you will gain only by a limited number, proper housing, and care and feeding. Advertise moderately, and strive to make every sale far or near a satisfied customer. Time and stock will tell. Guarantee your birds in every way, or in other words, give good value for value received, and success is bound to crown your efforts. Also will say, do not be afraid to show your stock in good company; often times we find them no better or as good, in what is called the hottest company.

A. 14. Answered in above.

A. 15. Have buildings and poultry in accordance with funds and advertise largely, using the best journals, the best of stock, and good sound judgment, both with your poultry as well as your customers.

A. 16. Breed the best, cull closely for your market poultry, cull almost constantly, then breed and sell only the best. Advertise by all means in good journals; you can throw hard earned money away no faster than by poor advertising in poor journals, to say nothing of postage and time.

A. 17. Almost any of the Plymouth Rocks or Wyandottes, or a breed that is in big demand.

A. 18. My reason is that a good, well known breed is always in good demand, and with any article that is in good demand a good business can be done with less introducing and advertising.

A. 19. Can be answered as above, although the old reliable Barred Plymouth Rocks I believe are the leaders.

A. 20. Because they are known the world over, are beautiful fowls, are admired by everybody, are ready for market at most any age, will stand confinement well when necessary, are truly an American breed; others have their fancy and come and go, but the old reliable Barred Plymouth Rock is in the lead and are the best general purpose fowl in the world.

A. 21. Barred Plymouth Rocks and White Wyandottes.

A. 22. Barred Plymouth Rocks, as I have said before, are the old reliable for market or show room. Next to them in many years experience I have found no fowl more profitable or more beautiful as show birds than White Wyandottes.

"MAKE HASTE SLOWLY"

GET THE BEST—CULL CLOSELY—
STUDY STANDARD—ADVERTISE

GUS L. HAINLINE, Lamar, Missouri

WHITE WYANDOTTE SPECIALIST

A. 9. I would buy fowls.

A. 10. I would know just what type of fowl I wanted and what kind of mating would produce it and get that mating; while there would be a good deal of uncertainty in the hatch of a large consignment of eggs. "A house built on a good rock foundation will stand."

A. 11. Would advise the buying of medium grade cockerels of some fancier that had a reputation for good fowls; and unless his mongrels showed decided "Asiatic" type, I would advise Wyandotte cockerels, as they are, I believe, the best foragers in the world and they make the best broilers.

A. 12. Choose his breed; buy as good a pen as he could afford, or get; yard them, and raise every chick possible from them; keep all pullets raised, sell off all mixed cocks and cockerels and put the pure stock cockerels in with mixed stock; mate up the best birds again and hatch their eggs and sell others on market. When stocked up, get a good judge to score surplus stock, advertise in the best journal published, cull closely, and treat customers on the square.

A. 13. Buy a copy of the "Standard." Choose a good reliable breeder; get the best he will sell right; have him ship them to a good judge for inspection; raise all you can; make haste slowly, study your fowls, advertise and sell surplus cockerels, don't let go of your good pullets.

A. 17. Partridge Wyandottes.

A. 18. They are the ideal fancier's fowl and their popularity is increasing rapidly; they are as yet in a crude state and will admit of wonderful development and improvement.

A. 19. White Wyandottes.

A. 20. They make the best broilers in the world; dress very nicely with clean, yellow skin and legs; ideal shape, with plump, round appearance. They are fine rustlers, healthy, bear confinement, and their white plumage and altogether pretty appearance would enable one to get the highest market price for them alive.

SEE WHAT YOU ARE GETTING

THEN YOU KNOW WHAT TO EXPECT—
FOWLS BEST FOR START—START WITH
A FEW AND HAVE THEM ALL GOOD

J. L. JEFFERSON, Des Plaines, Ill.

WHITE PLYMOUTH ROCK SPECIALIST

A. 9. I would buy fowls.

A. 10. In buying fowls, you can see what you are getting, and have some idea what to expect from them.

A. 11. By getting pure-bred males.

A. 12. By getting a pen of good birds for a starter and then, after the first year, sell off all his mongrels.

A. 13. By buying the best pen that can be found, in other words, go to the best breeder of the variety that he wishes to handle, and buy if possible the best he has, or the very ones the breeder wishes to keep for his own use, regardless of the price. Get few birds, but have them all good. Have them resemble one another, and come as near to the Standard as possible.

A. 14. Buy the best pen his circumstances will permit; if he is not a good judge of the breed, trust to the honesty of the breeder. If he knows the breed, go to the breeder's yards and do his own selecting. Always go to the breeder's yards if possible, as there is where you will find out how his flock averages as a whole.

A. 15. Buy the best pen possible regardless of everything, but see what you are buying if possible. Perhaps a better way would be to buy say three pens from three of the best breeders, breed each pen separately, and then keep only the birds from the pen that turned out the best, and sell off all the others. Stick to this strain and this man for new blood. Advertise and show; the more you advertise and show the quicker you will get a good paying business, but do not be afraid to

SUCCESSFUL POULTRY KEEPING

spend money for advertising. Advertise all the time, and never stop showing. Don't be afraid of getting beaten at a show after you have made a good winning at a few shows. You must expect that as no one breeder has all the good birds, you must not expect to win all the time. It won't hurt your business half as much to get beaten as not to show at all. Get your name before the people in all the ways possible. Advertise in all ways that you can think of, but the poultry journals are the "main stays."

A. 16. Buy the best pen you can afford, and go slow, learn the business from the ground up, and learn it well. Don't depend on some one else to raise the chicks for you, for if you can't raise them or don't know how to do it, you may depend on it that you can not hire some one else to raise them. Have never yet seen a plant pay where the owner had to hire some one to do the work, that is, do all parts of the work. You may be able to hire a man to clean the houses, water the chickens, etc., but what would he do when it came to running a brooder and feeding the little chicks? This work should all be done by yourself, if you wish to succeed.

A. 17. White Rocks or Wyandottes.

A. 18. There is more demand for these two breeds than any others. You will find more of them in the show room. They are the best market fowl, and best layers taking the year through.

A. 19. White Wyandottes.

A. 20. They mature the earliest of the Americans, they start laying before they are six months old, they are the best broilers at an earlier age, and they are very hardy.

A. 21. White Rocks or White Wyandottes.

A. 22. These two breeds are in as large a demand as any others if not larger, for the fancy part, and they both dress right for the market, both are good size for that purpose, and plump out well at all ages.

FOWLS AND EGGS

FIFTY EGGS HATCHED OUGHT
TO GIVE TWO GOOD PENS

D. F. PALMER & SON, Yorkville, Ill.

BREEDERS OF BARRED ROCKS EXCLUSIVELY

A. 9. Fowls, if I had plenty of money.

A. 10. Then I would know the quality of stock I was going to breed from. If I was to buy eggs I would not buy less than 50 and would be well pleased if I raised two pens of five birds each.

A. 11. Buy large, vigorous cockerels.

A. 12. Commence by buying a few good birds or eggs and work up.

A. 13. Buy the best you can find.

A. 14. Buy 100 eggs of a good breeder.

A. 15. As the good breeders go into winter quarters most of them have some good bargains that could be bought at a reasonable price, which if properly mated will soon breed up some choice birds.

A. 16. Same as Nos. 14 and 15.

A. 17. Barred Plymouth Rocks.

A. 18. They are very hardy and good foragers; we consider there are no better layers.

A. 19. Barred Plymouth Rocks.

A. 20. We consider them the best in all respects.

A. 21. Barred Plymouth Rocks.

A. 22. Same as No. 20.

BREED ONLY ONE VARIETY

START OFF CAREFULLY UNTIL
EXPERIENCE IS GAINED—"LEARN
TO CREEP BEFORE WALKING"

DR. WILLIAM H. HUMISTON, Cleveland, O.

WHITE WYANDOTTE SPECIALIST

A. 9. It is best to purchase fowls.

A. 10. In purchasing fowls you can select nearly ideal birds, standard weight or a little above, and those possessing shape, color, health and vigor. Buy a pen of six or eight hens one year old, and mate them with an early hatched, full weight, vigorous cockerel. In this way you can the first season obtain a good start and raise at least 100 birds.

A. 11. Purchase a male bird for every twelve females. Select over weight White Wyandotte males.

A. 12. Keep but one variety. Get a start by securing White Wyandottes from a winter laying strain. They make choice early broilers, excellent soft roasters, dress attractively, no dark pin feathers, have yellow skin and legs. Market the culls and obtain fancy prices for the balance.

A. 13. Breed only one variety, and secure the stock from a successful breeder who has a reputation for square dealing and whose stock has won at the leading shows, and is line bred.

A. 14. It is better to start off carefully until experience has been gained. Secure only a few, but high class birds.

A. 15. It cannot be done successfully without practical knowledge and experience. He must purchase this by securing an honest, experienced, hard working man to take charge of the business.

A. 16. Learn to creep before walking, that is, go slowly until knowledge of the business is attained.

A. 17. White Wyandottes.

A. 18. Beauty and utility.

A. 19. One of the American breeds, Wyandottes or Rocks.

A. 20. Early development, attractiveness when dressed, and size.

A. 21. White Wyandottes in country, Buff or Partridge for city.

A. 22. See answer to No. 18.

UNDERSTAND YOUR FOWLS

SUCCESS MORE CERTAIN WITH BIRDS YOU ADMIRE

G. MONROE WOOD, Woodville, N. Y.

BREEDER OF SINGLE COMB WHITE LEGHORNS

A. 9. Fowls.

A. 10. I would care for a flock of hens in a way so that I would get good fertile eggs and lots of them.

A. 11. I would buy pure-bred males of some good reliable poultryman. In the fall I would sort out the best pullets and the next spring I would mate these pullets to the same cocks, their fathers, also the cockerels to their mothers; that would give you well bred stock in a little time.

A. 12. Same as No. 11.

A. 13. I would buy fowls or eggs, or both, from some good reliable and successful fancier.

A. 17. White Leghorns.

A. 18. After having and taking care of a strain of poultry

STARTING IN THE BUSINESS

that you admire, and understanding their ways and habits, you would be liable to be more successful with them than with some strain you did not fully understand.

A. 19. I would select White Wyandottes, White Rocks or Light Brahmas.

A. 20. They are larger and more adapted to broilers and roasters than the lighter breeds.

GO SLOW UNTIL YOU LEARN

DON'T TRY TO DO IT ALL FIRST SEASON—THE BUSINESS WELL LEARNED ANYONE CAN SUCCEED AND PROSPER

CHARLES G. PAPE, Fort Wayne, Indiana

SPECIALTY BREEDER OF SINGLE COMB BLACK MINORCAS

A. 9. Prefer to buy fowls.

A. 10. Buying fowls—seeing them before buying if possible—is more satisfactory both to the breeder as well as purchaser. If the eggs do not hatch well the blame is always placed on the breeder personally. The trip or transit is hardly ever taken into consideration where they get rough usage, and sometimes get overheated in express car or chilled on track.

A. 11. Dispose of the smaller stock and buy several good, vigorous cock birds of a breed known either for their laying or table qualities—whichever the farmer prefers.

A. 12. The farmer certainly has the best opportunity for breeding and selling fancy poultry—plenty of greens and grain. It is an easy matter to breed fancy poultry, breed several



CANVAS SHELTERS FOR BROOD COOPS

pens carefully and intelligently until you learn the variety thoroughly that one intends to breed. If for fancy stock, get them in show shape by careful feeding and training and endeavor to win several good prizes. Advertise in a good poultry paper what you have for sale, be honest and liberal in your dealings and you will succeed if you keep stock and surroundings clean.

A. 13. Study several preferred varieties that the beginner thinks he would like to breed. By breeding them several years he will readily find which variety he thinks is best adapted to the surroundings, and which breed can be bred with the least trouble and expense. Stick to the variety, take advantage of every opportunity to improve the strain, and your stock will soon be in demand.

A. 14. Anyone that has a suitable poultry house—medium sized run with plenty of sunshine and enough money to buy a trio of a standard variety—can succeed and prosper.

A. 15. If inexperienced, get a good poultry farm manager and go slow until you get the poultry business pretty well learned. Don't try to do it all the first season.

A. 17. Single-Comb Black Minorcas.

A. 18. First of all, they are layers of large white eggs and lots of them, they are easy to breed, mature early, are a splendid table fowl and one of the best varieties among the fancy birds. They always attract attention in the show room and I know of no prettier sight on a farm or city lot than a flock of high class S. C. Black Minorcas with their bright head-gear and elegant green lustre.

A. 21. Have bred Minorcas for ten years and the longer I breed them the more I become attached to them.

START WITH FOWLS SAVES A YEAR

FARMER WILL SUCCEED BEST WITH PURE-BREDS—TWO GOOD ONES BETTER THAN TWENTY-FIVE POOR ONES

J. M. WILLIAMS, North Adams, Michigan

BREEDER OF SINGLE AND ROSE COMB BUFF ORPINGTONS

A. 9. Fowls.

A. 10. Starting with fowls, we consider we are one year in advance of the one that buys eggs. After deciding on your choice of fowls you are going to breed, get your stock of a breeder of established reputation, and you have, in our mind, the kind of start you should have.

A. 11. Buy pure-bred males. We do not believe in mongrels, it is just as easy to raise pure-bred poultry. Good utility stock can be bought very low of any particular breed you want.

A. 12. By starting with pure-bred utility stock, and buying a good male or two a year of a reliable breeder, a flock can be improved each year. The farmer each year, with a small classified ad in one or two good journals, can make three to five times more than the regular market prices. We have several farmers here doing that now and they are more than pleased.

A. 13. Buy stock of a breeder of national reputation that will be honest with you and give you what you pay for. Make a study of the breed you like, and if you like poultry it is as easy as falling off a log. If you don't like to bother with your poultry, keep out of the fancy.

A. 14. If you can't pay for any more than two good ones, get two good ones. They are worth twenty-five poor ones.

A. 15. By all means quality—then get about half what you think you want, and then get experience.

A. 17. Buff Orpingtons.

A. 18. They are considered today by the poultrymen at large to be one of the best all around breeds; among the best layers in the chicken family, maturing early, making them valuable for broilers. As a fancy fowl in the show room, their massive shape and fine golden buff appeals to everyone.

A. 19. Buff Orpingtons.

A. 20. Early maturity—broilers—hardy constitution—great winter layers when eggs are highest. When sold as a fowl they are good size, much larger than the majority of the breeds.

A. 21. Buff Orpingtons.

A. 22. You get a happy combination of both fancy and market poultry in the Orpingtons. They are one of the finest table fowls we have, one of the greatest egg producers there is, and in the greatest demand for fancy all over the world.

GOOD START THE WHOLE THING

LESS CHANCE OF DISCOURAGEMENT BEGINNING WITH FOWLS—GET THE BEST—DON'T TIE UP TOO MUCH MONEY IN BUILDINGS

C. L. PENNSYLVANIA, Bloomsburg, Pa.

BREEDER OF BUFF PLYMOUTH ROCKS EXCLUSIVELY

A. 9. Buy fowls to start with.
 A. 10. Because you have the birds to start with,—have value for some of your money. Eggs, you run so many chances by shipping them. You may not get a good hatch. If you have a few birds to begin with you can give more attention to the eggs and get a far better start. The beginner may pay \$5. for a sitting of 13 eggs, put them under a hen and likely have her leave the nest and discourage him right in the start. If he buys a trio of birds I consider he won't get discouraged so quick,—that was my experience.

A. 11. I would advise the farmer if he wishes to improve his flock to buy some good cockerels of either the Rocks or Wyandottes and breed them with his mongrels. Then let him select his best every year and cull his breeding stock closely. Every second year or so add a couple new breeding cockerels. I fully believe in this way he can build up a fine strain for market purposes.

A. 12. If he has no fancy stock would advise him to buy a pen of pure-breds, mated for fancy stock, of some good reliable breeder. In a short time if he takes an interest in his birds he can have a good flock. Would advise him to advertise his stock in some reliable poultry journal. Keep only one breed and cull closely every year. He will soon be realizing a fancy profit above the ordinary fowl.

A. 13. Buy a pen of the best he can afford to buy, mated up for exhibition. Be sure that he is dealing with a good reliable breeder, one that will use him all right. If he wishes to get right up on top with his birds, would advise him to buy some winning male birds or winning pen at some large show. Then he can advertise young stock bred by or from say New York, Boston, or Chicago winners. If he is successful in raising stock I am sure he will have no trouble in selling same.

A. 14. I would advise to buy only two birds if he hasn't much money—the best he can afford to buy. Cull his breeders very close each season and use nothing but the best for breeders. If careful, in a couple of years, he will have a good fair start and can learn as he goes along. Possibly he could get a start by buying eggs if he has good luck.

A. 15. Start with Rocks or Wyandottes—nothing but the best, and learn as he grows in the business. Read some good reliable poultry journal and then use his own ideas along with some of the others. The birds he can't sell for fancy he can readily sell for market poultry. Especially for a beginner I would advise to go a little slow at first unless he has lots of money, then would advise him to employ some good experienced man.

A. 16. Buy the best stock Rocks and Wyandottes his money will afford. Don't put too much money in buildings. Have them built for warmth but not to look at. After business gets to paying put on the finishing touches. Too many get a lot of money tied up in buildings when their means are limited, where they should use it for birds to start with. A good start is the whole thing.

A. 17. Buff Plymouth Rocks.

A. 18. Because I have tried a great many other breeds and found none that I have as much satisfaction in as in the Buff Rocks. They have good size, are easily raised. Breed pretty true to type and color if mated properly, and are fine

table fowls. Their beautiful shade of golden buff color is always noticed by the fancier at first sight in breeding yard or show room. Single birds of this breed have sold as high as several hundred dollars each, and I always find sale for all I can raise at good fancy prices.

A. 19. White or Buff Rocks or White Wyandottes would be my choice.

A. 20. Because they have the size, nice yellow legs and skin, and are free from dark pin feathers, which makes them very salable. Their meat is juicy and fine flavored.

A. 21. Rocks and Wyandottes.

A. 22. Because they have the size for market fowls and then for fancy. They bring really the highest prices at the big shows.

BREED FROM GOOD LAYERS

TRAP NESTS ADVISED—DON'T PAY TO BREED POOR EGG PRODUCERS—PURE-BREDS BEST

HARMON BRADSHAW, Lebanon, Indiana

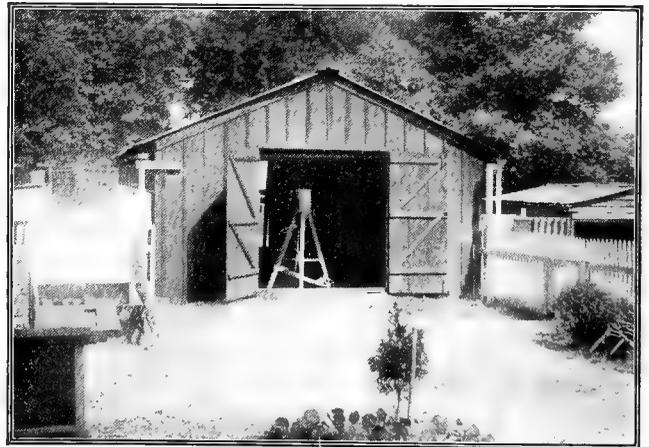
SINGLE COMB WHITE LEGHORN SPECIALIST

A. 9. Stock by all means, if only a trio.

A. 10. First: Because you can see just what you have to breed from and will know, in a measure, what the offspring will be.

Second: Because you can raise more good birds from a good trio than from six sittings of the best eggs you could buy.

A. 11. Would advise him to purchase a few first class birds and pen to themselves, using trap nests. Get a few birds from a hen that you know is a good layer and build your



AN ENGLISH FATTENING SHED

flock from them. It does not pay to breed from a poor egg producer even though she is a blue ribbon winner.

A. 12. Same as No. 11. Also you can raise prize winners as well as market fowls with no more expense, if you start right. There are always market fowls among the pure-breds.

A. 13. Start with two small pens (not to exceed six females and a male) and learn by experience how to breed and care for them. Use trap nests so you will know which hen produced the winner and which hen is the good layer.

A. 14. Spend what he can for birds and start as in answer No. 13.

A. 15. Same as No. 13 unless he employs a man with experience to help him.

A. 16. Same as Nos. 13 and 14.

STARTING IN THE BUSINESS

- A. 17. Single-Comb White Leghorns.
- A. 18. Because they are my fancy and are beautiful.
- A. 19. Single-Comb White Leghorns.
- A. 20. First: Because they are the best egg producers known. If this were not true the largest egg farms in the country would not have them.

Second: There is more profit in eggs for the market than poultry. You can produce fifty pounds of eggs cheaper than fifty pounds of poultry. The eggs will bring you in the most money.

Third: They eat about half as much as the larger breeds.

THEY SERVE AS PATTERNS

IF YOU START WITH FOWLS THEY SHOW YOU
WHAT GOOD BIRDS SHOULD BE—GET THE BEST

MRS. CHARLES JONES, Paw Paw, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS; BUFF COCHINS
AND GOLDEN BRONZE TURKEYS

- A. 9. I would buy fowls.
- A. 10. If you buy fowls it gives you birds of the best breeding, if you buy of a reliable breeder. Buy trios or breeding pens and have them mated up for best results. They serve as patterns and show you what a good bird should be.
- A. 11. I would buy a trio and raise what good birds I could and use my cockerels with my mongrels until I could raise enough pure-bred fowls from my yards of good stock. Sell off all the mongrels, as there is much more satisfaction in raising good stock than mongrels.
- A. 12. Buy the best of the variety that suits him best.
- A. 13. I would buy the very best money would buy and always breed in line, as line breeding is the only way to establish a strain and the only way to keep your birds at the top.
- A. 14. Buy eggs but buy from the most reliable breeders and from an established line of the best breeding.
- A. 15. I would buy large breeding pens of the kind or kinds that I wanted to breed from.
- A. 16. I think one or two breeding pens and some eggs of the same lines of breeding.
- A. 17. Barred Plymouth Rocks and Buff Cochins.
- A. 18. Because they are by all means the most popular fowl today for the fancy as well as good utility fowls. Buff Cochins are good layers, quiet and natural pets, besides showing a great deal of intelligence. They are my favorites.
- A. 19. Plymouth Rocks.
- A. 20. Good layers, quick growth, heavy weights, great foragers.

FOR FARMER AND FANCIER

PRACTICAL ADVICE FOR BEGINNERS—
START WITH GOOD STOCK—ENCOUR-
AGES ENTHUSIASM AND QUICK RESULTS

OTTO O. WILD, Benton Harbor, Michigan

SPECIALTY BREEDER OF WHITE WYANDOTTES

- A. 9. I should buy fowls.
- A. 10. Fowls give you the finished product to study while you are learning the breed or variety, and you can watch development of the chick to maturity from the eggs the fowls themselves produce. There are few beginners who become totally discouraged the first season when fowls are the basis of their start.

A. 11. The farmer should select as near as possible females of blocky, compact shape, of moderate size, low on legs full in breast and short at back, without feathered shanks and dark pin feathers. To these would mate a pure-bred male, white in plumage and of the Wyandotte type, low down, short, full and round, and not too heavy. The progeny should be salable at any age at paying prices. The farmer ordinarily considers height as size, i. e., length of leg. We believe his greatest mistake in grading up a mongrel flock is due to this misconception.

A. 12. He should improve his mongrel stock by introducing pure-bred males and breeding to a blocky type without trying to increase size too rapidly, making plumpness the prime factor. He should also start with a pair, trio or pen of pure-bred stock and work up to an understanding of their good and bad points by degrees; perfecting them as he progresses and discarding the graded stock as the pure-breeds increase to take their place.

A. 13. a. For early enthusiasm and quick action, buy show birds that can win and supplement these purchases from time to time as the necessity demands.

b. Should buy two pairs mated for sex; cock and pullet and cockerel and hen, or he can increase the females to four in each pen provided they are full or half sisters. They should be as nearly as possible of standard shape and color (shape to take precedence) of unquestioned line breeding and the result of six or more consecutive matings. They should thenceforth be bred in line.

A. 14. Would put all my allotted funds for stock into the best pair of line bred birds the money would buy. Would prefer cockerel and pullet of ample size and development, and would continue to breed them in line. Would choose the young stock because of its continued usefulness only.

A. 17. White Wyandottes.

A. 18. Because they are decidedly the most popular breed or variety now before the public. Because no one as yet has mastered uniformity of type, general characteristics nor permanently fixed color in entire strains, and finally, because there is a gold mine in sight for the one who does.

A. 19. White Wyandottes.

A. 20. Because they are hardy, thrifty, early developers of just the right size and shape to bring the highest market price alive or dressed at any age. Because they are crowding the so-called egg machines for first place, and finally because in dressing, the offal is small, and their feathers, because of color and texture, cover in value the cost of dressing, leaving larger profits.

A. 21. White Wyandottes.

A. 22. Because utility and fancy are known and recognized in this variety to a much greater extent than in any other breed or variety with which I am conversant and in consequence their sale is more easily effected at larger gains.

STOCK SUREST START

YOU GET RETURNS ONE YEAR SOONER—FAR-
MER SHOULD SEEK PURE-BREDS—EARLY
MATURITY, GOOD SIZE AND EASY FEEDERS

MRS. H. W. HAND, White Hall, Ill.

WHITE WYANDOTTE SPECIALIST

- A. 9. The surest, quickest, and most satisfactory way is to purchase a trio or pen of good birds.
- A. 10. I should prefer to begin with a few good birds rather than eggs, because you get returns one year sooner.

SUCCESSFUL POULTRY KEEPING

Birds are more easily and safely transported than eggs, the disappointments are fewer and the cultivation of the eye for the true type begins at once.

A. 11. He should head his flock with pure-bred cockerels of one of the best market varieties, that is, the close-built, round or plump varieties. The farmer should think of early maturity, good size, and easy feeders. The White Wyandottes answer all these requirements.

A. 12. He should buy either eggs from a reliable breeder, or a pen of fowls properly mated, and from the offspring sell all culls and inferior cockerels for market, retaining inferior pullets for laying purposes, and using his select birds to breed from for himself and his customers.

A. 13. Purchase a pen of birds conforming as nearly to the Standard as possible. Buy them of some reliable breeder who has a well established strain, that shows the evidence of careful, continuous breeding to correct type and color. Invest your money in a few fine specimens rather than in a large number of inferior ones. Select the variety that will give you size, plumpness, eggs, early maturity, and the variety that you think will give you the greatest number of customers.

A. 14. I should advise him to go slow. Adopt one variety only, begin on a small scale, and as his experience grows, and his business increases, invest the profits in more equipment and better stock. A trio of good birds in one pen, carefully handled, is more profitable than several pens of inferior stock.

A. 17. I should select but one variety, and that would be the White Wyandottes.

A. 18. They are an all purpose fowl. They are of good size, are plump, and in marketable condition at all ages after six weeks. They are easy keepers, producing more pounds on less feed than any other variety. They are good rangers, though not bad flyers, and are heavy producers of large brown eggs, both winter and summer. They are the best and gentlest of mothers, and are hardy and vigorous. The eggs are sought by the broiler plants, the chicks by the marketmen, and the exhibition specimens by the greatest number of fanciers, of any variety of the day. Withal they are the most popular, the most profitable and the most beautiful of all chicken kind.

BETTER FLOCK FROM STOCK

ON SMALL SCALE START WITH
STOCK; ON LARGE SCALE BUY EGGS

R. H. CRANDALL, Worth, Mich.

BREEDER OF SINGLE AND ROSE COMB WHITE AND BROWN LEGHORNS;
WHITE WYANDOTTES, PEKIN DUCKS, TOULOUSE
GEESE AND BRONZE TURKEYS

A. 9. If starting on a small scale I would buy stock; large scale, good eggs.

A. 10. On a small scale you could raise a better flock from good stock than from eggs bought. Eggs are much the cheaper way to make a start on a large scale, as you can get a lot of stock out in a few weeks in the spring.

A. 11. I would advise him to buy good pure-bred White Wyandotte cockerels, which will better both his egg production and market stock. In my experience the White Wyandottes make the best market bird of any breed and are the nearest to a general purpose fowl.

A. 12. Breed Leghorns, as they are a source of profit from the time the pullets are large enough to lay until you have found sale for them.

A. 14. Breed Leghorns, because they are the greatest egg producers if you get stock that has been bred with these

points in view. They will lay more eggs for amount of feed consumed than any other known breed and there is a large demand for them as egg producers and breeders at from \$1. up.

A. 15. Leghorns for fancy and eggs. White Wyandottes for market with Pekin ducks also, if you are near some good market:

A. 19. White Wyandottes.

A. 20. They have yellow flesh and legs with white plumage and no dark pin feathers to mar the appearance of dressed birds, always round and plump from a broiler to maturity. Mature early and are not long-bodied and leggy like the Rocks.

FOWLS FIRST, THEN EGGS

FOWLS MOST ECONOMICAL PURCHASE,
BUT IT PAYS NO BUY EGGS—WORK
AND WAIT, SUCCESS WILL COME

W. W. KULP, Pottstown, Pa.

BREEDER OF SINGLE AND ROSE COMB WHITE AND BROWN LEGHORNS;
WHITE WYANDOTTES; BUFF AND BARRED ROCKS
AND PEKIN DUCKS

A. 9. I would buy both fowls and eggs. Fowls first then eggs.

A. 10. I would buy fowls because you can produce more eggs cheaper than you can buy them for the same amount invested. I would buy some eggs too, for you can get eggs of fowls that breeders will not sell, thereby getting a line of blood that will be of value in your breeding operations. I have bought eggs for twenty years and it has paid me.

A. 11. I would buy eggs of the breed I wished to have. Keep all the best males two years. Then buy eggs again of a strain that would suit well with that bought first. This way he will soon have them much like the standard-bred stock he is using. But never keep one of the half or three-quarter bloods for they will not produce uniform quality of stock like the pure bloods. Or cockerels can be bought for their vigor, size and shape. Either plan will work, only if eggs are bought don't expect to raise five nice cockerels from each sitting. If you get two nice cockerels from a sitting you will have them at a low price.

A. 12. To sell fancy poultry, absolutely pure eggs or stock must be bred. I would buy some eggs and raise chicks. If I did not have enough in the fall I would purchase females and fill the pens. Select a breed you like and stick to it, do not change unless you are sure you have made a mistake. Take the advice of a poultryman of years of experience. He knows and also can tell you where you are planning to do too much and what obstacles you will be likely to strike.

A. 13. Let him visit the breeder he wishes to buy of and pay him for as good as he will spare, and pay him for some of his knowledge too. He knows and can help you. I have known men go to a place and want the very best at a low value. When they could not be bought they would pick out other nice looking ones that the breeder knew were not what were wanted, yet would let them have them to pay for their trying to get the best for half their value.

A. 14. Buy as many and as good as his money will pay for, and work and wait for the rest. Buy a few good birds and breed them. Build up the business until you are in the other class, that is, with much money. It can and is being done all the time, but the person must not expect to spend much on him or herself during the building-up time.

A. 15. First learn the business with some one who knows how. No other way will work, for no man can get a

STARTING IN THE BUSINESS

man to do it all for him; that is, do all the managing, for if he is able he will be doing it for himself. He can have fun if he wishes, for he can get men who will about make the expenses of the place; but the man who does not know his own business had better not try to run it unless for experiment.

A. 16. Learn it with a good firm.

A. 17. Leghorns and Wyandottes.

A. 18. They are thoroughly practical breeds. If you have utility breeds you have a big sale for market and you have the fancy too, for they are fancy as any breeds. There is no breed of the egg-producing class equal to the Leghorns, all things considered. The Wyandottes are the best in the world in the meat class.

A. 19. White or Silver Penciled Wyandottes.

A. 20. I have found them good layers and large enough for meat trade, and not so liable to be killed by improper feeding as the Rocks. I have had a good many years to study this and think I am right.

CORRECT MATING NECESSARY

ANYONE CAN BREED POULTRY BUT EXHIBITION SPECIMENS ARE ANOTHER PROPOSITION—EXPERIENCE IS REQUIRED

F. C. SHEPHERD, Toledo, Ohio.

BREEDER OF BUFF PLYMOUTH ROCKS

A. 9. I would buy the best trio or pair of fowls that I could afford, also eggs from two or three reliable breeders.

A. 10. From a trio or pair I could breed a lot sufficient to give me a start, but if they had not been mated right the whole seasons' work might be lost. If I had chicks from several other strains I could select the best from all and re-mate them for my second seasons' breeding with more certainty of the results. Also by having the blood of several strains I could cross them or breed them straight and note results and cull or abandon such as did not show improvement, and in this way gradually work to build up a strain of my own.

A. 11. My advice would be to buy eggs, raise all the chicks possible from them. The following season kill all the mongrel males he has. Breed that season from the pure-breds, males only. By following this plan for two or three seasons he will be free of his mongrels and have a flock of pure-breds.

A. 12. The same as Nos. 9 and 10. Selection of the finest to sell for exhibition or breeding purposes, after selecting his own breeders. Sell the culls or those not needed as market poultry.

A. 13. Buy the best trio or pen that it is possible to get, properly mated for breeding exhibition specimens. Be content to breed a limited number and to only keep a limited number until the business is learned. Anybody can breed poultry, but breeding exhibition specimens is another proposition. You cannot teach anyone how to breed exhibition specimens by simply telling them. You might as well try to teach a boy to swim by telling him how you do it; throw him in where it is over his head a few times and he will learn himself. The beginner must first have his breeding birds properly mated and then breed and keep only a limited number until he learns, not what some one tells him, but all the little "ifs, ans, ins and outs" that only come with practice and experience.

A. 14. Buy eggs from the most reliable breeders and get the best you can afford.

A. 15. Employ a competent man and let him do the managing.

A. 16. Begin in a small moderate way according to the

means, either with stock or eggs or both. Do not attempt to establish a "large business" in too short a time. Meantime treat the business as you would any other business, i. e., give it your undivided time and attention and use the best business judgment.

A. 17. Buff Plymouth Rocks.

A. 18. First: As "fancy" poultry, by that I mean exhibition specimens, there is always a demand at large prices.

Second: As market poultry there is no breed that can surpass them. They can be grown to two or three pounds weight as chicks in less time and at less cost, and with less care than any variety that I know anything about. As egg producers the tests and records will show that they are the equals of any breed, with this in their favor they do their heaviest laying during the months when eggs bring the highest prices.

POPULAR BREEDS BEST

GET SOLID FOUNDATION STOCK—START WITH ONE BREED AND GROW UP WITH IT

AUGUST D. ARNOLD, Dillsburg, Pa.

COLUMBIAN WYANDOTTE SPECIALIST

A. 9. Both.

A. 10. Both are good to start with. If I had plenty of money I would buy the best pen of fowls I could get, regardless of price, in fact, would get a number of pens and get a good start as quickly as possible. If limited in means would then buy eggs from an honest breeder, but never from a man who sells eggs at \$1. per sitting, for no man can sell good eggs at such prices, unless his object is to benefit humanity at his own expense. Neither would I buy from a man who breeds sixty varieties of fowls.

A. 11. I would advise him to buy pure-bred males and cross on the mongrels. We have seen common dunghills crossed in this way with the best results, both as to looks of the flock and as to improvement for market and in laying qualities.

A. 12. Let him start with a variety that is a well known all purpose fowl. Cull well, and sell for market each year such as are inferior in fancy points. Keep only the best males. Farmers are the only ones who can sell eggs for \$1. per 15, having a number of males running with the whole flock and not pretending to breed for fancy points.

A. 13. Get a variety that has a solid foundation as to their make up. A general purpose fowl that is a pretty fowl and useful both as to market and the fancy. A new breed or variety of fowls for a beginner is better than an old breed. He starts in with the new breed and grows up with it, and from the start stands a good chance to make sales. If he takes up an old variety he is in a crowd of hundreds and maybe thousands, he stands only one chance in a thousand to make a sale and is discouraged and goes out. In the selection of a new breed of fowls he must use good judgment, for most of the new breeds and varieties have not a solid foundation and they fall by the way.

A. 14. Get a few sittings of eggs from a specialist of known reputation. Choose a variety of fowls that you fancy. Select the best each season. When having a good start in numbers place a small ad in a poultry paper, then keep the object in view to do as you wish to be done by. Show at a county fair, but never till you have something good to show.

A. 15. Take up a popular variety or breed that has been made so by its own merits. Buy stock and eggs from the best breeders, no matter about the price. Get the best anyway. Become a specialist and give all your time and attention to one breed. Go to some successful breeder and get all the pointers

you can. Use your poorest quality fowls and chicks for market.

A. 16. Take up a tried variety, one that has the qualities both for the fancy and market side. Build cheap houses but on right plans, a few at a time; add as your means will permit and as your trade demands. Cull hard and market all inferior birds, keeping the best for the fancy. Don't think at the start that it is an easy way to get rich quick, for you will change your mind; it takes work and lots of it.

A. 17. Columbian Wyandottes.

A. 18. Because they are the combination of the best and most useful of the Asiatics on the one hand, and on the other of the White Wyandottes, the most popular fowl in the world. This combination for market and the fancy gives as near perfection in an all purpose fowl as we have yet found. For hardiness, quick growing and laying, they are all that can be expected; for beauty, they have no equals. Their popularity is growing at such a pace as has never been experienced by any fowl.

A. 19. Columbian Wyandottes.

A. 20. Because they have all the good qualities required for market poultry.

A. 21. Columbian Wyandottes.

A. 22. Because I do not think I could get anything better for the purpose.

SMALL OR LARGE SCALE PLANTS

START WITH FOWLS AND EGGS UNLESS MEANS ARE LIMITED, THEN CHOOSE FOWLS ALONE

A. OBERNDORF, Centralia, Kans.

BREEDER OF SINGLE COMB WHITE LEGHORNS AND BARRED PLYMOUTH ROCKS

A. 9. Fowls and eggs if on a large scale. Fowls only if on small scale.

A. 10. If on a large scale it would enable me to get different strains and study and decide upon the best points. If on a small scale the same can be done from the start to a more limited extent.

A. 11. Get pure-bred cockerels of the larger breeds and at the same time a pen of one of the larger breeds, and keep them separate until he has replaced the mongrels by pure-bred stock.

A. 12. Get a pen of fancy poultry and some fancy eggs and breed and raise them in separate pens.

A. 13. Procure exhibition birds—prize winners only.

A. 14. Buy Single-Comb White Leghorn eggs from reliable breeders.

A. 15. Start with pens and eggs of layers, egg producers, such as Single-Comb White Leghorns and fleshy birds like Barred Plymouth Rocks.

A. 16. Same as No. 15.

A. 17. Single-Comb White Leghorns and Barred Plymouth Rocks.

A. 18. Single-Comb White Leghorns are the best egg producers and require a moderate amount of feed, are showy and clean looking. Barred Plymouth Rocks are a popular breed and good sellers as "springs."

A. 19. For broilers Single-Comb White Leghorns, for roasters or capons Barred Plymouth Rocks.

A. 20. Single-Comb White Leghorns can be made fit for broilers in less time and with less feed than others. For roasters and capons I prefer Barred Plymouth Rocks because they have yellow skin and plump bodies.

A. 21. Single-Comb White Leghorns and Barred Plymouth Rocks.

A. 22. They are attractive, egg producers and good sellers.

SURE WAY TO START RIGHT

BUY BOTH STOCK AND EGGS THE BEST OBTAINABLE

E. B. THOMPSON, Amenia, N. Y.

BREEDER OF BARRED PLYMOUTH ROCKS EXCLUSIVELY

A. 9. I would buy both eggs and birds.

A. 10. Buying both eggs and stock would be a sure way to get a fine start. I could raise a lot of birds from the stock I bought and in addition to these raise some birds from the eggs. These eggs would be from the best birds the breeder had. Birds that he would not sell. You will see that having some chicks from such eggs as these and having also some fine stock to breed from, the beginner is in splendid shape for successful breeding.

A. 11. I would advise buying some Barred Plymouth Rock cockerels, to cross with his mongrel hens.

A. 12. I would advise breeding pure bred Barred Plymouth Rocks. The best of these the farmer could sell for breeding purposes and the others for market purposes.

A. 13. I would recommend buying the finest and best



A SHED-ROOF COLONY HOUSE

birds to be obtained, and be sure they are properly mated. The best birds will not breed unless mated right and too few breeders seem to be experts in mating. In addition to buying the best birds I would recommend buying some eggs for hatching from the finest matings. I would buy at least two or three pens of birds and several sittings of eggs; the best to be had at any cost.

A. 14. I would recommend buying one or two trios or pens as good as I could afford and a few eggs from the best.

A. 15. Buy several pens of the very finest birds. Supplement this with several hundred eggs—this for the fancy breeding.

A. 16. Begin with a few fine birds for fancy breeding and with a few ordinary birds for market breeding, and enlarge the flocks as capital will permit.

A. 17. Barred Plymouth Rocks.

A. 18. This breed is the most popular and therefore in most demand and greatest money maker.

A. 19. Barred Plymouth Rocks.

A. 20. I understand that market poultrymen breed them very largely.

A. 21. Barred Plymouth Rocks.

A. 22. On account of their popularity for both fancy and market breeding.

STUDY THE POULTRY PAPERS

GO SLOW—LEARN FIRST HOW TO CARE
FOR AND MATE BIRDS—ATTEND
SHOWS AND STUDY THE STANDARD

MRS. TILLA LEACH, Cheneyville, Ill.

BARRED PLYMOUTH ROCK SPECIALIST

A. 9. If I had the money to buy two trios of first class birds, would do so, also buy eggs from some breeder; if short of money would buy eggs only.

A. 10. The fowls would give me a good start the first year, while from the eggs I might get one or two specimens better than I could buy. Would need two trios because I am a firm believer in "double mating."

A. 11. Buy one or two hundred incubator eggs from some breeder who has high grade market poultry, mark the chicks and use them for next year's breeders. Of course I mean to buy eggs from pure-bred stock. I do not believe in trying to grade up mongrels.

A. 12. Buy eggs, or a trio, from a breeder of high class exhibition stock, whose birds are also good layers and strong, vigorous market poultry.

A. 13. As in this case expense need not be considered, I would buy a trio of the best from a reliable breeder, study the Standard and poultry papers during the breeding season, and secure the best advice and assistance possible when culling out and remating for another season. Such a beginner should attend one or more poultry shows during each season, taking some of his birds with him and, if possible, watching the judge score them, as in that way much can be learned.

A. 14. Buy eggs instead of stock, but be sure they are from a good exhibition line. Attend the shows, study the Standard, and "make haste slowly," learning first, how to care for the birds properly and to mate them, before investing much money.

A. 15. Hire a competent manager and follow his advice for the first one or two years.

A. 16. Buy incubator eggs from a breeder of choice exhibition stock that is strong and vigorous, not inbred too closely. Learn the market side of the business first, gradually working into the fancy as knowledge increases.

A. 17. Barred Rocks.

A. 18. Because I like them best. It is difficult to breed choice specimens, consequently more credit is due to the breeder who succeeds in raising, not buying, good ones. Also, they are more popular, take the United States over, than any other variety, and there is more demand for good breeding stock.

A. 19. Do not know; cannot imagine myself raising poultry for market only.

TO PROCEED INTELLIGENTLY

STUDY THE BREED AND THE
INDIVIDUALS THE FIRST YEAR

BRADLEY BROS., Lee, Mass.

BARRED PLYMOUTH ROCK SPECIALISTS

A. 9. Both.

A. 10. To have as many opportunities as possible from which to obtain the best.

A. 11. Use pure-bred males, selecting birds that show quick maturity and proper body form, and of a strain in which these characteristics have been prominent for years.

A. 12. Perhaps a trio and their eggs in addition—limited number.

A. 13. Obtain the best birds he can buy and a limited number of the best eggs to be had. The most choice specimens produce results that money cannot, and some specimens are almost priceless for breeding. In a variety requiring two pens, the purchase should comprise perhaps a quartette of each.

A. 14. Get a choice breeding trio and then make a careful and discreet purchase of eggs, always of winning blood. Study the breed and the individuals as he finds them the first year, and so be better able to proceed intelligently.

A. 15. Birds at medium prices but of very best blood, regarding of course the type most needed for market in his local markets.

A. 16. Purchase small number of high grade and others of medium grade fancy stock selected for market type also. Also purchase eggs at moderate prices of strains exhibiting the characteristics most desired for the markets.

A. 17. Barred Plymouth Rocks.

A. 18. Our success with them. One of the most popular breeds for all—from the farmer, who buys one male a year, and the market poultryman, to the man of means who has a hobby to be gratified in fancy poultry. They are adapted to needs of all. They are utility and fancy birds combined. If you observe in the shows, if anywhere more than others, 'tis around the Barred Plymouth Rocks one finds often the most enthusiastic crowd.

A. 19. Barred or White Rocks, Rhode Island Reds. Most experience with Barred Rocks, not much with others.

A. 20. Stamina, form, skin, quick growth of these birds. Would select individuals with reference to requirements.

A. 21. Barred Plymouth Rocks.

A. 22. Experience and observation.

FROM A FARMER'S VIEWPOINT

DAY IS PAST FOR ANYTHING BUT PURE-BREDS
FOR THE UP-TO-DATE FARMER KEEP THEM PURE

H. TIBBETS, Neponset, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS

A. 9. I would buy fowls.

A. 10. By buying a trio or breeding pen of some good reliable breeder you get an idea of how they mate their birds to produce choice specimens; it teaches the beginner more than if he buys eggs.

A. 11. I would advise a farmer who wishes to improve his flock to buy some good pure-bred cockerels; by that means his flock will improve each year. The day is past for anything but the very best bred stock of any kind for the farmer to keep. I can answer from a farmer's standpoint.

A. 12. I would advise the farmer who wishes to raise poultry for the fancy as well as for market to keep nothing but the very best of stock; keep them pure, do not cross them.

A. 13. For the beginner with ample funds buy the very best stock that he can get from some breeder who has had plenty of experience and knows how to mate and breed his own birds. Then let him attend the shows and look over the specimens there. Subscribe for some good reliable poultry journal. Then by careful study and perseverance he ought to succeed.

A. 17. Barred Plymouth Rocks.

A. 18. As they are bred more than any other variety there are more buyers for them. They combine as many good points as any variety, as follows: Dress well at any age, are good layers, good mothers, and have good size.

THE BEST ARE CHEAPEST

CHEAPER IN THE END TO START WITH
THE BEST AND BUILD UP SLOWLY—
BREED FOR FURTHER IMPROVEMENT

ROSEDALE POULTRY FARM CO.,
Greenwood, Mass.

BREEDERS OF WHITE WYANDOTTES EXCLUSIVELY

A. 9. Fowls, from a first class breeder, supplemented by eggs from same strain.

A. 10. To secure benefit of experience of the breeder, and uniformity of stock.

A. 11. Purchase of males regardless of price from a first class breeder, using no other males. Add some females from the same strain, gradually weeding out all birds which do not show the benefit of the crossing.

A. 12. Purchase best birds obtainable from breeder who has made a speciality of exhibition birds with good market qualities also.

A. 13. Get the best, regardless of price, and faithfully breed for further improvement.

A. 14. Cheaper in the end to start with the very best, and build up slowly.

A. 15. Allow a well-established breeder to select the necessary stock, and thus secure at once what would otherwise require years of experiment and disappointment.

A. 16. Same as Nos. 12 and 14.

A. 17. White Wyandottes.

A. 18. Because when given proper treatment they quickly show improvement and thus encourage further effort on the same line. The competition is so keen that all breeders are obliged to devote their utmost energy to their work, as neglect of any detail is fatal to the highest results.

A. 19. White Wyandottes.

A. 20. They are about the correct size to meet market requirements. They make a very pretty showing with their yellow skin legs and plump, attractive bodies. Pin feathers do not show.

BUY MATED BIRDS

A FINE PEN WILL GIVE A GOOD
START—SHOW AND ATTEND THE
SHOWS—"STANDARD" NECESSARY

GEORGE H. BIE, Racine, Wis.

BREEDER OF BARRED PLYMOUTH ROCKS EXCLUSIVELY

A. 9. I would buy fowls.

A. 10. I could buy a first class male for breeding from \$20. to \$25., mated correctly with a pen of ten females that I would pay \$100. for from a good reliable breeder. From this pen I could get at least 500 eggs in the hatching season. I could not buy that number of eggs from the same breeder much less than I paid for my pen of birds, and I would have my pen of birds for another season.

A. 11. I would buy cockerels, either Barred Plymouth Rocks or Wyandottes—birds that can be bought from \$2. to \$3. each from some good breeder. Those would not be considered real fine birds but would be all right for the purpose. Put in one cockerel for every twelve to fifteen females in the flock. If I was satisfied with results from them I would mate those same males back on their own pullets the next season. Get new males the following season.

A. 13. Buy fine pen of birds from a good breeder and have him mate them. He will do much better to buy mated birds for the first year or two than to depend on his own judgment for mating. In the meantime get all the good reading matter he can obtain on his chosen variety. Take one or more good poultry journals. Get a Standard of Perfection. Send some of his best birds to the shows and go there himself. If his birds do not win a prize he will profit by it as he will find out their weak points. He must be willing to live and learn.

A. 17. Barred Plymouth Rocks.

A. 18. I have bred them for eighteen years. I bred several other varieties for twelve years and then dropped them all but the Barred Rocks. I have found them the best all round purpose fowl that I have had anything to do with. There is no variety of fancy poultry that receives more attention at our shows. There is always a ready sale for all the good ones and the culls will bring the highest market price.

A. 19. Barred Plymouth Rocks.

A. 20. They are as hardy as any fowl living and are good winter layers. The young birds are fit for market at any time after ten weeks old and bring the highest market price.

ENTIRE YEAR GAINED

START WITH FOWLS—SAVES A YEAR IF WELL
MATED STOCK IS BOUGHT—BUY THE BEST

W. D. HOLTERMAN, Fort Wayne, Ind.

SPECIALTY BREEDER OF BARRED PLYMOUTH ROCKS

A. 9. If I had sufficient means to buy the very best I would buy a few fowls, otherwise the best eggs that money can obtain.

A. 10. I should prefer fowls because in the first place it practically means the saving or gain of an entire year in the life of a fancier, and if he buys a correctly mated pen of the best out of a true fancier's yards, he gets a practical working knowledge of how birds should be properly mated for breeding, particularly if he studies the specimens sent him very closely. This, one is naturally apt to do the first year. Every fancier will concede that the one knowledge absolutely necessary for success is—proper mating. Therefore, to the beginning fancier I would say: Buy birds—buy the best.

A. 13. To such a one I would say, invest \$50. to \$200. in a pair or trio of line-bred birds, that have been bred in line for years for that one purpose—exhibition birds or show birds. He should be satisfied with nothing else but the very choicest specimens to be had from any one breeder. These birds should be all of the same blood lines (related). Of his young stock from this pair or trio he should next season select a few (remember, however, only a few) of the most vigorous and best pullets and mate these back to their sire. Of his cockerels he should only keep one—the best one—to mate back to the hen or hens he purchased. The next season he should continue breeding along these lines—breeding as close as possible without impairing the vigor. Whenever he wishes to buy he should only buy from the breeder from whom he made his original purchase. Thus will he establish a line of showbirds.

A. 14. Let this man write to the most reliable breeders and fanciers of the variety he desires to keep, and obtain from them prices of eggs from their most select specimens. Since the advent of the trap nest every fancier can easily identify the eggs from each individual female in his breeding yards. Some fanciers refuse to make such a quotation but I would rather pay \$2. per egg for such eggs than eggs from the regular pens at \$5. per sitting.

STARTING IN THE BUSINESS

A. 15. This man could well afford to buy both stock and eggs. For his exhibition poultry, however, I should advise him by all means to start with stock—the best he can obtain. He should work the market poultry end of the business vigorously from the beginning and should take his time to establish himself firmly in the fancy business. If he does this thoroughly, the fancy business will bring in more money in the end than the market poultry.

A. 16. Let him do as above suggested with this difference, that the first year or two he combine either gardening or small fruit raising with the poultry business, so that he will have sufficient funds to carry him through to success.

A. 17. Barred Plymouth Rocks.

A. 18. Because in the first place they are probably the most difficult of all varieties to breed true to their standard requirements and this, therefore, opens a wide field for the fancier who succeeds in breeding the choicest. That this is true is shown by the average high prices paid for fancy Barred Plymouth Rocks. Undoubtedly the average price paid for birds of this variety is higher than that paid for any others. They also form the center of attraction in the showroom. They are not so nervous and flighty as some of the smaller breeds nor so heavy and clumsy as some of the larger. They form a happy medium in their character.

BUY A FARM

GOOD GRAVEL SOIL BEST—GET BEST STOCK AND EGGS YOU CAN AFFORD—BUILD INEXPENSIVE HOUSES

A. B. TODD, Vermilion, Ohio.

SINGLE COMB WHITE LEGHORN SPECIALIST

A. 9. I would buy the finest eggs that money could buy from two line-bred strains, and breed from birds obtained from them, and get a strain of my own.

A. 10. My reasons for so doing are, I could get a better grade of stock after once hatched and raised than I could get for five times what the finest eggs would cost.

A. 11. The quickest and best way for a farmer to improve his flock of mongrels is to buy the best cock or cockerel he can afford and breed from him, and add new blood every year in this way, or buy good eggs and hatch his own breeding cockerels.

A. 12. If he wished to start at once I would advise him to buy a trio or pen of the best stock he could afford.

A. 13. Buy a place of 10 or 20 acres of good gravel soil, and buy a few choice birds, say 15 to 25 fowls of a strain that has been line-bred for years. Start on a small scale and learn how to breed exhibition specimens, and gradually work his way up.

A. 14. Lease a place of 5, 10 or 20 acres of good gravel soil for three, five or ten years, and build temporary poultry houses costing not to exceed \$1. per fowl. Buy a good grade of eggs from two line-bred strains of fowls and start a strain of his own.

A. 15. Buy a place of 20 to 25 acres of good gravel soil near a good market, and buy the best stock and eggs that he can afford. Build poultry houses costing not to exceed \$1. per head. Start in gradually and add to the flock each season as the business increases. Be a good advertiser in the leading poultry journals.

A. 16. Buy a farm of 20 to 50 acres of good gravel soil, if not, lease a farm of 20 to 50 acres for three, five or ten years, and build houses costing not to exceed \$1. per head. Start with as good pure-bred stock and eggs as he can afford. Continue as advised in No. 15.

A. 17. Single-Comb White Leghorns.

A. 18. First: They are the most showy and finest exhibition fowls in existence. Second: As great layers of pure white eggs they are second to none. Third: They are one of the hardiest varieties and are easiest to raise of any breed.

A. 19. The Columbian Wyandottes.

A. 20. They are next to the Leghorn in hardiness, and in their quick growth, for an excellent table fowl they have no superior.

A. 21. Columbian Wyandottes or Barred Plymouth Rocks.

A. 22. There is a good demand for either breed as a fancy fowl, and for market neither can be excelled.

BEGIN SMALL AND GROW

NO MAN EVER MADE A SUCCESS AT THE START WITH A BUSINESS HE HAD NO KNOWLEDGE OF—YOU MUST LEARN

O. E. SKINNER, Columbus, Kansas.

BREEDER OF BUFF PLYMOUTH ROCKS; BUFF AND PARTRIDGE COCHINS

A. 9. Eggs.

A. 10. From eggs hatched I could judge of the breeder's stock as a value to start a flock. If they would not reasonably reproduce, should discard them as a flock foundation.

A. 11. Barred Rock males. From the fact that Barred Rock blood immediately takes effect in both color and better size. Besides my long observation is that Barred Rocks are the ideal market fowl—both dead and alive.

A. 12. My experience has been largely along this line and I have used Barred Rocks for this reason. At the age of broilers you can almost invariably pick out your culls if any, and obtain as much for them at this young age and thus save half your feed bills. For combining fancy and market there is no breed as profitable as the Barred Rocks.

A. 13. Buy a choice pen or pens properly mated by the seller to produce immediate results, and advise the party of whom purchased so he will know exactly what you wish to do.

A. 14. Purchase a small pen to satisfy his immediate desires in the fancy line, and at the same time to give him an idea of what his chosen breed is like, and then stock up later on with eggs, as a hundred eggs would give him quite a flock.

A. 15. Go slow the first year so as to get some knowledge. No successful business man ever made a success at once of a business he had no knowledge of. Take all other lines of business as an example. They have all come up gradually.

A. 16. About the same as No. 15.

A. 17. Strictly fancy, would take Partridge Cochins.

A. 18. The percentage of culls is less. There is always a great demand for all the pullets you can possibly raise, and then the average demand for males will keep you closely cleaned up all the time. Besides I have always been able to get better prices for this breed. They are the easiest of all the large breeds to raise by artificial methods.

A. 19. Barred Plymouth Rocks.

A. 20. With this breed you can almost invariably select your poorest specimens at broiler age and thus avoid feeding so long—increasing the profit by this means. Further, most markets invariably pay a higher price for Barred Rocks, as they go on the market cleaner, their plumage not showing the dirt from their trip to market, like most other breeds. They are more active than their closest competitors, (the Wyandottes),

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easier to grow by artificial methods, as they are the last to die in a mixed flock of youngsters in brooders if conditions have not been the best for their growth.

THE BEST IS BEST

GO TO REPUTABLE BREEDER AND BUY BEST HE WILL SELL—LEARN TO MATE FOR BEST RESULTS

DR. O. P. BENNETT, Mazon, Ill.

SPECIALTY BREEDER OF BARRED PLYMOUTH ROCKS

- A. 9. I would buy both.
- A. 10. I would buy the best pen of fowls I could get in order to learn what constitutes a good fowl, also to learn the proper way to mate them. I would buy eggs from the best breeder and from his best birds in order to get a chance for the best chicks.
- A. 11. Buy as many good fowls as possible, keeping their produce and gradually getting rid of the mongrels.
- A. 12. Sell all his old stock, buy eggs and as many breeders as possible. Increase and better his flock from these.
- A. 13. Buy a pen or two of the very best fowls possible from the best breeder. Also buy the best eggs from same breeder.
- A. 14. Begin as above but only on a smaller scale.
- A. 15. Let a reputable and capable breeder fit him out with a part of what he needs and then let him learn from these. By the time he has the proper experience he will have a large enough flock of his own.
- A. 16. Same as No. 15, but on a smaller scale.
- A. 17. Barred Plymouth Rocks.
- A. 18. I believe them to be the most practical and profitable fowl on the market. They are by far the best fowl for the farmer, market poultryman and for the fancier.

THE FARMER'S MISTAKE

MONGRELS, MIXED BLOOD AND CROSSES NOT DESIRABLE—PURE-BREDS ARE BEST—KEEP ONE BREED

F. J. WEHRMEYER, Benton Harbor, Mich.

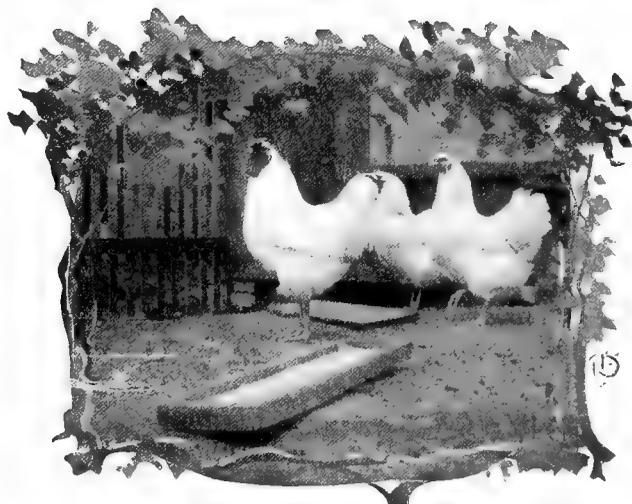
WHITE WYANDOTTE SPECIALIST

- A. 9. I would buy both eggs and stock.
- A. 10. Because I, like the majority, could not afford to buy many high class birds, hence I should buy birds to the extent of my ability financially, and then buy eggs from the same breeder. Almost everybody could buy a few nice birds; if not 50 or 25, then a pen or trio. This increases the interest and gives one a few eggs to set, and above all, a few females and male to use in mating the next season with the choicest chicks raised from the eggs bought, and in this way start a "line" in breeding. Of course, if I did not understand what was meant by "line-breeding" I should immediately ask and learn; this being essential.
- A. 11. I do not believe in mongrels of any sort on a place for farmers or others. I am a farmer as well as a breeder of poultry. I am sorry to say that entirely too many farmers of my acquaintance labor under the wrong impression that mixed blood, or stock, gives better results. No one has ever advanced a sound reason to substantiate this. It is all guess work and imagination. Pure-bred fowls thrive just as well, lay just as many eggs, are just as healthy, vigorous and thrifty as any mongrel ever dared to be. All that is necessary is for the farmer

to occasionally buy a new male or two to place with his flock-

This is true even with mongrels. Then why keep mongrels? They cost us no less to keep. Why not keep some one breed and let this be pure? When it comes to a question of marketing, especially alive, all dealers will tell you that a coop or crate of chickens all one color sells better than a mixed lot. All farmers know that pure-bred stock produces the best offspring—colts, shoats, calves, etc., and certainly poultry. Then why breed mongrels? Every farmer, I don't care where he is, rich or poor, appreciates nice looking animals around the farm.

With horses, cows, hogs, etc., this question of pure-bred stock is usually a difficult one for the average farmer. When it is a question of chickens, what an easy matter to keep a pure-bred flock. Eggs from pure stock are so cheap and so easy to get. Let your broody mongrels hatch and mother them, they'll thrive and grow as plump and fat as any mongrel chick. The next season buy a year-old cock bird of the same breed and mate him to your pullets. Gradually sell off your mongrel stock, and in just a short time the mongrels on your farm will be a thing of the past. Nothing—absolutely nothing—adds so much interest to a farm place as a beautiful flock of some one breed of chickens. Visitors admire them—the help around the place treat them with more respect (which usually means a little better care and better profits), the wife enjoys helping with the work among them and so do the boys and girls.



A TRIO OF STANDARD BRED WHITE WYANDOTTES

- A. 12. Start with some one breed of pure-bred stock, preferably White Wyandottes, the best that his purse will stand, gradually increasing the flock or flocks. Read good poultry journals. Show a few choice birds at different convenient poultry shows. Begin advertising in a reliable poultry journal. By raising a quantity there will be lots of nice plump market stock at top prices and some choice ones for breeding and exhibition purposes, or to supply others with eggs for hatching.
- A. 13. Personally visit several well known fanciers or breeders of the variety he has chosen, and there buy if possible the best fowls that money will obtain, or visit and buy at some poultry show. The breeder thus selling will gladly assist him from time to time over any difficult problems in mating, etc., until he understands it better, for the average poultry fancier is a jolly good fellow and appreciates the fact that the "fancy" will never be overdone and always welcomes a new arrival. Then hatch and raise. Show the best you have at some exhibition—never mind whether you win or not, show the best you have anyhow. Affiliate with poultry clubs, join your local club, if any. Read good poultry journals and books and as soon as

STARTING IN THE BUSINESS

possible begin advertising when ever you think you can spare either eggs or some surplus stock.

A. 14. Assuming that the beginner has other means or other work that bring in money, he has but to buy some choice eggs, hatch and raise some stock. In a local way he will soon begin to grow, and by painstaking efforts succeed eventually in climbing up the ladder. He will fall back occasionally but this only adds to his determination and fires his ambition all the more.

A. 15. Engage the services—if possible—of some experienced poultry keeper or manager and do as he suggests.

A. 16. Begin small, save a surplus to bridge over any set-backs and gradually grow step by step. Perseverance—strict attention to the work—will count here as in any business. Begin with some known bred-to-lay stock and feed liberally for eggs and thus get started in increasing the profits so that all earnings can go toward the growth of the business.

A. 17. White Wyandottes.

A. 18. White Wyandottes are very interesting fowls inasmuch as they afford much study (which proves a pleasure) to breed them to standard requirements. Being white in color they look more beautiful than any other fowl when seen in a yard or upon a green lawn. To realize that many people really enjoy seeing White Wyandottes one has only to listen to the remarks of visitors at poultry shows. As they view the various birds they suddenly come upon your favorites and with a burst of enthusiasm remark, "See those beautiful white chickens, aren't they simply lovely?" What more does a fancier want than such indorsement to convince him that the White Wyandottes are worthy of being loved?

A. 19. White Wyandottes.

A. 20. We have had other breeds and after experimenting with White Wyandottes have learned that they are of more value and, being finer-boned, are always preferred by the discriminating dealers. As broilers there is nothing to equal Wyandotte chicks, as they develop flesh rather than feathers. They will stand close confinement, responding readily to good treatment and when dressed are as plump and toothsome meat as it's possible to conceive. The feathers being white are worth considerable, to say nothing of the pin feathers not showing as in colored varieties.

A. 21. White Wyandottes.

A. 22. Being known as the best all around purpose fowl. From a fancy view they keep you "busy" raising them to standard quality. As layers they are hard to beat. When selling alive, in the market, nothing looks quite as nice or clean, and when dressed nothing as plump, fleshy and tempting.

ONE MALE AND SIX FEMALES

WILL GIVE A GOOD START AND SHOULD YIELD
75 TO 100 GOOD CHICKS THE FIRST SEASON

J. C. MACOMBER, Reading, Mass.

BREEDER OF PARTRIDGE WYANDOTTES AND
BARRED PLYMOUTH ROCKS

A. 9. I should buy both stock and eggs.

A. 10. The best and surest way to get the right start is to buy stock. It is more expensive, but if you get what you want, you may know what to expect of your chicks. Buy the fowls early enough and allow them to be well settled before the breeding season commences, so that the eggs will be more fertile and the results more satisfactory. One should be able to raise to maturity 75 to 100 chicks from a pen of six females and one male. While buying eggs is more or less of a speculation, one is more than likely to get several birds out of a sitting, each one of which is worth more than the cost of the eggs.

A. 11. I should advise him to buy a couple of pens of pure-bred stock from a reliable breeder, at moderate prices. One can pick up pure-bred stock, that is not fancy, at from \$2. to \$3. for females, and \$5. for cockerels. These pens should be kept separate, breeding as many birds from them as is possible, keeping along with his mongrels until he increases his pure-bred flock to as many as he desires to keep, then discard the mongrels entirely.

A. 12. I should advise that he purchase a couple of pens of as good stock as he can afford, breed them entirely separate from any stock that he might have, watch their breeding by marking and keeping a pedigree of all chicks each year. Save out the fanciest stock for breeders another season, using the fair to good youngsters for market purposes and sending a few of the fanciest to the fall and winter shows. When he finds that he is able to breed really fancy stock, advertise well, and whenever he makes any sales, be sure that his customer is pleased, even though in pleasing him he may be taken advantage of.

A. 13. Buy a pen—or, if it is necessary, in order to obtain exhibition specimens, to resort to double mating—buy two pens of the very best stock it is possible to get. Don't stop to consider price, if you can only get quality, then use a system of line breeding, and by the aid of trap nests, keep a careful pedigree of each chick so that you will know the breeding on the female side as well as on the male side. By carefully studying this system, you will soon find where your good birds come from, and you will soon be able to breed the kind you are looking for with very little trouble.

A. 14. I should advise him to stay out of it as a business, unless he could handle it on the side in connection with some other. In such a case, he should buy eggs until he succeeded in getting at least a pair of fancy exhibition birds, then start with them for his foundation stock. Such a course would take several years to get the business on a paying basis, but without much money, I believe it is useless to go into the fancy poultry business, excepting as a side issue.

A. 15. If the beginner you refer to here does not thoroughly understand the business, I should advise him to start in a very small way with the fanciest stock he can get, and learn to breed and care for fowls by handling them himself exclusively, and when he feels that he is thoroughly competent to master the business go into it on as large a scale as he thinks best. He should have by this time plenty of foundation stock, and if he has not the stock to suit him, he will surely know where and how to get it.

A. 16. Same as in No. 15.

A. 17. Partridge or Columbian Wyandottes or Barred Plymouth Rocks.

A. 18. All three varieties are attractive, handsome, and leaders in the show room. The Barred Plymouth Rock is an old standby and the only objection to them for a beginner—considering the business end of the fancy—is that he would need a great deal of experience and advertising before he could command the trade, there being so many well known breeders of this variety already. With the Partridge and Columbian Wyandottes there are practically no old and established breeders, inasmuch as both breeds are comparatively new and especially the Columbian. There has been very little attention given them by breeders generally, until within the past two or three years. Both breeds are bound to be popular and a beginner would stand a better show and get a big trade quicker on these varieties than he would by taking up the older ones.

A. 19. Barred Plymouth Rocks, Partridge or Columbian Wyandottes.

A. 20. All three of the above breeds cannot be bettered for market purposes. They are great layers, and are splendid table fowls, besides they are attractive in your yards, and a nice flock of any one of these varieties is a great satisfaction. Per-

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sonally I have bred nearly all varieties starting with the Barred Plymouth Rocks and each of the varieties which I have bred, I have tested along with the Barred Rocks. The first variety that I found that was their equal was the Partridge Wyandotte, and then the Columbian. Brahmas consumed more food and laid less eggs, but were a splendid table fowl. They were not as profitable as the Barred Rocks, so I discarded them. Leg-horns are handsome and just about equal to the Barred Plymouth Rocks as layers, but are too small to be profitable as table fowls. Hamburgs are out of it in every way, excepting that they are proud and pretty. White Plymouth Rocks and White Wyandottes fell a little below the Barred Rocks in weight and were not quite as good layers. Of course, I only give this as my experience and it is my reason for breeding the varieties that I do.

GOOD START FOR LITTLE MONEY

MAY BE HAD BY BUYING EGGS—BUY
THE BEST FROM SPECIAL MATINGS

C. BRICAULT, M. D. V., Andover, Mass.

WHITE WYANDOTTE SPECIALIST

A. 9. Eggs.

A. 10. In buying eggs, one with limited means can get a much better start than he would buying stock, for breeders will sell eggs from their best matings, and a very good start can be had for little money.

A. 11. By buying eggs for hatching from breeders who make it a point to breed for utility purposes; then gradually discard the mongrels and keep only the pure-breds. The best



THREE COMPARTMENT FOOD HOPPER

way would be to sell off every mongrel and invest in eggs for hatching of the breed chosen.

A. 12. Sell all the stock of mongrels now on the farm, and buy eggs for hatching from both the breeder who breeds exhibition stock and the one who breeds for market points, eggs and meat.

A. 13. Buy the best specimens of the chosen breed that breeders can be induced to sell. Breed from these only, and cull down to the best birds every year.

A. 14. Buy eggs from special matings. Get an experi-

enced breeder the first year to select the best birds for breeders; breed only from the best specimens.

A. 15. Buy largely of the highest quality birds, both for fancy and market poultry.

A. 16. Buy eggs from special matings and from the best pens of breeders in both fancy and market poultry.

A. 17. White Wyandottes.

A. 18. Because they are the best for layers and market poultry, easy to breed to standard requirements, and one of the most popular of breeds, if not the most popular.

A. 19. White Wyandottes.

A. 20. Because they are excellent layers, make the best broilers and look well as dressed poultry. As yearling hens they do not take on too much fat, as others do.

A. 21. White Wyandottes.

A. 22. Because they combine the qualities which make an ideal fancy and market fowl.

DON'T RAISE TOO MANY

KEEP ONLY THOSE WHICH GIVE
PROMISE OF DEVELOPING INTO EXTRA
NICE, THRIFTY, VIGOROUS BIRDS

BENJAMIN H. BAKER, Owensboro, Ky.

BARRED PLYMOUTH ROCK SPECIALIST

A. 9. I would buy both fowls and eggs.

A. 10. I would go to a breeder of my favorite variety whom I knew to be progressive, and buy a few of the best birds that he would sell and then contract with him for eggs from birds bred in line with the ones that I had purchased. By this method one would be surer of getting a good foundation and I would consider it of the greatest importance in establishing a line of breeding.

A. 11. I think the best method would be to buy cockerels from some good reliable breeder every year, always insisting on birds of good size and plenty of vigor. By this method one could easily improve his females and dispose of his cockerels and surplus pullets at a much better price than usual. By this method he would increase the size of his hens and when through with them they would bring nearly double what the mongrels ordinarily do.

A. 12. I think it would be well for him to select some popular variety that has good market qualities, not try to raise too many and keep only those which give promise of developing into extra nice, thrifty, vigorous birds. Show at his most convenient local show and build up a trade that he can hold. The first few years do not ask the prices that the foremost breeders get, but be liberal with his customers and they will soon come "to believe in him."

A. 13. The beginner with ample funds can well afford to get the best birds he can obtain. He would naturally want to try to raise some birds himself; but I think it would be well for him to select some good locality in the country and offer the farmer's wives a premium above the market price to raise a few choice birds for him—he to furnish the eggs from his yards. By this method he is most certain to get some extra good birds even if he is not successful with his own flocks.

A. 14. To this person the road to eminent success is likely to be quite long with many turns in it. He had better go a little slowly for a while or he will become disheartened and give up. I would advise him to secure the confidence of some good reliable breeder, buy eggs from him each season, and with proper care in a few years he would likely have a good sized flock of excellent birds.

STARTING IN THE BUSINESS

A. 15. Place his money on interest and invest only a small amount in birds until he becomes thoroughly acquainted with the business.

A. 17. Barred Plymouth Rocks.

A. 18. They are conceded to be the most popular variety by both farmer and fancier. From a practical point of view they stand at the head as the best general purpose fowl which rank they have long held, and the indications are that they will continue to hold it for some time to come. Wherever you go you are sure to find Barred Rocks or fowls that resemble them very much. The farmer's wives each year, being anxious to improve their flocks, usually select some progressive breeder from whom to buy new blood, generally buying cockerels. At a result you seldom ever find a breeder of Barred Rocks that has enough good birds to supply his demand.

From the fancy point of view there is no variety that when bred up to its highest state of perfection more appeals to one's fancy for the beauty in its markings and feathers. They have always taxed the minds of the best breeders to raise them to their present perfection, and the indications are that they will continue to require the most careful breeding to improve them.

A. 19. I would cross Cornish Indian's with Barred Plymouth Rocks.

A. 20. I have found by experience and believe that it is generally conceded by those who have tried them that the Cornish Indians stand easily at the head of all varieties as a table fowl, and when crossed on the American varieties they seem to transmit that quality, and I found that they grow very rapidly into big, fine table fowls.

A. 21. Barred Plymouth Rocks and Single Comb Brown Leghorns.

A. 22. Consider the practical qualities that they have—the Barred Rock being a good, general purpose fowl and the Leghorn an excellent layer. The great numbers that are bred create quite a good demand for breeders. This sustains the fancy side of it, thus giving one a ready market at a good price for his best specimens.

START WITH EGGS

THEN GROW UP IN THE BUSINESS
ALONG WITH THE CHICKENS—GOOD
STOCK WORTH A GOOD PRICE

J. W. PARKS, Altoona, Pa.

BARRED PLYMOUTH ROCK SPECIALIST

A. 9. Eggs.

A. 10. My main reason would be, that by buying eggs I would grow up with the business right along with the chickens.

Second: Were I to buy stock I would not know exactly what the fowls were fed on, and changing off from one system of feeding right on to some other method does not always pan out. I know that from experience, as one customer will write that the birds were received all O. K. and are laying fine, and another man that was sent full *sisters* right from the *same* pen, will complain about poor laying. I of course cannot write each customer my methods of feeding in full.

Third: It is not advisable to change fowls from one method of housing to another. For instance, I use the open front coops exclusively, and might sell stock to a man who was afraid fresh air would hurt his stock. He might raise stock himself with this system, but mine would hardly do well under the change.

A. 11. I would advise Mr. Farmer to study his market a little and see what it called for in the way of eggs and fowls. Should his market call for brown eggs, it will at the same time

call for yellow-skinned fowls, as I find everybody is after the yellow skin. I would pick out the hens that come the nearest to having good yellow skin, and the ones that laid the brown eggs. You of course would not have much trouble selecting the ones that laid the brown eggs, as most any kind of a hen except the Leghorn and Minorca will lay these.

With these I would mate male birds—cockerels—of some well known breed that filled the demands of your market. I would of course be sure that the breeder from whom I bought kept the kind of goods I wanted. Then I would send him whatever amount I could spare, say \$5, and ask him to please send me the best bird he could for the money. Right here you might remind him of the points you are working for.

When selecting the breeder to buy from it might be well to remember that all birds of the breed you chose are not good layers. We quite often hear the remark that such and such a breed are no good for laying, while it should be said instead that the females of such and such a strain are not good layers, or sitters or whatever the kick may be. A strain in our notion means that such and such a person has worked and improved his stock by scientific breeding, etc., until it surpasses some other person's strain in some points, hence the importance in selecting the breeder that satisfies your wants.

A. 12. I would invest in selected eggs for hatching, and would place them under hens well dusted with lice powder of some kind at least twice during incubation. The number of eggs to buy, of course, would depend on how extensively he wanted to go into the business, but above all don't invest your hard-earned money in the cheapest fowls you find on the market. I have in mind a neighbor of ours that sent clear out to Iowa to get Leghorn eggs at \$4. per 100, and from the 500 eggs purchased he has about 30 small fry. I believe he could have sent to Colorado, bought eggs from some reliable breeder that charged an honest price, and had more chicks from 100 eggs. If a breeder has good stock he has worked hard to get it, or paid a nice price, and cannot give his goods away.

A. 13. I would go and work on some up-to-date poultry farm for a year at least, and get some knowledge of what a good chicken is and learn to know that every egg from a fine hen does not hatch a winner. I would have some experience at least if I had to work for merely nothing. I remember well of working for seventy-five cents a week and my board while learning the business, and at the age of seventeen.

Next, I would buy an incubator or two and right here the cheapest is generally the dearest, as it costs money to put up a good incubator with a ten or twenty year guarantee back of it. Would also buy a few hens for hatching. You might buy common hens in the fall and as soon as they got broody set them, and should you not have luck with your incubators you would have hens to fall back on, and vice versa. I would next select the breeders of the variety that I wanted, and choose the men that had been doing the winning, and buy eggs from select stock. These generally come high, as they represent years of hard work, hence the importance of knowing a little about the business before you get too much capital invested.

If I were buying a place to start on I would try and get one with a south-eastern slope and sandy ground if possible, and if you are able to get a place with a stream of water on it that can be run through the yards, you are all to the good.

I would invest in a Standard and commit the requirements of my chosen breed to memory, watch my stock closely, see where they lacked, and work to overcome that in my next year's mating. I would take in the smaller shows first, if successful I would prepare to make some of the larger shows, after winning would use printer's ink liberally, let the people know I had the goods, and the trade would come.

A. 14. Just the same as the man that had the money would have to do, to try and get a little knowledge of the busi-

SUCCESSFUL POULTRY KEEPING

ness somewhere. We have men who have started right in their backyard with a few chickens, and today are the foremost breeders, but to learn the business it must be taken slowly and your ground well worked.

I would buy a few hens, and when they got broody send to some reliable breeder of the chosen variety. My object would be to get a few good ones to start with, and then breed from them. The next year you could have the breeder you buy from sell you eggs from several pens, keep tab on them, and mate your stock without purchasing new blood the second year.

A. 15. He too would have to go through the mill to be able to jump right into the business on a large scale. Visit some of the successful poultry farms and note the style of buildings, etc. Have an expert lay out the plant and have the same built while you are learning the business. Get some man that understood the business to go in with you, especially some man that was without funds who would be willing to buckle on his years of experience to your capital. At the same time it would be well to remember that just because you furnished the money you don't necessarily know the business. I have in mind a man that used to take his visitors through his incubator cellar and take eggs out of the machines to show how it was done.

A. 16. Study the markets and find out the variety that is the most in demand. Take into consideration the variety that is the most popular at the shows. I would advise an amateur to select some old reliable strain to start with, and leave the new varieties for the experienced breeders to work on. I would buy a great many eggs of some reliable breeder who sold his eggs at a fair price. Even if you did not get so many choice birds you would have some to supply your market. You should trap nest your birds for the first laying year, and select for your breeding stock for the second year the females that are the best layers. Market the poor layers; they will bring just as good a price on the market as the good layers and perhaps more. The poor layer is generally a fat sluggish hen. I would take a few of the choicest ones to a local show where the competition was not so keen, and if I won would start several little ads in some paper with a "sworn circulation," and above all advertise only what you have. You will not have any 96-point hens the first year, nor will you find many 200-egg hens. The winners and the layers you do have will depend a whole lot on who you bought your eggs from.

A. 17. Barred Plymouth Rocks.

A. 18. Because there is more of a demand for them than any other variety. They are one of the oldest varieties, and the variety that we find some of in almost every flock of chickens. They have stood their ground while other varieties have come and gone. They are one of the hardest varieties to breed which makes it all the more sport, for there is not much real sport in working for something that can easily be obtained. They are the variety that you always see the visitors crowded around in all our big shows. They are of the type that can be developed as layers, and not lose any of their winning points.

A. 19. Barred Plymouth Rocks.

A. 20. They stand at the head of the list as the best all purpose fowl. They have yellow legs, and beaks, beautiful blue gray barred plumage, which makes them a desirable fowl for either city or country as they do not show the dirt, and are not as quickly noticed by the hawks or crows as the white varieties. They are remarkably hardy, easy raised, are the best of layers if encouraged a little in that direction, and are good sitters and mothers. They have the much desired yellow skin, and when dressed for market are quick sellers. These generally conceded points of excellence fully account for the universal popularity of this breed.

A. 21. Barred Plymouth Rocks.

A. 22. There is always a demand for them as fancy stock, owing to their universal popularity, while there is always a

demand for them on the markets, owing to their yellow skin and small bones. They will lay as many eggs in a year as any other variety, while they spend some time clucking around—the non-sitter also takes her rest. They lay a brown egg, and with a little extra care and judicious breeding by using traps, they will lay large brown eggs and lots of them.

START WITH LINE-BRED STOCK

FOLLOW UP BY BREEDING IN LINE—
DON'T WASTE TIME "IMPROVING"
SCRUB STOCK—ONE VARIETY ENOUGH

J. H. DOANE, Gouverneur, N. Y.

BREEDER OF SINGLE COMB BLACK MINORCAS
AND WHITE WYANDOTTES

A. 9. Unless I could visit the breeder and get full information as to the breeding, would surely buy eggs from "line-bred stock" for a new start.

A. 10. One can buy eggs from a breeder's very best birds at a moderate price, quality considered, while to buy the best birds requires an outlay of cash that takes the ardor off most beginners. Unless a beginner fully knows the breeding of his stock, he is very liable to go wrong in breeding, if he procures stock from different breeders. Not knowing how the birds were bred, the chances are more than even that they will not breed properly from a standard-bred standpoint. Knowing what I do, would surely buy eggs from a breeder who has a reputation won in competition in the best shows, who breeds in line of descent, for he would inform me how they were bred and I could follow up his line of breeding.

A. 11. Hit them where the chicken got the ax. Next best thing is to get a well bred standard-bred male and grade up. But life is all too short for such a course in poultry breeding. With cattle, horses, sheep or swine it is well enough to grade up. With poultry the cost of a few settings of eggs from well bred stock is small, profit and pleasure considered, and the course is all too long to spend time improving mongrel fowls. Any farmer can buy a few sittings of eggs from some nearby breeder and the chicks will be uniform (to a great extent) and that alone will give him a neat profit above his mongrel stock; while the next year he can raise his own standard-bred chicks.

A. 12. Procure his eggs, (or stock if he prefers) from a strictly fancy breeder of the breed or variety he desires to keep. Be sure they are "line-bred." Select the best specimens to breed from. Get full advice from the breeder how to follow up his line of mating. Market all chicks that do not come up to a high standard. Do not be afraid to cull the second time; culls are sure to come from the choicest mating. Give your customers full value for their money and you will succeed. Not all will be pleased, but stand ready to take back all stock under a guarantee to please, for some men value a dollar too highly to be pleased even though they get the pick of your flock. You can find plenty of purchasers for your good birds.

A. 13. Not having had the pleasure of plenty of means (ready cash), my advice is to get the best stock you can, devote to it all the time and care you have at your command. Exhibit your best birds and be prepared to take defeat from the fellow who has to watch his birds, for the chances are more than even that he will wax you. Not because he is more intelligent by any means, but because being limited in means, he must watch every small item. A beginner with ample funds who will devote his spare time and watch details with care, who possesses a fancier's pride, can select, cull and care for his birds and put them in the show room in such condition that they should win.

STARTING IN THE BUSINESS

Many of our best fanciers who have means put their birds in the shows in the pink of condition and win. But this is a case where "millions do not count," it is care and study that win out.

A. 14. Buy the best you can; keep your eye peeled for defects and cull like fury. No buyer ever went to Dunn's or Bradstreet's to see where he should buy his show birds, else the writer would be awaiting his first order. Be sure you know your choice of breeds and stick to it. One variety is plenty; two should be the limit. Do not let another's success lead you to discard your own first choice. Any one of many varieties are "the best hens on earth." It rests with the fancier to put on the gilt edge. Remember that many others are striving for first place, and constant care and watchfulness is the price of success in the fancy.

A. 15 and 16. I could suggest no difference in methods to be followed by these two parties, except that the beginner with moderate means would exercise more diligence and care because of his lack of funds, thereby outstripping the fellow with means, unless the latter forgets his cash and "pulls off his coat" himself.

A. 17. Single-Comb Black Minorcas.

A. 18. Experience of eighteen years with Black Minorcas has convinced me that the demand for really good specimens of this breed is far ahead of the supply, and at very good prices. Not only the best birds are in demand, but birds of less quality from a show point are in constant demand properly mated as breeders. Other breeds may do well with their owners. The Minorcas being splendid layers, quick sellers and easily confined, make an ideal fowl for the fancier. There is no speculation as to the outcome; a sure profit awaits the breeder if he but lets the buying public know he has the stock and will deliver quality equivalent to the buyer's cash. Quick growers, early layers, unlimited demand for a limited supply, make the Minorcas an ideal breed.

A. 19. White Wyandottes.

A. 20. White Wyandottes are probably bred in larger numbers both for the fancy and market than any other breed or variety. Believing as the writer does that "fancy and market poultry should go together," and the fact that White Wyandottes dress plump, as broilers, light and heavy roasters or mature fowl, together with their early maturity, excellent laying qualities, docile disposition and hardiness, easily commends them as the peer of all breeds or varieties for market poultry.

A. 21. Black Minorcas and White Wyandottes.

A. 22. Both are very popular, quick growers, good layers, in good demand both as fancy and market poultry; large, plump bodies with excess of breast meat. Being popular and in great demand, makes these two varieties of as great if not greater as a combination for fancy and market than any other.

COST OF STOCK

AVERAGE COST OF RAISING PURE-BREDS FROM EGGS AT \$5 A SITTING—KEEP A RECORD OF CHICKS

FRANK McGRANN, Lancaster, Pa.

BREEDER OF SINGLE COMB BLACK MINORCAS; BARRED PLYMOUTH ROCKS; WHITE WYANDOTTES AND SINGLE COMB WHITE LEGHORNS

A. 9. Without much money to invest I would purchase eggs, but with ample funds would purchase the best stock that money could buy.

A. 10. Figuring eggs at \$5. per sitting, from pure-bred stock, one can expect at least a 75 per cent hatch, and should raise 75 per cent of the chicks, and should have at least a trio

of breeders to each sitting. A trio of pure-bred birds will cost on an average \$25., and the cost of rearing chicks will be about \$1. per chick. Therefore a trio of birds hatched and reared will cost \$8. In buying eggs, one never knows just how good the stock which produced the eggs really is until the chicks have matured, therefore if you are not certain that the poultryman, who sells you eggs, is perfectly honest you will often come out at the small end of the horn. In buying stock direct, you can have the birds sent on approval, and if they fail to come up to your expectations you may return them.

A. 11. Let him select the best females out of his entire flock and mate them separately to pure-bred Plymouth Rock or Wyandotte males. Hatch only from these pens, and in several years he will have a fine flock of market poultry.

A. 12. Let him select a variety of fowls which will answer his purpose, both for fancy and market. He can sell the best of his stock for good prices and sell his eggs for hatching, and his culls will make fine market poultry. I am of the opinion that there is no better fowl for this purpose than the Plymouth Rock or Wyandotte.

A. 13. Purchase a pen of the best birds which you can secure, and request the poultryman from whom you purchase to mate them for you. Place leg bands on all of your females,



A SMALL COLONY BROOD COOP

and use trap nests. Keep a strict account of all your eggs, by numbering them. When it comes to hatching the eggs, if you use an incubator, place each hen's eggs in a separate compartment of a pedigree tray just before they begin to pip, and if you prefer to hatch with a hen, give to each hen, eggs from one hen only.

When the chicks are hatched, and are ready to be removed from the incubator, or from under the hen, punch mark them in the web of the foot giving each hen's chicks a separate mark, where there are not more than fifteen hens in the pen. Where there are more than that number, give a special mark to what you consider your best hens, and give all other hens in the pen the same mark. By following this method, you can find out just which of your females breed the best exhibition specimens, and will also know just how to mate your birds in future seasons.

As soon as you have any birds which you believe are fit to show, do so and go to the show with your birds. Here you will meet various poultrymen with whom you can compare notes, and receive some valuable information.

A. 14. Buy eggs from some good reliable poultryman, and proceed as in No. 13.

A. 15. Same as Nos. 12 and 13, only purchase more birds.

SUCCESSFUL POULTRY KEEPING

A. 16. Same as Nos. 12, 13, 14 and 15.

A. 17. Single-Comb Black Minorcas and Single-Comb White Leghorns.

A. 18. I have had more demand for Black Minorcas than any of the other varieties which I have heretofore bred, and think this is due to the fact that the Minorcas lay a larger egg than any other fowl. Some people prefer to have a white bird and for this reason I have selected the Single-Comb White Leghorn, as they also possess fine laying qualities and are an excellent "all-round" fowl.

A. 19. Either Barred Plymouth Rocks or White Wyandottes.

A. 20. Because they mature very rapidly, are easily reared, and have a fine appearance when dressed for market.

A. 21. Columbian Wyandottes.

A. 22. Because they are very popular among the fanciers, and possess good qualities as a market fowl.

EXPRESS COMPANIES RUIN EGGS

EGGS FOR HATCHING LIABLE TO
BE INJURED DURING SHIPMENT—
SAFER TO START WITH STOCK

W. R. GRAVES, Springfield, Mass.

WHITE WYANDOTTE SPECIALIST

A. 9. Would buy fowls, if not more than one pair.

A. 10. For the reason that unless you can obtain the eggs yourself so as not to depend on the express companies handling, which ruins more good eggs than any other cause, you are liable to have discouraging results. Also, for the fact that while you cannot buy the best birds a breeder owns at a fair price, it is doubtful if you can get eggs from the individual hens



A COLONY POULTRY HOUSE

that produce the prize winning or highest quality birds. The breeder usually has some stock for sale from these birds that are not their equal in points, but on account of the blood lines back of them, they will, well mated, breed stock equal to their grandsires, which they usually take after.

A. 11. Would advise purchasing a pure-bred male each year and breeding to the most vigorous and persistent layers.

A. 12. Buy a pair or more as his means would warrant, raising all the chicks he could from them through the breeding season.

A. 13. Would advise him to find out the breeder that breeds and raises the prize stock at some leading show of the breed he desires, and purchase of him the best that he will sell. It is very essential that he find out for certain who has bred the winners, for they are not always bred by the exhibitor.

A. 14. Would advise him to secure a partner that has had many years' experience in this work, but has not the means to invest in it heavily himself, placing his money against the other man's experience.

A. 17. White Wyandottes or White Plymouth Rocks.

A. 18. They are the best for a general purpose fowl, suiting many locations in the United States.

CHEAPER—MORE SATISFACTORY

TO BEGIN WITH STOCK—CAN
RAISE NICE FLOCK FROM A TRIO

A. & E. TARBOX, Yorkville, N. Y.

SPECIALTY BREEDERS OF SILVER LACED WYANDOTTES

A. 9. Fowls.

A. 10. Consider it cheaper and more satisfactory. When you buy stock you have the fowls to continue laying and to use another year if you want them. One can raise a nice flock from a trio.

A. 11. Buy a trio or pen of fowls of the breed he fancied; if he could not do this, buy cockerels and better the flock that way.

A. 16. Buy a few good birds and breed from them, the next year breed from them and their chicks and keep increasing until he gets the desired number.

A. 17 and 19. Silver Laced Wyandottes.

A. 18 and 20. They furnish the fancier plenty of work. Are one of the prettiest breeds there is. They are one of the best general purpose fowls. A gentleman from California says: "I have always considered the Silver-Laced Wyandottes, as bred to the present standard and as actually seen at the large shows, the greatest work in the poultry kingdom of the moulding of man's hands, the very highest perfection of workmanship in poultry craft." We agree with him. They grow quickly, have a compact body, and are yellow meated.

THREE OR FOUR PENS

GIVE A GOOD START—HAVE THEM DIFFERENT FAMILIES BUT ALL THE SAME STRAIN

F. W. RICHARDSON, Hicksville, Ohio

BARRED PLYMOUTH ROCK SPECIALIST

A. 9. Fowls.

A. 10. Buy the best money could buy. Visit some good breeder and know just what you are buying. In buying eggs you have to chance getting them from good specimens, also of getting a good hatch, and then they have to be developed well, which an experienced breeder can do best.

A. 11. Buy some cockerels from some good breeder, birds that he does not wish to sell to his fancy trade on account of defective combs, eyes, etc. They can be bought at a very reasonable price and will much improve the flock.

A. 12. Would buy a good breeding pen of the chosen variety and pen them separately, and should raise enough good birds the first year to get a good start of pure-breds. Sell the

STARTING IN THE BUSINESS

culls on market, keeping the best specimens for the following year, and buy a good cockerel to mate with the pullets kept.

A. 13. I would buy the best male and two females that I could get of the variety I wished to breed. Have them properly mated to produce the desired results.

A. 14. Visit one of the best breeders having the variety desired. Purchase three or four good breeding pens properly mated to produce exhibition specimens, but from the same strain. Would never put much money in buildings until I was thoroughly established in the fancy.

A. 15. I would want to build large, roomy buildings, large yards, and have them well scattered; then buy the best birds possible to stock the buildings and yards.

A. 16. Would start at the bottom of the ladder, by buying the best birds for breeders within my means; not expend much on the buildings at the start, and then increase as the market justifies.

A. 17. Barred Plymouth Rocks.

A. 18. There is no other breed on earth that has the same keen competition in the show room. It is competition that makes a great demand for high quality specimens at big prices. The Barred Plymouth Rock is the most popular breed among the farmers, making a good demand for all off-colored specimens. They are as good layers as any large breed, and sell well on the market as table fowls.

THE GREATEST DEMAND

AT PRICES PROFITABLE TO PRODUCER INDICATES THE BEST FROM MONEY-MAKING STAND POINT

J. T. THOMPSON, Hope, Indiana

BREEDER OF WHITE PLYMOUTH ROCKS AND MAMMOTH BRONZE TURKEYS

A. 9. I would buy either the fowls or eggs.

A. 10. If I had a reasonable amount to invest I would buy the fowls, but if my means were limited I would buy eggs, for while it takes a little more time to start with eggs, it is nevertheless much the cheapest way to start.

A. 11. I would advise him to buy a vigorous male of the variety that he prefers to mate with his mongrels, using good judgment of course; in selecting the male. If he wants to increase the size of his stock, not caring anything about improving the egg yield, I would advise him to get a male of any of the large varieties, while if he wants to improve the laying qualities of his flock, and at the same time raise stock that is good size, and will bring a good price on the market, I would advise getting a male of an American variety.

A. 12. The farmer that wishes to make more money from poultry, from a fancy as well as from a market standpoint, must select a breed or variety that are good layers, good size, will mature quickly, and at the same time are popular with the fanciers of the country, which insures him a good demand for all the best specimens he raises each season, and at good prices.

A. 13. I would advise him to buy from a reliable breeder some of his best specimens, buying only a few of the most select. From the same breeder I would buy each season a few eggs from his very best pens. By mating the best birds raised from his eggs with the best ones that you raised from your matings you would not be breeding them too close, and at the same time keeping your flock free from any foreign blood. Not only that, but by buying a few eggs from his best pens each season, you certainly stand as good a chance of raising as good birds as he does.

A. 14. Start with eggs, as that is the cheapest way. He

can buy eggs from a breeder's best pens even though he cannot buy the birds, thereby getting the right kind for his foundation stock.

A. 15. Buy the fowls with which to start, selecting a variety that are good layers, of good size and at the same time that are in popular demand for fancy purposes.

A. 16. My answer to question No. 15 also answers this one, with the exception that I would advise this beginner to buy eggs instead of fowls with which to start.

A. 17. White Plymouth Rocks.

A. 18. In raising or offering anything to sell, whether it be fancy poultry or any of the necessities of life, it is to your interest from a money-making standpoint to raise or offer for sale whatever is in the greatest demand and can be sold for prices that are profitable to the producer. And when it is a fact that for the past ten years the White Plymouth Rocks have been in greater demand and have been sold at higher prices than any other variety, and that they are easier to breed to standard requirements than any other variety, it is certainly convincing to the most skeptical person contemplating starting in the poultry business that this is the best variety that he can breed.

A. 19. White Plymouth Rocks.

A. 20. For layers they are excelled by no other variety, being good winter as well as summer layers, and their large size, their quick maturing qualities, their pure-white plumage, and their rich yellow skin and legs make them an ideal market fowl.

EITHER EGGS OR STOCK

BOTH CAN BE DEPENDED UPON TO GIVE A GOOD START IF FROM EQUALLY GOOD SOURCE

C. H. WYCKOFF, Aurora, N. Y.

SINGLE COMB WHITE LEGHORN SPECIALIST

A. 9. Would buy eggs or fowls according to which best suited my needs at the time.

A. 10. From the great number of reports received from our customers during the many years we have been supplying them with both breeding stock and eggs for hatching, I find that about as many credit their success to having started by one method as the other. I am therefore convinced that where the breeding stock and eggs offered are of equal strength and breeding, the selection may be decided by the purchaser taking whichever is best suited to his convenience at the time.

A. 11. Dispose of the mongrels entirely and start with pure-bred stock of the varieties desired. Or, if unwilling to go to this expense, purchase male birds each fall and breed up the mongrels. I believe however, that the first proposition is cheapest in the end.

A. 12 and 13. Nothing short of preaching a whole sermon would do this question justice, and I have quit preaching. As a short answer will say however, read the matter up in the poultry journals, study it and follow up by visiting successful poultry plants; then go to work at it and get the knowledge by practical experience that cannot be had by any other means.

A. 14 and 15. Obtain by the best means available a whole lot of practical experience.

A. 16. Same answer as No. 14. While knowledge obtained by other means may be an aid to success, yet a thorough practical knowledge of the branch of poultry business desired is the only thing in my judgment that will insure it.

A. 17. Single-Comb White Leghorns.

A. 18. My admiration for the breed coupled with the great and growing demand for them.

SUCCESSFUL POULTRY KEEPING

A. 19. Single Comb White Leghorns. They will produce more value (money) in their eggs laid during the year for a given amount of value (money) in the food consumed than any other breed or variety of my knowledge. They give me full satisfaction in both pleasure and profit.

SMALL PLANT WELL MANAGED

IS BEST FOR BEGINNER OF SMALL OR AMPLE MEANS AND WILL YIELD LARGER PROFITS

IRVING F. RICE, Cortland, N. Y.

SINGLE COMB WHITE LEGHORN SPECIALIST

A. 9. I would buy a good breeding pen and also eggs from a reliable breeder.

A. 10. If there is a question of means a breeder can get a cheaper start with eggs if he can be sure he is getting what he buys. At the same time if he can buy good fowls for a foundation he has a profit while the chicks are growing, and the eggs from a good flock will not only pay for their own keeping but should pay for the food consumed by the small chicks. While the chicks from purchased eggs alone must be kept at an expense until five or six months old before any income is received, except that derived from selling the surplus cockerels.

A. 11. I would advise that all mongrels are sold and a pen of standard-bred fowls purchased, but if this is not practical I would advise that a cock of the preferred variety be mated to the best hens of the flock adapted to this purpose.

A. 12. A farmer to cater to the fancy poultry trade must be also a "fancier" and must exhibit his stock at fairs and shows. After exhibiting and winning he must advertise his stock and eggs in a good poultry journal. Build comfortable houses and give his poultry as much care and attention as he does his other farm stock.

A. 13. I would advise a beginner with ample funds to purchase a choice breeding pen from a good reliable breeder and pay him his price, do not ask for his "lowest price on his best birds," but pay for a good pen carefully selected and mated for best results, and then increase your flock by hatching eggs if you feel that you can trust the breeder to send you what you pay for.

A. 14. Buy as many good birds as you can, then exhibit them at fairs and small shows until you have thoroughly learned the requirements of prize winning birds, gradually entering the large shows. Then select a good paper and advertise your stock and winnings continually until the people are familiar with your name and breed; always use great care in selecting and breeding your birds, and above all treat your customers honorably.

A. 15. However ample the funds, I would say go carefully and slowly; do not embark too heavily at first; a small plant well conducted and carefully managed will yield larger profits than a large plant, dependent upon hired help who are interested only in putting in their time and drawing their pay. It is a business made up of minute details and it is the little unmanaged things and leaks that eat up the profits.

A. 17. White Leghorns.

A. 18. First: They are the most practical fowl, hardy and easy to hatch and raise and the best layers for the smallest quantity of feed. Second: More can be housed in a building than can the larger breeds. Third: There is no danger of overfeeding them, as they are active and always busy. The egg farms are all stocked with this variety which proves them to be the best egg machines. Fourth: They lay large white eggs

which command a fancy price on the New York market. Fifth and last: They are the most beautiful fowls and there is a great demand for them.

A. 19. White Wyandottes.

A. 20. Because they take on flesh quickly and easily; have a plump yellow carcass, and being white, pin feathers do not show as plainly as in colored varieties. Their bodies are always plump, where as the Rocks are all frame until nearly matured; the latter put on flesh after their frames are developed.

BREEDING STOCK BEST START

EGGS GIVE GREATEST GOOD FOR LEAST POSSIBLE OUTLAY AND ARE BEST FOR A BEGINNER WITH A SMALL PURSE

ARTHUR G. DUSTON, South Framingham, Mass.

WHITE WYANDOTTE SPECIALIST

A. 9. Fowls.

A. 10. I have answered fowls instead of eggs with the mental proviso that I have the money to invest that would allow me to buy the quality that I would want. To start with stock I would be the gainer by having the birds in hand, and would not have to trust to the uncertainties, however slight, of a regular mating. I would have the stock on my place controlling in a great measure the fertility and avoiding the risk of any injury to the eggs, but the outlay would be many times greater.

A. 11. The introduction of big, strong males and, if possible, a side pen of pure-breds to gradually replace the flock of mongrels.

A. 12. Do as already suggested, get a small pen of good birds and as fast as possible discard the common hens, have nothing but fancy birds, and by all means only one variety that they may roam at will and not run any risk of being mixed up with another breed. This permits one to bend all his energies to the perfecting of this one variety.

A. 13. Buy the best to be had. Study and breed them along accepted lines.

A. 14. This party must go slower and to achieve the greatest success for the least possible outlay he will purchase eggs for hatching from some strong matings, raising with care the chicks, and, if he wants the best results to be obtained from the young the next year, he will be guided by the advice of the party from whom he makes his original purchase when making his matings for another year.

A. 15. Buy a good, big flock of fair breeders for the foundation flock for the market, of the variety chosen, and one or two pens of high class birds. In this way one can continually strengthen his whole line, by reserving the males from the best pens to use on the pens of breeders, thus growing stronger in quality from season to season until the whole flock is of the highest merit, but always going on with the knowledge that it costs less to make 7½ lbs. on a well-bred male than 7½ lbs. on a mongrel.

A. 17. White Wyandottes.

A. 18. Some years of experience with other breeds proved to my satisfaction that in this bird was combined the greatest number of good points with the least possible number of defects.

A. 19. White Wyandottes.

A. 20. For the reason I proved them fourteen years ago and thousands have proved them since to be unbeaten as layers, this mainly deciding me as to which of the five varieties I was breeding to keep. Afterwards a "try out" in brooder house

STARTING IN THE BUSINESS

work showed that as broilers and roasters they distanced anything I had tried, making 2 to 2½ pounds in eight weeks.

A. 21. White Wyandottes.

A. 22. The market side I have already covered, and for a fancy bird we have one of the most popular of all the varieties. The best specimens are unsurpassed for beauty, grace and symmetry, and while so many are bred the choicest bring as good prices as any variety and far more than almost any other, so that a ready sale is assured any breeder for good stock.

TRAP-NEST YOUR HENS

PUNCH-MARK ALL CHICKS AND STUDY THE BIRDS AS THEY GROW

S. J. McQUILLIANDE, West Hartford, Conn.

WHITE PLYMOUTH ROCK SPECIALIST

A. 9. Fowls.

A. 10. In the first place I would consider them the cheapest. Second: I would have a chance to study the young stock that I hatched from their eggs as they grow.

A. 11. Kill them all and sell them for the best price obtainable. Start all over again with the variety of pure-breds he likes best or what he considers to be the most profitable variety for him.

A. 12. Buy a trio of the variety he is most interested in, find out who raises the best of that variety, visit his place if possible, see what you are buying, and buy the best you can afford—if only two birds, one male and one female.

A. 13. I would advise a beginner to purchase a pen of four females and one male to start with. Trap-nest your hens and set the eggs from each hen separately. Punch-mark the little chicks when they are hatched. Study your birds as they grow. When your birds are matured you will know how to mate the following year to produce better results. If you follow this system for two or three years you are sure to raise good exhibition birds, provided you had first class stock to begin with.

A. 14. Buy as good a trio as his capital will allow and proceed in the same manner as recommended in answer to No. 13.

A. 15. If the beginner possesses some knowledge of the poultry business his course will be easy; all he will require is a little common sense and good judgment. Would advise visiting as many of the practical poultry plants as possible in operation throughout the country and studying their methods.

A. 16. Select one variety, the best adapted to your market, buy the best your means will allow, cull close every year, exhibit as much as possible, do not raise too many to start with, study the variety you select, become acquainted with others that breed your variety and obtain from them all the information possible.

A. 17. White Plymouth Rocks.

A. 18. They are good layers, they are handsome to look at, they are excellent market fowls and make good broilers. The prices paid for them at the show room are as high as any other variety.

A. 19. White Plymouth Rocks.

A. 20. They grow faster than any other fowl that I know of; the cockerels very often go eight pounds in six and one-half months. I have had them weigh ten pounds in eight months.



CHAPTER FOUR

THE POULTRY PLANT

LOCATION, BUILDINGS AND YARDS

WHAT IS MEANT BY A GOOD LOCATION—PREFERRED TYPES OF POULTRY BUILDINGS—OPINIONS OF FOREMOST BREEDERS AS TO BEST HOUSES FOR BREEDING AND YOUNG STOCK, GIVEN IN A POULTRY HOUSE SYMPOSIUM—PROFITABLE INFORMATION FOR BEGINNER AND VETERAN



IN MOST cases the beginner of moderate means will find it advisable to locate his first venture in the poultry business at his own home, whether it be a backyard, town lot or farm. Without funds it is usually unwise to launch the enterprise by the purchase of real estate and so tie up all the available money in land and buildings.

A small start is best; you can grow as fast as you please and your capital will permit, once you have gained the necessary experience.

Nearly every beginner is employed at other work and he had best stick to his salaried job until he has established himself with poultry, or demonstrated practically his ability or inability to do so. The clerk, student or mechanic can usually begin in a small way at home and so learn the business in hours not devoted to other duties. The professional man will find ample employment for his leisure hours in the study and care of a small flock on the home place.

Such beginners will usually find it much to their advantage to purchase some of the more desirable types of ready-made, low-cost portable houses. These buildings are both practical and satisfactory, being particularly well adapted to rented locations. Even permanent plants on large or small farms will find these portable houses very desirable for colonizing flocks in the fields, in fact good portable colony buildings, large and small, are always convenient and servicable on any poultry plant regardless of size or permanency. The beginner with ample means will usually suit himself as to location, choosing one that pleases his fancy most, but he too will find it wise to go slow, make sure his site is a good one and favorable to the work in hand, while it will be best to build practical and inexpensive buildings rather than elaborate, costly, more artistic structures.

Poultry may be profitably kept for fancy purposes and to supply the family with eggs on a small town lot or in a backyard, and there are many paying poultry ventures located on village half-acre and acre homesteads. To make a living from poultry a five-acre farm is small enough and fifteen or twenty acres is better, but one man should seldom attempt to operate a farm exceeding forty to fifty acres as that is practically as much as he can handle to advantage without good, permanent, competent, hired help, which labor is scarce and difficult to procure. A twenty-acre plant or larger ought to grow a large proportion of the food required by the poultry and even on a one-acre place the garden should supply the family table and provide an ample stock of winter vegetable food for the flock of breeders.

Any farm or land that will grow good green grass and support small fruits and fruit trees will serve also for successful poultry keeping. Well drained, light sandy or gravelly loam is the best soil. Clay soil is the least desirable and heavy, soggy, sticky clay soils are really unfit for satisfactory poultry raising. Of all locations a gentle southern slope on well drained rolling

grass land, lightly wooded, or set with orchard fruits, is the most preferable. Shade and sunshine are both desirable. On a gentle slope if the buildings and yards are well placed, the plant is easily kept clean and the yards practically cleanse themselves with each heavy rain.

Permanent poultry houses should be placed on the higher levels of ground, never in the hollows. See that they are so located that all surface water in winter and early spring thaws and heavy summer rains will drain away from them, and also will not settle in the yards or runs. In climates where the winter temperature falls to zero or a few degrees above, or where the mean annual temperature is 56 degrees Fahrenheit or lower, all permanent poultry buildings should front or face south or a little east or south. Runs in such locations should preferably be to the south of the building but may be made on both south and north sides, if desired. For climates where the mean annual temperature exceeds 60 degrees F. houses should face east or a little south of east, yards running east and west from front or back of house as desired. With fresh-air poultry houses of ordinary height from 18 to 28 cubic feet of house air space should be allowed per bird. With closed houses of usual height of stud from 28 to 40 cubic feet per bird will be required for best results. Or in houses of average height allow 5 to 10 square feet floor space for each bird in closed houses, and from 4 to 7 square feet floor space per bird in fresh air quarters. Three nests of ordinary dimensions, 14 by 14 by 14 inches each, are all that are needed for a flock of 20 layers. Six to eight inches, lineal measure, is sufficient space to allow per bird for roost room. Roosts should be 16 inches away from back walls of houses and from 14 to 16 inches apart measured center to center.

For breeding stock and layers allow from 65 to 75 square feet of yard room or run for each bird in the flock. Growing chicks should have liberal or free range after they are a month or six weeks old. They can be reared in confinement but it is better not to place too close a limit on their range, give them as much or more room than you would breeding fowls. See that they have plenty of shade and shelters that are easily accessible. All yards should be planted to fruit trees like plums, peaches, cherries, apples and pears. Blackberry and raspberry bushes make ideal shade for growing stock.

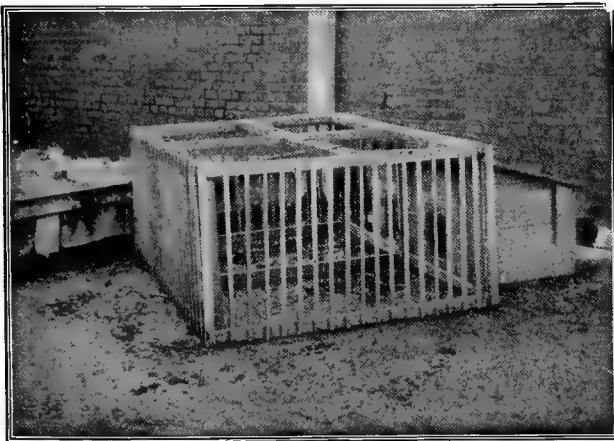
With convenient continuous houses and long narrow yards it is estimated that 400 breeding birds can be comfortably housed and yarded on one acre of land. One man can properly care for 1000 breeding fowls and raise from 3000 to 5000 chicks a season with suitable conveniences, but he will find his working hours pretty well occupied. There are a number of practical poultrymen who are doing this and who clean up about \$1000 to \$2000 a year profit from their business to pay for their time, labor and the interest on their invested capital. During the late winter and spring months they lead pretty strenuous lives and work long hours.

On a practical one-man-plant in the busy season it is no

THE POULTRY PLANT

uncommon thing for the proprietor to begin work at 4 o'clock in the morning and keep at it until bedtime, 9:30 or 10. In the summer time, after the early chicks are marketed and the coming breeders are sufficiently well grown to need less care and attention, he has more time to himself and a practical man we know usually puts in his leisure hours building brooders and colony coops or renovating, repairing and building houses or yards. It sounds like a life of all work and no play, doesn't it? Well, it is not as bad as all that, for though the hours are long and the work plenty, there are breathing spells between the working stunts.

One of the men we have in mind doesn't forget to play a little. He has a fine pleasant home on a nice farm all built and paid for by poultry. His buildings are insured for more than \$4,000 and his dwelling and furnishings for as much more. He keeps two horses, two cows, has a fine garden for family use. Owns a piano and mechanical player, also a phonograph with which he drives away care on winter evenings before making the last rounds for the night of the incubators and brooders. He has to "keep pretty close to home" as his work is confining and may need his personal attention at any time, but he makes it a point to take his pleasure at home also. He can't go to town to the theatre and his family, a good sized one, prefers to keep him company at home, so they have music and vaudeville entertainments of their own in the family circle to vary the monotony of winter evenings "way back in the country." There are many city people who would be glad to change places with this poultry farmer.



A FEEDING PEN FOR CHICKS

By the use of such a pen mature fowls or large chickens are prevented from eating special chick food. The slats are sufficiently far apart so that the young chicks can pass in and out of the pen.

What this man has done through pluck and perseverance others can and will do. He started fifteen years or more ago. Had always been working in the city, first one job and then another with little or no success, an increasing family and the usual run of hard luck. When he struck out for the country he bought on the installment plan a good sized back country farm with buildings good enough to live in. When he moved on the place he "had only fifty cents left to his name" and began working out and trading off his own labor for necessaries and for other help and labor on his home place. He started small with poultry and grew and today though pluck, push and perseverance is the proprietor of a successful poultry plant and has money in the bank. He says that all he possesses he owes to his hens. No doubt that is true in part but his own honest endeavor, a liking for the business and good healthful outdoor farm work, have all played an important part in his success.

In this chapter we haven't room for a great variety of house plans and building instructions. The latest edition of the book *POULTRY HOUSES AND FIXTURES* of the R. P. J. series is devoted exclusively to that purpose. In it will be found complete specifications and instructions for building modern dependable houses for all poultry purposes. There are incubator houses, brooder houses, buildings for breeders and layers, colony houses and coops and numerous valuable labor saving appliances. We particularly recommend for study the Hunter Scratching-Shed House, the Scratching-Shed Colony House, the Maine Experiment Station Curtain Front House, and the Tolman Fresh-Air House, all of which are fully described and illustrated in *POULTRY HOUSES AND FIXTURES*. In this chapter we present a few other good buildings that were not included in the special house book.

FRESH-AIR POULTRY HOUSES

Open-House Method is Tried by an Experienced, Observant Poultry Student in the State of Washington, Who Reports Results

A MODIFIED FORM OF FRESH-AIR HOUSE IS DESIGNED, USED AND RECOMMENDED FOR TALL-COMBED VARIETIES IN COLD LATITUDES

H. HEIDENHAIN, WENATCHEE, WASH.

(With Illustrations by the Author)

[Editorial Note:—Following we present Mr. Heidenhain's article in which he relates his experience with Leghorns in the Tolman type of fresh-air houses and describes the modified form of house he found it advisable to build in the cold latitude of the state of Washington. The Tolman Fresh-Air House is fully described and illustrated in the book *POULTRY HOUSES AND FIXTURES* of the R. P. J. series. The illustrations and descriptive matter are quite complete. It will be noticed that Mr. Heidenhain has omitted to describe the construction of the double doors used on his modified type of fresh-air poultry house. The photograph, however, shows plainly the construction of these doors. It is generally known that a square poultry house is cheapest in construction, other things being equal—a strong point in favor of Mr. Heidenhain's type of house. Low cost is a strong recommendation for this house as it is for any poultry building where profit earning is the object.—Ed.]

OUR EXPERIENCE WITH THE TOLMAN FRESH-AIR POULTRY HOUSE

Last fall when the task was put before us to provide laying houses for about 400 hens, we decided to build first two houses according to Mr. Tolman's Fresh-Air House plan. Mr. Tolman's reasons for the construction of this style of houses seemed to be so sound and the results obtained by him were so excellent that we thought little risk was involved in following his advice, to use the same style of house for Leghorns, although his experience was limited to Brahmas.

The two houses were finished in September and were at once filled with pullets and cockerels of different varieties, among which the Leghorns took a prominent part. The inhabitants of these two houses were healthy and happy and seemed, at first, to stand the great changes of temperature between day and night which is characteristic of our climate, pretty well. The pullets began to lay in November and the egg yield was steadily increasing. We got in the former part of December in one of these houses 40 pullets, not all of which

SUCCESSFUL POULTRY KEEPING

had reached maturity, on the average of 12 eggs per day. (The other house contained later hatched chickens). Our hopes were swelled that we had hit the right plan and that our egg yield from this flock soon would become still greater.

But here we were disappointed. As soon as the weather became more severe the egg yield did not even keep its own but diminished in an alarming manner. From an average of 12 eggs during the first third of December we rapidly went down, making the average for the second third but eight eggs per day.

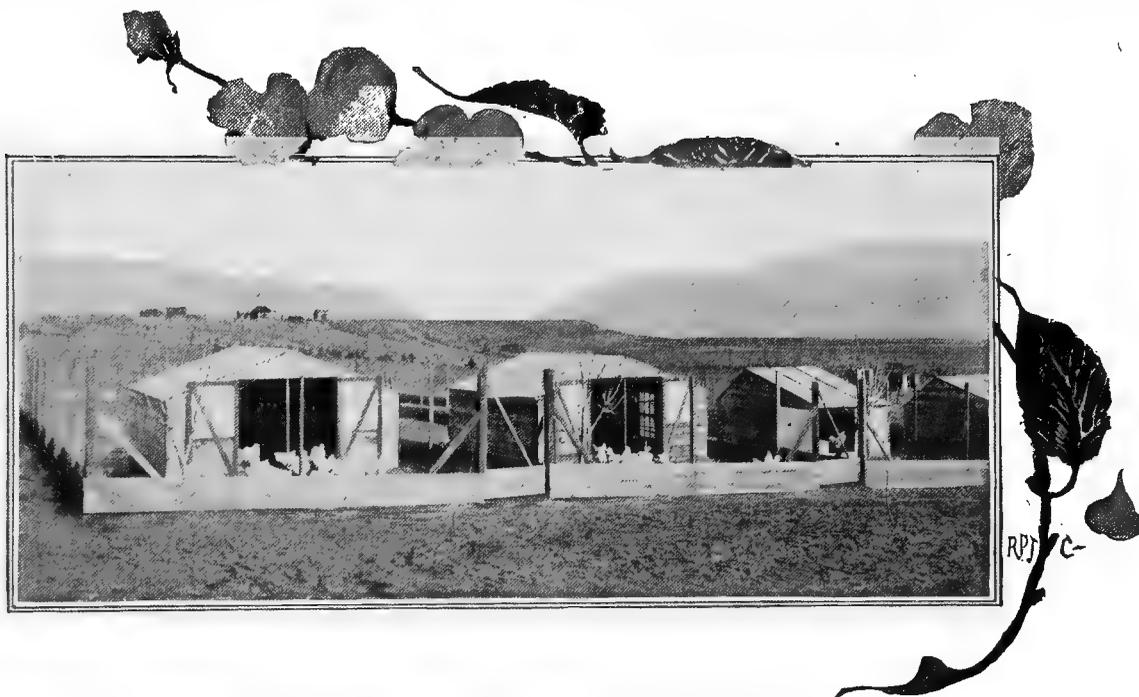
The middle of the month had brought us snow and cold nights and we noticed that the combs of the Leghorn pullets got white tips and those of the Leghorn cockerels turned bluish.

It was not necessary to carry the experiment any further at least as far as Leghorns were concerned. As we were short of quarters for our birds, we had to leave them in these houses, but provided for the fronts muslin doors which could be opened the full width of the front, when closed, which hereafter was

much too small for that number of chickens, which Mr. Tolman recommends to keep in such a house. The area is but 96 square feet, which gives each fowl only $2\frac{1}{2}$ square feet. Not from a theoretical point of view, but from practical observation we had come to the conclusion that not less than 4 square feet should be allowed to each chicken.

There are days on which chickens are better off indoors than outdoors, no matter how necessary fresh air is for their well being. The house, therefore, must have room enough for the chickens to move about and to scratch for their food. In a house which is overfilled, the chickens stand idle. For the phlegmatic Brahmas this may be no hardship; they also keep warm by the mere size of their bodies, but the little Leghorns soon feel chilly if compelled to idleness on a stormy day.

Another feature in Mr. Tolman's plan which did not find our approval is the depth of the droppings boards, caused by the use of the threefold roost. Occasions frequently happen, especially in the fall when the weather turns severe, on which



FRESH-AIR POULTRY HOUSES FOR COLD LATITUDES

To the right in the picture are two Tolman Open-Front Houses. The two square houses, with part canvas and part wooden doors, show the Tolman Houses as modified, used and recommended by H. Heidenhain, Proprietor West End Poultry Ranch, Wenatchee, Wash.

done every night. A 3-inch wide strip over the top of these doors was left open to admit fresh air. After these changes were made no more combs got frozen, in fact the color of the combs of the cockerels soon became bright red again and our egg yield increased in spite of the weather becoming still worse. The average of the last third of December was 15 eggs per day.

HOW THE PLAN FOR OUR FRESH-AIR HOUSE WAS DEVELOPED

During the course of this experiment the question as to the style of laying houses best adapted to our climatic conditions was daily discussed and finally a plan was elaborated which seemed to satisfactorily fulfill all requirements.

It was out of question to follow in future the Tolman plan, even in the modified form i. e., with muslin frames in front, as, for our purpose at least, the interior arrangement was not practical. In the first place we found the floor space

the chickens must be treated individually. The attendant must be enabled by the arrangement of the roosts, to reach any single bird without disturbing the rest of the flock. This cannot be done with three roosts, as the third one is too far away from the front of the droppings boards. To bring the roosts closer together would not do, in fact in Mr. Tolman's plan the roosts are as close together as admissible, perhaps a little too close. Two roosts are all that should be used.

The wire front in Mr. Tolman's plan has proved disastrous to the large combs of Leghorns. The house being of small size the excitable Leghorns fly right towards the front whenever a person enters the house, thereby lacerating their combs. Here again it shows that circumstances change conditions. What is right for the easy going Brahmas will not necessarily suit the nervous Leghorns.

Placing the nests under the droppings boards as is often done, also in Mr. Tolman's plan, we do not find practical. Not

alone that it reduces the available floor area, but it also gives dark corners in which the hens are induced to lay, and one has to stoop down and crawl under the droppings boards in search for eggs.

Having observed such defects in the Tolman house we had to avoid them in our future plan without sacrificing the fresh air feature.

In the first place we had to decide the number of chickens to be housed in one house. All experience seems to point to a limitation of the flock to 50 head. Taking this as a maximum for small breeds, it means about 40 for the largest and 45 for the medium sized breeds. If we figure for the medium sized fowls about 6 1/2 inch and for the largest small breeds like Leghorns about 5 1/2 inch roosting space, for breeds about 7 inch, we arrive in every instance pretty close to the same result

which, of course, is desirable from an economical point of view.

As said before, each chicken should have at least 4 square feet floor space. That makes for 50 head, 200 square feet. If 14 feet is the length of one side of the house, the other side is figured to be a little over 14 feet. There would be no harm in making the house larger either way or both ways, but on a commercial plant like ours, no money can be thrown away for dispensable things.

After discussing and planning the interior for other dimensions, which would give nearly 200 square feet floor area, we finally decided on a 14 by 14 foot house, which allowed the arrangement of all fixtures in an easy and commodious manner and at the same time was the cheapest to build on account of its square shape.

The question whether single houses or houses with scratching sheds attached should be chosen, was also thoroughly discussed. While the latter are very nice in many ways (we have five of such houses in use) they are not cheap, considering the number of chickens which can be housed therein. The chickens stay either in one or the other compartment. On cold nights and on some cold days the doors must be kept closed. Suppose the shed is in floor space just as large as the house proper, then the chickens have only the benefit of half the building. It costs about as much to build the partition between the house and the shed as to close the front of the shed. Doing this we get a house double the area and double the volume of air, which is a decided advantage on occasion as before mentioned.

Now then we had to provide for an abundance of light and fresh air. The solution of this problem seems to us is given in the use of large doors in front of the building, as shown in our plan.

The question whether shed roof or hip roof was to be used was decided in favor of the latter, on account of the size of the house and saving of material. By putting the gable side to the south we managed to provide for the large doors in front, which admit all light and air required. Too much light must be avoided in a climate like ours, with almost uninterrupted sunshine for 9 months of the year. In our old scratching sheds, the chickens do not know where to hide from the rays of the sun.

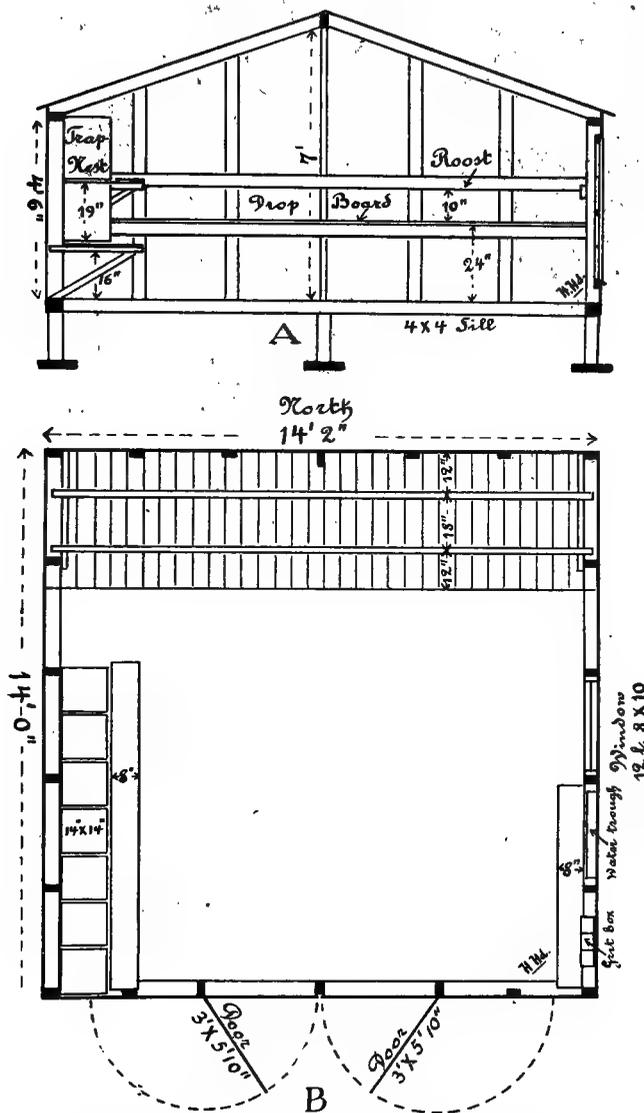
Undoubtedly the chickens like the open sheds and reluctantly they retire to the roosting room when the sun gets too strong. Having observed this we took care to provide for shade as well as light in our new plan and made the doors of such size, that at any position of the sun, the house gives shady corners as well as sunny places. The height of the doors is such that the sun sweeps in the course of the day over the whole floor except in summer when it is not necessary.

The roosts we laid against the north wall being the one most remote from the front and therefore giving the birds best shelter against draft when the doors are left open over night.

We placed the window on the east side rather than the west side as all living beings enjoy the first warming rays of the rising sun.

The space under the droppings boards we left free and placed the nests on shelves in two stories on the west wall. Likewise watering trough and grit box are placed over a shelf, thus leaving the entire floor space available for the chickens' exercise.

It is of little importance of what material the houses are built. Local conditions are deciding in the selection of the proper lumber for walls and the material for the roof. Like Mr. Tolman we made it a point to have our houses tight against any draft. We lined the walls with heavy water-proof building paper on the inside, using shiplap outside, and covered the house with good roofing felt. All fancy or decorative work



HEIDENHAIN'S FRESH-AIR POULTRY HOUSE

A.—Sectional view showing location of roosts, droppings board and nests.

B.—Plan, giving general dimensions and location of interior fixtures.

i. e., 28 running feet of roosting space. Using two roosts, the length of each one would then be 14 feet. Therefore, the house must measure in one direction at least 14 feet, if the allowable greatest number of chickens are to be put in a single house,

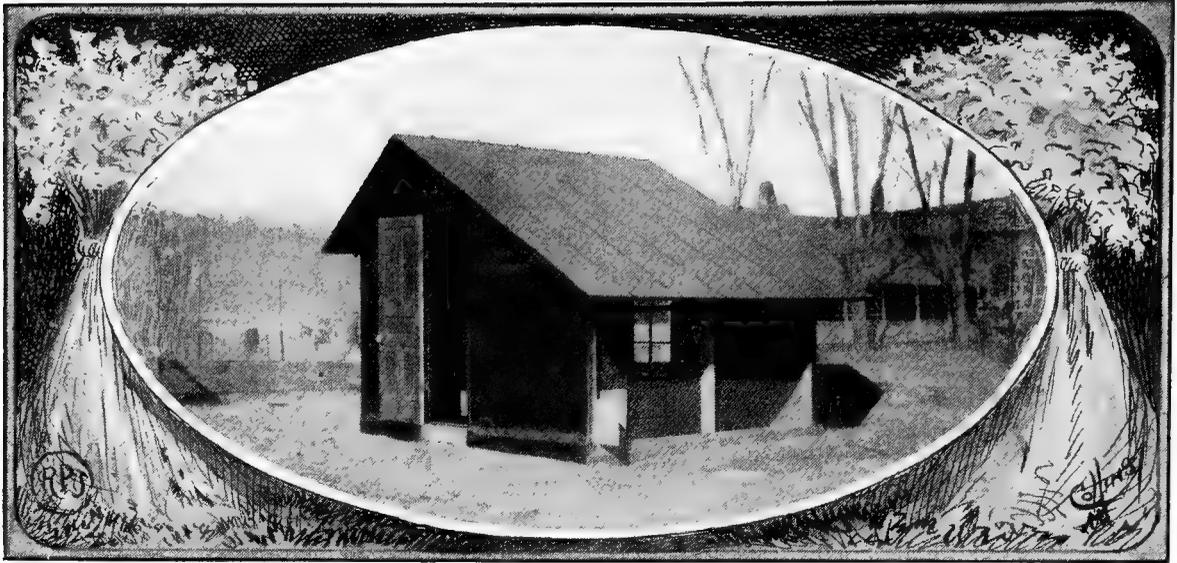
SUCCESSFUL POULTRY KEEPING

such as corner strips, molding, etc., have been omitted, our only object being the comfort of the inhabitants.

These houses have been in use since December and have proved equally serviceable with Plymouth Rocks as with Leghorns. We have had no frozen combs, although our nights in January were pretty cold and the air was damp and chilly from the time the chickens were put in until the end of Feb-

ruary, only a few single days of sunshine interrupting the monotony of cloudy skies.

We are satisfied that our poultry houses fulfill the requirements of our climatic conditions, but we hardly think that one plan will answer under all conditions. All we can say is: Study your climate and your breed and then build to suit.



FRESH-AIR HOUSE INDORSED

THE TOLMAN TYPE OF FRESH-AIR HOUSE IS THOROUGHLY TESTED AND FOUND ADMIRABLY SUITED TO THE NEEDS OF POULTRYMEN IN MIDDLE TENNESSEE—MODERATE COST, HEALTHFULNESS AND SAVING OF TIME ARE STRONG FEATURES

E. L. PARSONS

HAVING had some experience with the Tolman Fresh-Air House, I most heartily indorse it, at least for a moderate climate. I have used three of them the past winter, in breeding pens, the results being far more satisfactory than with other kinds previously used. In fact, I am so well pleased with the results that hereafter all new houses I build will be of this kind.

Up to a year ago, I was using the customary tight house ventilated as well as safety would permit. Every morning when opening the houses, both my sense of smell and common sense rebelled. I could not believe that it was healthful for anything to breathe such foul air, so when the RELIABLE POULTRY JOURNAL described the Tolman house, I was an immediate convert. I drew my plan, purchased the material and went to work. Being somewhat of an amateur carpenter, I did all the work myself with the aid of a man of all work. The result was so satisfactory and the finished house appealed so to my common sense, I went on and built two more. The houses cost me \$20.00 each for material, rough lumber at \$6.00 per thousand and flooring at \$17.50. The picture herewith, I took of one of them.

I built my houses according to the dimensions given by you—14 ft. long, 8 ft. wide, 4 ft. high at front, 6 ft. at rear and 8 ft. at peak, and for a breeding pen house it is large enough. The frame is made of 2 by 4's, two being nailed together for the sills, only one-half of each lapping the other, the inside one

forming a shoulder on which to rest the uprights and floor joists. A two inch corner is cut out of the ends of floor joists so that when they rest upon the shoulder the top comes even with the outside of sill. The three sides of house are covered with tongue and grooved flooring, the dressed side in, then this is covered with a roofing paper and painted, making a thoroughly tight and dry wall and giving a good clean surface inside. The floor is of rough poplar boards fitted closely at all sides, this being covered with building paper and then with the flooring same as used on sides, making a tight, warm, floor and which comes up about two inches above where the sides of house join the sills, insuring a dry floor. The roof is of rough common lumber, but it would be better to have it edged and dressed, covered with roofing paper and held more firmly in place by means of $\frac{1}{2}$ by $\frac{3}{4}$ strips, all well coated with a good roofing paint. The front is enclosed with 1-inch mesh poultry wire, in the corner being a small door for the birds to go and come. The door is a regular panel house door and the window a 12 by 14-8 light, both set in frames made out of 4-inch strips, door, sash and frames being painted.

The house photographed, of which I enclose a print, being built in a temporary location, is set right upon the ground, but those built at permanent locations are set up on posts and as the ground is quite sloping, the front is about three feet higher above it than the rear. This allows the air to circulate underneath, gives the birds additional shelter and makes a good place for drinking fountains and hoppers.

THE POULTRY PLANT

The front part of the house is used for a scratching pen, a 12-inch board set on edge dividing it from the back part, the latter being used for roosts and nests. I use a sloping droppings board hinged to back of house 2 ft. 6 in. above the floor, the front edge overlapping a trough to catch the droppings. Every morning it is scraped with a hoe and droppings carried away, then by means of rope and pulley is raised out of way of nests. These are six in number and trap, and are placed under the droppings board. The roosts, two in number, rest upon two supports which are hinged to wall at back and rest upon legs at front. They are one foot above the board and the legs slide upon it when all is raised and lowered together. When board is being cleaned, roosts are raised and held by a strip.

It is all much more simple than it sounds. Only about three minutes each morning and again each evening is required to put all in order; it is easily cleaned and kept clean; the birds always have fresh, wholesome air to breathe; and it

is a pleasure to keep fine birds under such conditions.

My birds are Barred Rocks and White Wyandottes and I believe that if the youngsters are raised in open front coops and gradually hardened, all but the most tender breeds will do better in such houses most anywhere in the States. If the houses are made as tight as mine are, there can be no drafts and I have not seen a sign of dampness although there is such a tendency toward it where I live, that it is almost impossible to keep free from it in my dwelling.

Believing that this style of house not only improves the quality of a flock, but adds materially to the health and comfort of the birds, I hope many readers will give it a trial. To those who do, I would say, make the roof, sides and floor tight; door and window fitting so that a draft through them is impossible; insure a circulation of air under the house; and in summer time remove door and window, substituting poultry wire.





PIANO BOX POULTRY HOUSE

THE POULTRY PLANT

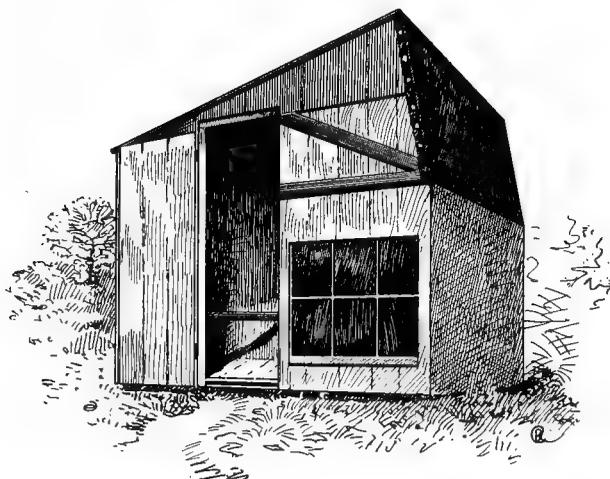
CHEAP COLONY HOUSES

FIVE DOLLAR PIANO BOX HOUSE AND THE DUSTON TEN DOLLAR COLONY BREEDING OR BROODER HOUSE

PIANO BOX HOUSE

Purchase two good second hand upright piano boxes; they can usually be had for \$1.50 to \$2. each. Buy a six light 8 by 10 glass window, second hand one will answer, at a cost of 25 to 50 cents. Two strap hinges, a small roll of tar paper, caps and nails, a doorhasp and staple, a soap box for nest and a five-foot piece of 2 by 3-inch stuff for a roost, these are the other necessities. All told, the equipment should not exceed \$5.

Place piano boxes back to back 2 feet apart with ends south, first removing the backs and tops of both boxes. Draw all nails with a nail puller and save them. Use one of the tops for the floor between the boxes and the other to close the open space between the north ends of two boxes. They will need very little fitting. Cut 2 feet off one back to make a door for the south end and hang it with the strap hinges to the west box to swing west and out, space between south ends of boxes is opening closed by this door. Saw out a hole in the lower part of south end of east piano box to fit window, 2 feet square is right. Fit in the six-light, 8 by 10 glass, window on the inside of this hole to slide up 10 inches and then west to take out. This serves for window and chick door.



PIANO BOX COLONY HOUSE

To make roof saw one of the boards, 6 feet long and 8 inches wide, found in all piano boxes, diagonally from one corner lengthwise to opposite corner. Nail one of these triangular pieces to north end, butt of wedge (8 inch end) to east and one to south end butt of wedge to east—this gives a pitch for your roof. Make roof of the balance of backs and make it tight. Use roofing paper or tar paper to cover slope of east box, entire roof and all of west side; batten it on with laths if location is very windy, otherwise the tin caps and nails will be all that are needed. Roost should be placed in west box two feet from floor. Soap box filled with straw serves as nest box. This house will serve as quarters for half a dozen breeding birds or will make an excellent brood house for two sitting hens, and will care for them and their flocks to maturity.

DUSTON COLONY HOUSE

The house herein described was designed by Arthur G. Duston, White Wyandotte specialist. This house is 10 feet

long and 5 feet wide, 5 feet 3½ inches high in front, and 4 feet 2 inches in the back. A large double window furnishes light. It is placed low in the house, one foot from the board floor. When the door is open, the sun shines in as though it were an open shed. The door is 2 feet 6 inches, by 4 feet 6 inches and is made in two sections. The inner section is hinged to the outer, thus making a door within a door. The opening in the door proper is covered with one inch mesh wire netting. This permits of the opening of the panel door. In winter, except in stormy weather, this outside door is left open all day. When closed, the building is tight and warm. The first year there is no need of papering the sides, but after that the openings from shrinkage make drafts, which, of course, the birds cannot stand. The roof is covered with any good roofing fabric. This colony house is built of 2 by 3 inch studding and ¾ inch matched stock.

MATERIAL REQUIRED

This house is 10 ft. long by 5 ft. wide, inside measure. It requires 230 ft. matched stock and 118 ft. 2 by 3 stock as follows:

Three side sills 2 by 3s 10 ft.; two end sills 2 by 3s 5 ft. Halve (rabbeted joint) sills together.

Two side plates 2 by 3s 10 ft.; two end plates 1 by 3s 5 ft. 1½ in. Set end plates even with top of side plates. Set all 2 by 3 pieces edgewise.

Three front posts 2 by 3s 4 ft. 9 in.; two back posts 2 by 3s 8 ft. Frame sills and lay floor, then set posts on top of floor and under plates.

Boarding on front 5 ft. 3½ in. long; boarding on back 4 ft. 2 in. long; boarding on roof 5 ft. 8 in. long.

Two 2 by 4s 10 ft. shoes, spiked under sills.

One 2 by 4, 10 ft. roosts.

One 12-light window sash, 12 inches above floor.

One 1½ by 2, 14 ft., cut to go above sash.

One door 2 ft. 6 in. by 4 ft. 6 in.

One door (small), 1 ft. 10 in. by 3 ft. 9 in.

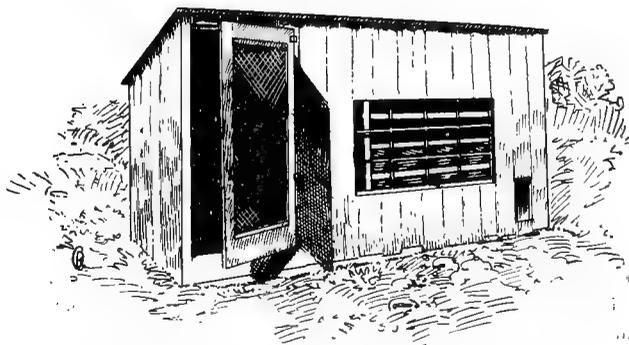
Two 2½ in. hooks and eyes.

Two pair 3 in. strap hinges.

Approximate cost \$10.

The house is built on two pieces of 2 by 4 in. stuff, rounded at the ends. A work horse can haul one of these houses all over the farm. Anyone can hang three or four foot wire netting on stakes driven in the ground and in a few minutes have a house and yard ready for occupancy.

This colony house makes an admirable building for a pen of fine breeding birds or ten or a dozen layers. It is also well adapted for use as a brooding house for hens with chicks or for an individual indoor brooder. For colonizing growing chicks in flocks of thirty to fifty.



A. G. DUSTON'S PRACTICAL COLONY HOUSE

POULTRY HOUSE SYMPOSIUM

PROMINENT POULTRYMEN GIVE THEIR OPINIONS ON POULTRY BUILDINGS—COLONY HOUSES RECOMMENDED FOR POULTRY OF ALL AGES AND PARTICULARLY FOR YOUNG STOCK

In this symposium a number of the leading American breeders express their opinions concerning the preferred styles of poultry houses. The following questions were sent out to a large number of breeders all over the country:

Q. 23. What style of house do you prefer, as a fancier, for breeding stock?

Q. 24. What style of house for young stock?

Q. 25. Do you favor the colony plan for housing young stock?

Q. 26. If so, what style of colony house do you use?

The answers to these questions will be found under the name of each breeder making a reply, and each answer is given the same number as the question asked. Study and comparison of these answers will prove exceedingly interesting to those who contemplate erecting poultry buildings. The answers are given briefly and get right down to business without any waste of words.

Many of the poultry buildings herein recommended, notably the A. F. Hunter scratching shed house, the fresh-air colony house, apex or A shaped house, and small colony houses, are described and fully illustrated in the book of the R. P. J. series entitled *POULTRY HOUSES AND FIXTURES*, in which book complete information as to specifications and building instructions is given in detail, so that any person who is at all familiar with the use of carpenter's tools can easily erect such buildings as he may desire.

I. K. FELCH, Natick, Mass.

BREEDER OF LIGHT BRAHMAS, WHITE WYANDOTTES, BARRED AND
WHITE PLYMOUTH ROCKS

A. 23. A two-story house; birds learn to go up and down stairs. The yards can be planned to cover the greatest number of feet, with the least cost for fencing, and the flock cared for with the least labor.

A. 24. Colonize the young stock where they can have the greatest liberty to glean from the fields the slugs, insects and worms. Keep no more than 25 to 40 in these small houses, placing the houses as far as possible in shaded retreats.

A. 25. Yes. I colonize my standard-bred stock and give them the liberty of the farm.

A. 26. Most anything does for colonizing chicks; absolute free air open sheds. If a chicken lives practically in the open air until the middle of October, it is best to get them into winter quarters before the frosty nights come. Plan for free ventilation of the winter houses.

A. C. HAWKINS, Lancaster, Mass.

WHITE, BUFF AND BARRED PLYMOUTH ROCKS, SILVER,
BUFF AND WHITE WYANDOTTES

A. 23. I prefer a house with shed attached or a house with open shed underneath, so that the fowls can have exercise in the open air in all kinds of weather.

A. 24. For young stock I prefer a colony coop 4 by 8 ft. with floor and covered with $\frac{1}{2}$ -inch mesh wire netting. I put

fifty chicks with four hens in such a coop and leave the chicks there until matured.

A. 25. Yes.

A. 26. A coop 4 by 8 feet, 3 feet high in front and 2 $\frac{1}{2}$ feet in rear, boarded on back and ends with $\frac{1}{2}$ -inch mesh wire in front.

J. C. FISHEL & SON, Hope, Ind.

WHITE WYANDOTTES

A. 23. Colony house with large yards, plenty of shade, and set well in blue grass; never put in so many birds as to ruin the growth of the grass.

A. 24. Same style, not too many in house and yard.

A. 25. To some extent, only let them have free range.

A. 26. Simply a shed-roof house about 8 by 10 or 12 feet according to the flock, but be careful not to crowd; there is where so many make a mistake.

W. W. KULP, Pottstown, Pa.

S. C. AND R. C. WHITE AND BROWN LEGHORNS, WHITE WYANDOTTES,
BUFF AND BARRED ROCKS AND PEKIN DUCKS

A. 23. I prefer a very good and handy house but use common ones. I prefer a house with a scratching shed, as the fowls like the open air. Any kind of a plain room cannot be improved on with the sides double, and enough windows to light it well. An alleyway makes the feeding and watering simpler but makes the room smaller or causes more expense.

A. 24. All my houses are plain shed roof houses, most of them alone in a yard. This is of great benefit to the birds but adds to the labor.

A. 25. I like the young to have all the room possible to range.

ALBERT F. DIKEMAN, So. Peabody, Mass.

WHITE WYANDOTTES AND WHITE PLYMOUTH ROCKS

A. 23. Shed roof, low at back. Absolutely wind and weather proof at back, ends and roof; high enough in front to allow sun to penetrate to back wall; pens twelve feet deep and ten feet wide. Two window openings in each pen (in front), one filled with a frame, this being covered with coarse burlap, the other to contain two sash (6 lights each) 10 by 13 inches; top sash hinged at top to swing out, thus keeping out both snow and rain. All fixtures, except dropboards, removable, and all easily cleaned.

A. 24. Open front colony house with hinged hood in front, arranged to turn back on bright days and to fit any desired slant at other times. Floor 5 by 8 feet, back three feet high, front five feet; front tight boarded from floor up 2 feet.

A. 25. Most emphatically.

A. 26. Fully answered in 24.

THE POULTRY PLANT

ROWLAND G. BUFFINTON, Somerset, Mass

BUFF, SILVER PENCILED AND COLUMBIAN WYANDOTTES, BUFF AND PART-
RIDGE PLYMOUTH ROCKS, BUFF ORPINGTONS, R. I. REDS, BUFF,
BLACK, WHITE AND PARTRIDGE COCHIN BANTAMS

A. 23. Colony houses have given us the best results, having tried houses 200 feet long and cut them up for the colony plan. Conditions are changing; we need houses to save labor and have in mind plans for a 200 hen house for one flock.

A. 24. We find nearly all of the chicken colony houses suitable for the purpose.

A. 25. Yes.

A. 26. Piano boxes placed on the side and roof raised to make one pitch.

W. B. CANDEE, De Witte, N. Y.

WHITE WYANDOTTES

A. 23. Long house, not less than 18 or 20 feet wide; alley on north side, pens in south. Separate yards for each pen.

A. 24. Colony houses for young stock with free range, house to be 6 feet square, shed roof 5½ feet high in front and 4 feet in back, sides of matched stuff, paper roof, door in front 2 feet wide, chick slide about 8 by 10 in window, 6 light 8 by 10, window hinged at top to swing in, opening covered on outside with 1-inch wire mesh netting.

A. 25. Yes, after the chicks have been kept in the nursery brooder for at least six weeks.

J. H. JACKSON, Hudson, Mass.

WHITE WYANDOTTES

A. 23. I prefer a one slant roof high enough in front to walk through; slant to about 5 feet in rear, face south if possible. No rear walk, go right through pens; the birds are not so wild being among them, a good point in breeding fancy or show fowls.

A. 24. On colony plan that would hold about 30 to maturity.

A. 25. Yes.

A. 26. A slant roof, from size of a dry goods box to 10 feet in length.

W. R. CURTISS & CO., Ransomville, N. Y.

WHITE WYANDOTTES, S. C. WHITE LEGHORNS AND
MAMMOTH PEKIN DUCKS

A. 23. We prefer colony houses and lots of range.

A. 24. Pipe system for starter; transfer to colony house on range.

A. 25. Yes.

A. 26. We use Apex house 6 by 8, on skids to move easily.

WILBER BROS., Petros, Tenn.

S. C. WHITE LEGHORNS

A. 23. We use and much prefer, especially in the south where our winters are mild and summers warm, the open-front scratching shed style. Probably this style of house would not suit the northern or eastern breeders in their deep snows and zero weather. It gives great satisfaction south where the winters are mild and deep snows seldom seen, and birds can be on ground most every day in the year.

A. 24. For young growing stock we prefer and use movable houses made of light wood and often piano boxes or large dry goods boxes, well covered and ventilated, that we can move often from place to place that birds may have new range.

A. 25. We certainly approve and use colony houses for young stock.

A. 26. We make our colony houses, as answered in a previous question.

WILLOW BROOK FARM, W. L. DAVIS, Berlin, Conn.

S. C. BUFF. BLACK AND WHITE ORPINGTONS

A. 23. I consider a colony house preferable for breeding, especially for fancy stock, with plenty of room and green runs continually.

A. 24. I like the style of house that we build ourselves here at Willow Brook Farm.

A. 25. Colony houses for young stock is the proper method. We use them exclusively at our farm, and have met with the best of results.

A. 26. We use a small 3 by 6 foot shed-roofed colony house. We generally plan to have about 15 to 20 birds in each house.

THOMAS F. RIGG, Iowa Falls, Iowa.

HOUDANS AND WHITE WYANDOTTES

A. 23. Detached houses, each with roosting pen and scratching shed; three to four feet between ceiling joist and roof, this space filled in with oat straw. In such a house there can be no frost or dampness. Air will be pure and fowls healthy. Never again will I have a closed ceiling in a poultry house.

A. 24. Roomy colony houses.

A. 25. Yes.

A. 26. Shed-roof building 12 by 16 feet, facing east. Our prevailing winds and storms are from the south-west in the summer and fall and spring.

H. J. BLANCHARD, Groton, N. Y.

S. C. WHITE LEGHORNS

A. 23. Colony plan, double slant third pitch roof with straw loft system of ventilation in gable, warmly built and supplied with glass windows and also muslin covered frames to slide in the opening in place of the glass windows when wanted for ventilation. Also prefer board floors. With this style house the birds can be kept comfortable in extremely cold as well as in mild weather.

A. 24. Colony plan 12 by 20, double slant third pitch roof, board floor. Two windows, 6 lights 9 by 13 in south side, door 40 inches wide in each end at south side, opening outward, also slatted doors at same opening swinging inward, for additional ventilation in hot weather.

A. 25. I do.

A. 26. Described in 24.

O. E. SKINNER, Columbus, Kansas

BARRED PLYMOUTH ROCKS, BUFF AND PARTRIDGE COCHINS

A. 23. I use an inexpensive house on the isolated plan. I have one house on the collective plan, 102 feet long, but my isolated (colony) houses give me the best results. My breeding pens are 8 by 10 with scratching shed. For young stock 8

SUCCESSFUL POULTRY KEEPING

by 16. These houses have one slant to roof, 7 feet high on south and 3½ on north, 14 feet ship-lap cuts without waste. Door on south side at east corner, windows just west of door. Roosts to the west end all on a level 14 inches from the ground. A small window in center of east end above scratching shed roof. Scratching shed on east end of building with small opening closed with slide.

A. 24. As above, after old enough to take from brooder.

A. 25. Yes.

A. 26. I use the same houses that they live in through fall and winter, having scratching sheds attached for bad weather.

EDW. KNAPP, KNAPP BROS., Fabius, N. Y.

S. C. WHITE LEGHORNS

A. 23. A continuous house with glass, wood and cloth front, so constructed as to give plenty of light and ventilation. Much less work, and business can be better managed in early spring.

A. 24. We prefer the colony house plan.

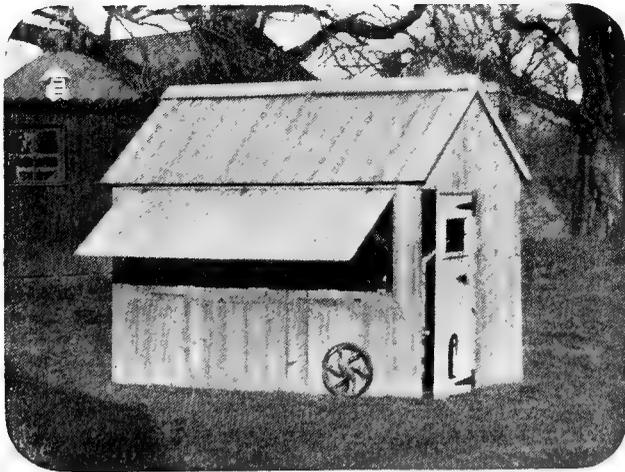
A. 25. We do.

A. 26. A movable, well lighted and ventilated, cheaply constructed building, 8 by 16, shed roof, good height on front side.

J. W. PARKS, Altoona, Pa.

BARRED PLYMOUTH ROCKS

A. 23. The A. F. Hunter "Open-Front." We make ours in pairs, in other words, we make our frame 10 by 38. We divide this in the center and have two compartments 10 by 19. We again divide each compartment, and have a roosting room 10 by 9 and a scratching shed 10 by 10. We place our roosting



AN ENGLISH TYPE OF PORTABLE HOUSE

rooms in the center, and have our scratching sheds on each end. We place our nests, roosts, water table and male bird cage in the roosting room, and in the scratching shed we have our dust box, dry mash hoppers, grits, etc. We have our houses 7 feet high in front and 5 feet in rear with a two-foot projection in front of house, so as to leave a dry place for chickens and attendant. We have a 3 by 5 window in our roosting room, and a 3 by 7 open front in our scratching shed. We of course have muslin curtains to let down over the open front during cold

nights and stormy days. We also have a muslin door between roosting room and scratching shed which we close during zero weather.

A. 24. Sled runner colony house.

A. 25. We have raised chickens with almost every style of coops, and have settled down to the colony houses.

A. 26. We use the sled runner colony house. They are built on three 3 by 6 inch joists, and the ends of the 3 by 6 pieces are sawed off like a sled runner. We make our houses 6 by 7 feet floor and 6 feet high in front, and 4 feet high in back. We make them out of matched lumber, and have double floors, with a window and door in front. We place our brooders in them in the early spring, and move them around with a horse each two weeks even if it is only the length of the house, as by doing that we keep our grass from getting killed.

U. R. FISHEL, Hope, Ind.

WHITE PLYMOUTH ROCKS

A. 23. Colony house 8 by 24 with roosting room 8 by 12 and scratching shed 8 by 12. Double wall with curtain front. A splendid house at little expense.

A. 24. We use piano box colony house 5 by 10 feet, made out of two piano boxes at cost of \$7.

A. 25. To be sure.

A. 26. 5 by 10 feet, made of piano boxes.

ARTHUR G. DUSTON, So. Framingham, Mass.

WHITE WYANDOTTES

A. 23. A fairly substantial building is always needed but all filagree is unnecessary and I would never build over a 50 foot building. I like a double pitch roof, a door and window in each pen to allow ample ventilation and all the sun possible.

A. 24. I am using a colony coop 10 by 5 feet, shed roof, but were I to build more, would make them 10 by 6 feet, as a little more depth is preferable even if the house was shortened somewhat.

A. 25. Yes, if yarded, but find that where used and houses not far enough apart the different sizes will get mixed and all kinds of trouble ensue.

A. 26. Yes. 10 by 5 feet, 4 feet high in rear and 5 feet front. One outside window let down for light. Ten years with this style of house has proven one of the best houses I have, and has been copied by hundreds with entire satisfaction to them.

F. C. SHEPARD, Toledo, Ohio

BUFF PLYMOUTH ROCKS

A. 23. Plain shed roof with dirt floor; drop curtain, roost cover; muslin doors and windows.

A. 24. Same.

A. 25. Yes.

A. 26. Piano boxes with wire screens and muslin front.

AUG. D. ARNOLD, Dillsburg, Pa.

COLUMBIAN WYANDOTTES

A. 23. I prefer a house with open front for summer and muslin front for real cold weather; too warm housing is the greatest cause of disease. Scratching sheds separate from the roosting apartments are very desirable.

A. 24. Houses with open fronts without roosts until

birds are nearly grown; these houses so arranged that when signs of cold rains in the fall are apparent the chicks can be kept inside till the rains are over.

A. 25. I favor it, but do not use it as most of my birds are raised on farms.

GARDNER & DUNNING, Auburn, N. Y.

BARRED PLYMOUTH ROCKS

- A. 23. Colony houses large enough for one dozen fowls.
- A. 24. Colony house large enough for 25 half-grown chicks.
- A. 25. Yes.
- A. 26. For young stock house 5 by 8 feet, wire front in which muslin curtains can be used in cold weather.

A. OBERNDORF, Centralia, Kansas

S. C. WHITE LEGHORNS AND BARRED PLYMOUTH ROCKS

- A. 23. The open shed.
- A. 24. Colony houses 3½ by 6½ feet floor space, 2 feet high in back, 3 feet high in front, well ventilated.
- A. 25. Yes.
- A. 26. Answered in 24.

E. B. THOMPSON, Amenia, N. Y.

BARRED PLYMOUTH ROCKS

- A. 23. Long houses with alleyway are most convenient and my choice. Small houses for a breeding pen do well placed in a large yard.
- A. 24. I use colony houses till birds are put in large winter quarters.
- A. 25. Yes.
- A. 26. Single house.

MRS. TILLA LEACH, Cheneyville, Ill.

BARRED PLYMOUTH ROCKS

- A. 23. The "Hunter Scratching Shed House" with door between roosting room and shed always open.
- A. 24. Open front roosting coops about 4 by 6 feet.

GEO. H. BIE, Racine, Wis.

BARRED PLYMOUTH ROCKS

- A. 25. Yes, I favor the colony plan.
- A. 26. My colony houses are 6 by 6 floor space, 5 feet high in front, 3 feet in rear, with double doors in front.

**ROSEDALE POULTRY FARM CO.,
Greenwood, Mass.**

WHITE WYANDOTTES

- A. 23. Portable houses 6 feet front by 8 feet side on ground, 6½ feet high at the front with one door opening into yard, and window with small burlap frame above window for ventilation during cold weather; 4½ feet high at back. Door and window open at all times, except extremely cold or stormy weather. Long laying houses 10 by 10 sections, 6½ feet at front, 4½ feet at back. One window and one door in front opening into yard, ventilated with burlap frame as above.

- A. 24. Portable houses as above described.
- A. 25. Yes.
- A. 26. Portable houses as previously described.

FRANK D. HAM, Livingstone, N. Y.

BARRED PLYMOUTH ROCKS

- A. 23. Long house divided into pens 10 by 10 with alley on north side and a good sized window on south side of each pen.
- A. 24. Small house to hold 50 to 75 birds.
- A. 25. Yes.

W. S. HARRIS, Mansfield, Mass.

RHODE ISLAND REDS

- A. 23. If he has only a few acres, long houses.
- A. 24. Houses about 10 feet square.
- A. 25. I prefer it when one has plenty of land.
- A. 26. I have some 8 by 8; most of my houses are of the long type.

WM. BYWATERS, Camden Point, Mo.

BARRED PLYMOUTH ROCKS

- A. 24. I keep little chicks in brood coops till they out-grow them, then they are placed in colony houses of any convenient pattern till sold for breeders or moved into winter quarters.
- A. 25. I do.

C. H. WELLES, Stratford, Conn.

BARRED PLYMOUTH ROCKS

- A. 23. I like the houses with cloth or curtain front facing the south. These are the best ventilated and birds do the best in these houses with more even temperature. The cloth front allows the moisture to escape, keeping the house dry at all times and more birds can be housed in a building of this kind.
- A. 24. I would use same as above.
- A. 25. I don't favor a small house; birds need to be active and have plenty of room to work in.
- A. 26. Am using small colony houses now.

J. C. MACOMBER, Reading, Mass.

PARTRIDGE WYANDOTTES AND BARRED PLYMOUTH ROCKS

- A. 23. My breeding house is 165 feet long, 12 feet wide, containing 18 pens. These pens are 8 by 12. The back of the house is 5 feet high and the front 7 feet with a window and a door in each pen, the door opening into the yard. There is also a door from one pen to the other following right up through the house. There is no floor in the house, but sand is kept to the depth of 6 to 8 inches with straw and hay above this. Each pen is boarded up tight, so that there will be no draft as is the case with wire partitions in a long house. The droppings boards are 18 inches from the top of the sand and the roosts far enough apart so that it is impossible for the birds to rub their tails and wear them out against the back of the house, or against each other.
- A. 24. After taking the young stock out of the brooder house, they are put in colony houses, 6 feet wide, 8 feet long, 4 feet high in the back and 6 feet in front. No floor excepting

SUCCESSFUL POULTRY KEEPING

sand and no opening except the front. In the front are two doors. Each one has a frame covered with cotton cloth. On the outside over one of these doors is fine chicken wire so the door may be left open nights while the larger door is closed. During the day time, both doors are left open unless it is desired to keep the chickens inside.

A. 25. I do.

A. 26. Answered under 24.

F. J. WEHRMEYER, Benton Harbor, Mich.

WHITE WYANDOTTES

A. 23. Prefer a building (such as we use) which gives plenty of fresh air, using curtain front and one in which the attendant as well as owner must be among the birds while feeding, etc. This accustoms them to being handled, etc., which does not hurt them, and visitors or prospective buyers enjoy being among them (rather than viewing them through bars or netting); it affords everybody more pleasure.

A. 24. Indoors until warm days and then out in anything comfortable and under control of attendant in case of bad weather. If incubator hatched, then indoor brooders with outdoor runs until warm enough to place out in colony small coops or houses.

A. 25. Yes.

A. 26. Not always what we'd like to use. Our idea and what we are aiming to use is a large enough box or house on runners moved from place to place and removable yard surrounding. We have some. Our other idea is to have permanent building with double run so as to keep one green all the time. This suits us. The main idea with us is to use something where the stock can remain from beginning to maturity.

DR. O. P. BENNETT, Mazon, Ill.

BARRED PLYMOUTH ROCKS

A. 23. I prefer a plain south front house about 16 feet wide and not over 72 feet long, lined with two-ply tarred felt.

A. 24. The colony houses that can be moved about.

A. 25. Yes.

A. 26. A small house 8 by 10 feet where chicks can be put with hen, and used afterwards for roosting coops.

C. BRICAULT, M. D. V., Andover, Mass.

WHITE WYANDOTTES

A. 23. A house of my own building called the new idea poultry house, with large doors and windows in the south front of each pen.

A. 24. Individual houses 6 feet by 8 feet, 6 feet high in front, 3 feet in rear, with large door and window in south front. These can be hauled anywhere on the farm, when wanted.

A. 25. Yes.

A. 26. Described in 24.

J. H. DOANE, Gouverneur, N. Y.

S. C. BLACK MINORCAS AND WHITE WYANDOTTES

A. 23. The continuous house with long runs, a plenty of shade on an elevated position. Would not have an alleyway, unless houses were over 10 sections in length, (for cold climate)

as there is just so much more room to be made and kept warm by the birds.

A. 24. The colony house by all means, set well apart with shade in abundance if possible. A shady pasture is an ideal spot for young stock.

A. 25. As stated above, the colony plan can not be improved upon.

A. 26. A cheaply built house with tight sides except facing south and an absolute water-proof roof. The piano box style of house is ideal.

FRANK McGRANN, Lancaster, Pa.

S. C. BLACK MINORCAS, BARRED PLYMOUTH ROCKS, WHITE WYANDOTTES AND S. C. WHITE LEGHORNS

A. 23. Single house about 8 by 10 feet, 7 feet high in front and 5 feet high in back. Such a house will accommodate eight to fifteen birds according to the variety which one selects to breed.

A. 24. About the same style of house described in my answer to question 23.

A. 25. Yes.

A. 26. One about 6 by 7 feet, 6 feet high in front and 4 feet high in back. Use hover with lamp and remove when chicks are about six to eight weeks old according to the season of the year.

W. D. HOLTERMAN, Ft. Wayne, Ind.

BARRED PLYMOUTH ROCKS

A. 23. I prefer the house I now have. This house is practically round (12 cornered) with yards radiating in the shape of a wheel in all directions. The diameter is 45 feet. The feed-room is in the center, 15 feet in diameter. Over the feed-room is a dome which contains six windows for additional light and ventilation. Every one of the twelve pens contains 120 square feet of surface and each has one four-light window. Reasons: Great saving in labor (feeding, watering, cleaning); more compact in every way; all birds under a persons' eyes at once; in extremely cold weather can be easily warmed by stove in the center so that birds will not freeze their combs; appearance of such a building is more artistic than the others.

A. 24. Movable colony houses, each to house not more than twenty-five head.

A. 25. Yes.

A. 26. The so-called piano-box house.

H. E. BENEDICT, Horseheads, N. Y.

BUFF PLYMOUTH ROCKS

A. 23. I prefer a house with an open shed facing the south; house to have a floor, roosts with droppings boards, nests, etc., shed to be filled in with cinder or gravel about a foot above the surrounding ground. A drop curtain in front to keep out snow when the wind is in south; put in a foot of straw and change if it gets damp.

A. 24. Colony houses until large enough to put in the regular breeding houses.

A. 25. I do.

A. 26. Most any kind will do until the cold storms come on in the fall. They want to be good enough to keep them out of the rain and wind, and so you can shut them up nights if you want to.

POULTRY HOUSE PLANT

A. B. TODD, Vermillion, Ohio

S. C. WHITE LEGHORNS

A. 23. I prefer a house 8 by 10 feet, 4½ feet high at the back, 6½ feet in front, with removable droppings board 2 feet from floor, with drop curtain in front of same, with a 2 by 4 foot window, and with frame to fit same covered with waterproof sheeting.

A. 24. For young stock or growing chicks I prefer same style house as above described, with droppings board removed until chicks are old enough to roost on perches.

A. 25. Yes.

A. 26. Same style as described in A. 23 and 24.

CHAS. E. VASS, Washington, N. J.

S. C. AND R. C. BUFF ORPINGTONS AND S. C. WHITE AND
BLACK ORPINGTONS

A. 23. I prefer houses not over 30 feet in length, 10 or 12 feet wide, divided in three sections; they will always be easily cleaned and free from disease, the length not allowing much draft.

A. 24. Colony 6 by 8 feet with open front, in order to have fresh air in the hot summer nights; good idea is wire fronts to protect chicks from vermin.

A. 25. We certainly do. Poultry will not thrive if allowed to run together in large flocks.

BRADLEY BROS., Lee, Mass.

BARRED PLYMOUTH ROCKS

A. 23. Shed and closed house, hallway, a long building; not too many cubic feet above 5 feet high. Not much glass. Good ventilation.

A. 24. Similar to A. 23. Plenty air, tight except front; around floor boarded tight; 3 feet high from floor, air space above that.

A. 25. Yes.

A. 26. Shed beneath, roosting room above, which is boarded half way up from its floor, then wire front, and swing doors which when open make it still more of an open shed. A window or a little glass in these would be a benefit.

G. W. BROWN, Camden, Arkansas

WHITE WYANDOTTES, BARRED ROCKS, INDIAN GAMES, BUFF COCHINS,
LIGHT BRAHMAS, LEGHORNS, PIT GAMES, WILD
AND BRONZE TURKEYS

A. 23. I have experimented with dozens of houses, trying the open and closed, as well as artificially heated houses, but as my experience has been confined only to the south, I say beyond any doubt the best houses for the south are open, well ventilated houses; in fact, we let our houses face south and the north, east and west sides are walled up tight, with a large glass window in the south; this window is kept wide open all the year round, with a few exceptions, and over the opening we use wire netting. We found that the closed tight houses in damp weather would give our birds colds and roup, for while they would be all right in dry, warm weather, when turned out of this warm house on cold, wet, damp days, it would throw them all off their feed; but with the open fresh air, they become accustomed to the changes on the outside and keep in the very best health.

A. 24. We use the small colony houses, taking a box 3 by 4 walled up tight all but in front, and we use a slat door with wire on the inside opening and a good tight roof; build the box up six inches from ground with good flow, so as to keep dry and warm.

A. 25. Yes, we favor the colony houses for young stock as we get far better results, as overcrowding is the cause of so many failures and the loss of so many young chicks.

A. 26. We use the plan of coops as described above and make them 3 by 4, placing 25 chicks to a coop and six coops to an acre lot.

B. S. HUME, French Village, Ill.

WHITE WYANDOTTES

A. 23. My style of house would be 16 to 20 feet wide and any length you desire; 6 feet high on sides and sloped from the center each way about one foot fall. This house should be built on a southern slope, with glass front facing the south, with north wall made of cinderoid; this is made of one part cement, three parts sand, and five parts cinders. Mix thoroughly and wet before using. A three-foot hallway next to the cinderoid wall the whole length of the building, then divide the house up into pens to suit.

A. 24. Something similar to the above

A. 25. I certainly do.

A. 26. Take old piano boxes and saw them through, and each box will make two colony coops large enough for 40 chicks as large as grown quails.

N. V. FOGG, Mt. Sterling, Ky.

S. C. WHITE LEGHORNS

A. 23. For breeding stock I use a house 10 feet wide and 12 feet long, 7 feet high in front and 5 feet in rear, for each breeding pen of one cock and 15 hens. This gives them plenty of room. I also use a continuous house with pen 6 by 8 feet for scratching shed and one 6 by 8 feet for roosting and laying room for each breeding pen of one cock and 15 hens; both have given good results. These houses are built with barn siding and then covered with a good quality of roofing paper; the sides and ends are also covered with the same paper and all kept well painted. For windows in these houses I use glass, just an ordinary sized window, and then on the inside I have a frame covered with heavy canvas which is dropped down at night over the window.

A. 24. If one has a good range I would prefer the colony plan.

A. 25. I use a house about 3 feet by 6 feet, 3 feet high in front and 2 feet rear, when chicks are first taken from the brooder. These houses are built warm and in front are made so as to give plenty of fresh air at all times. Do not place over 25 or 30 young birds in these houses and you will have fine birds for winter quarters, if they have the right kind of feed.

EDW. E. LING, So. Portland, Me.

WHITE WYANDOTTES

A. 23. Scratching shed house.

A. 24. Movable colony house.

A. 25. Yes.

A. 26. One that can be readily moved.

SUCCESSFUL POULTRY KEEPING

GEO. A. BARROWS, Groton, N. Y.

S. C. WHITE LEGHORNS

A. 23. I prefer a double wall house 16 by 40, with a straw loft, divided into pens 10 by 16 feet with roosts and nests along the inside partitions of the house.

A. 24. I prefer a shed roof house 6 feet by 8 feet in size and 5 feet high on the back and 7 feet on the front. These houses are built on runners so that I can draw them anywhere I wish.

A. 25. Yes.

A. 26. Answered in 24.

H. H. FIKE, Libertyville, Ill.

WHITE WYANDOTTES

A. 25. Yes.

A. 26. House facing north, size 6 by 8 with floor, window on south, door on north, also 6 by 1½ feet ventilator on north; with board flap to prevent rain from beating in.

J. L. JEFFERSON, Des Plaines, Ill.

WHITE PLYMOUTH ROCKS

A. 23. A well-built house with upper half of window sash made on a frame to raise and lower, and if you have single comb birds use a hooded roost.

A. 24. Single boarded colony house that can be well ventilated below the roosts. A house with no sides, nothing but roof, makes the best house for the warm months.

A. 25. I use the colony house entirely, placing a brooder in each house; when the chicks are old enough the brooder is removed, and the chicks have the house.

A. 26. A house about 6 by 8 with a large window in south, that can be removed later on and wire netting used.

D. F. PALMER & SON, Yorkville, Ill.

BARRED PLYMOUTH ROCKS

A. 23. About 14 by 40 feet, with five yards to the house.

A. 24. A house about 6 by 10 feet.

A. 25. Yes.

A. 26. A house 6 by 10 and one 8 by 12.

GUS. L. HAINLINE, Lamar, Missouri

WHITE WYANDOTTES

A. 23. Continuous house and scratching shed plan on account of ease of caring for them; want double yards to each house.

A. 24. A colony house in which I can put a brooder with 50 chicks and let them grow up in it; and if necessary spend the winter in it. Two piano boxes back to back, covered with rubber roofing, on 2 by 4 for skids makes a fine house.

A. 25. Yes.

A. 26. Two piano boxes back to back; also house 10 by 10 by 7 feet high (built for adult stock).

WM. H. ROBINSON, La Fayette, Ind.

BARRED PLYMOUTH ROCKS AND WHITE WYANDOTTES

A. 23. I prefer the long and open scratching shed house with curtains to let down in stormy weather, and two roosting

rooms together, thus adding a great deal of natural heat in cold weather and plenty of cool fresh air and warm sunshine in scratching sheds, where fowls can work and scratch in perfect contentment, thus being healthy and vigorous in every respect.

A. 24. About the same as above, but plenty of room for growth and exercise; perches and droppings boards built low and roomy. Lots of sunshine and good care. Window close to floor.

A. 25. Yes, by all means, I think it the only proper method for market or fancy.

A. 26. I have them different sizes, mostly about 4 or 5 feet wide, 6 or 8 feet long, some larger; large window close to floor on south side to slide back for good fresh air, and door on either end, never on north side. Built on runners to move to any part of farm.

MRS. H. W. HAND, White Hall, Ill.

WHITE WYANDOTTES

A. 23. The open front, scratching shed type, with roosting room in rear. This house should front south, have all walls but front of solid air tight construction, roof sloping to north, low pitch, air tight. Front should have a door and one or two large windows, the latter guarded by poultry netting and on the inside provided with a muslin drop curtain for bad weather. In cold climates the roosting room should be double walled, and have an extra muslin drop curtain in front of roost to be used on very cold nights.

A. 24. The same.

A. 25. Yes.

A. 26. Houses 4 by 8 feet, 3 feet high in rear and 4 feet high in front, with a window and door in front, and set up on legs eighteen inches high, so as to make a shelter from sun and rain.

HARMON BRADSHAW, Lebanon, Ind.

S. C. WHITE LEGHORNS

A. 23. 16 feet wide and long, 4 foot hallway down one side. Divide in pens 12 by 12 feet with yard for each pen.

A. 24. Have brooder house same plan as above. When old enough to leave brooder put out in colony houses.

A. 25. Yes.

A. 26. Boarded up on three sides, with ½-inch mesh wire on the other. This gives plenty of air and keeps rats, etc., out.

C. L. PENCYL, Bloomsburg, Pa.

BUFF PLYMOUTH ROCKS

A. 23. I would build it with windows facing south, also door the same place, all sides and rear end closed; ventilate all from front towards south. Keep windows open as long as possible in the fall; never close them tight. Build size to suit taste, but never too high if you want a warm pen; would build with dead air space sides and rear, paper between weather boards and sheathing.

A. 25. Yes, I do.

J. M. WILLIAMS, No. Adams, Mich.

S. C. AND R. C. BUFF ORPINGTONS

A. 23. Open scratching shed for feeding, with a warm roosting place for nights; same has been demonstrated time and time again in the poultry magazines.

THE POULTRY PLANT

A. 25. Yes.

A. 26. We use a 3 feet by 6 feet slanting roof; plenty of air, flat roosts, etc.

OTTO O. WILD, Benton Harbor, Mich.

WHITE WYANDOTTES

A. 23. Separate houses with scratching sheds attached, of a capacity of 25 adult fowls or 50 growing chicks, increasing or diminishing numbers as the exigency demands.

A. 24. Am a convert to larger houses, more scratching room, more open fronts and much more air.

A. 25. Yes, after 2½ to 3 lbs. have been reached.

A. 26. At present am using piano boxes covered with roofing paper and supplied with door and screened window, but shall work them over into "Tolman" houses.

R. H. CRANDALL, Worth, Mich.

S. C. AND R. C. WHITE AND BROWN LEGHORNS, WHITE WYANDOTTES,
PEKIN DUCKS, TOULOUSE GEESE AND BRONZE TURKEYS

A. 23. Long, low roof house facing the south, two windows to a pen and pens 17 by 20 feet inside and a 3-foot alleyway on north side.

A. 24. Colony houses for young stock.

A. 25. The colony house plan is the nearest to nature of any.

A. 26. We use 60 colony houses 5 by 6½ feet, and 6 feet high with a hip roof made of matched lumber and covered with tar paper, 12 by 24 window in one side and door in end.

A. & E. TARBOX, Yorkville, Ill.

SILVER LACED WYANDOTTES

A. 25. Yes.

A. 26. We prefer house large enough for the brooder and plenty of exercise room.

F. W. RICHARDSON, Hicksville, Ohio

BARRED PLYMOUTH ROCKS

A. 23. Prefer colony houses with large yards for breeding yards.

A. 24. For young growing chicks prefer small houses with plenty of ventilation, well scattered over farm.

A. 25. Colony plan.

A. 26. Use colony house about 4 by 8.

ARTHUR G. BOUCK, Frankfort, N. Y.

BARRED PLYMOUTH ROCKS

A. 23. I am about to enlarge my plant and will build a house on the shed roof style, as I believe this style as good as any for very cold climates.

A. 24. I use the apex style of colony house, built on runners. Floor space about 5½ by 8 feet and altitude 6 feet.

S. J. McQUILLIANDE, W. Hartford, Conn.

WHITE PLYMOUTH ROCKS

A. 23. It depends altogether on the climate where the man expects to locate.

A. 24. I prefer trees for them after they are feathered and keep them there until snow flies.

C. H. WYCKOFF, Aurora, N. Y.

S. C. WHITE LEGHORNS

A. 23. Don't know how to answer this; there are hundreds of good ones and many more bad ones. The poultry house that affords the most comfort to the fowls the year round, and is at the same time most convenient for the owner to care for is in my judgment the best house.

A. 24. First, outdoor brooders, then colony houses for balance of the summer.

A. 25. Yes.

A. 26. Those of the open front style with front covered with hoods that permit opening or closing to any degree allowed by the weather changes.

IRVING F. RICE, Courtland, N. Y.

S. C. WHITE LEGHORNS

A. 23. House divided into pens, suitable for 15 females and one male, with straw loft, cement floor, good ventilation and light, extra window frame covered with muslin to be substituted for glass windows during the greater part of the day. This keeps the litter dry and affords better ventilation, hens will stand a low temperature if kept dry, but dampness and cold are fatal to profitable egg production and healthy breeders.

A. 25. Yes.

A. 26. 8 by 10 feet in size, 5 feet high in rear and 7 feet high in front.

J. T. THOMPSON, Hope, Ind.

WHITE PLYMOUTH ROCKS AND MAMMOTH BRONZE TURKEYS

A. 23. I prefer the colony house, with the open scratching shed attached.

A. 24. I prefer the same kind of a house for my young stock.

W. R. GRAVES, Springfield, Mass.

WHITE WYANDOTTES

A. 23. A scratching shed front that can be closed at will to suit weather conditions.

A. 24. Same.

A. 25. I do.

A. 26. One that will give plenty of fresh air and if there is not much shade raise from ground sufficiently to enable the chicks to get under for shade.

CHAPTER FIVE

LEADING STANDARD VARIETIES

SELECTING A BREED—POPULAR FOWLS BEST FOR A BEGINNER—BETTER TO STICK TO ONE VARIETY—PLENTY OF GOOD ONES TO CHOOSE FROM—STANDARD BREDS COMBINE BEAUTY AND UTILITY—WITH PRIDE IN FINE BIRDS PLEASURE AND PROFIT GO HAND IN HAND



THE SELECTION of a variety or breed is largely a matter of individual preference. What may suit one will sometimes not please another, and fortunately there are many good and beautiful varieties of standard breeds to choose from. Each and every enthusiastic specialty breeder, almost without exception, will endeavor to convince you that his favorite variety is best. He has good reason to feel that way. They are best for him, best because they please him, he loves them, knows them thoroughly and they bring him in good honest money, as a reward for his labors with them. You can't blame a man for insisting that his own particular choice, the one that does well by him, is best. Now and then you will find a breeder with broader and more liberal views, sometimes he is a specialist but more often a fancier or practical poultryman who breeds more than one variety, and still less frequently you will find some veteran at the business who sees the good in all the more popular varieties and even some that are not popular. It is very natural and very human to consider our own selection and favorites the best.

As a matter of fact there are many good and entirely satisfactory varieties. The beginner can choose any one of the many mentioned in this chapter and not go wrong. Time was when it was generally believed that some varieties would lay more and better eggs than others of equally popular breeds, now the fact is quite well known that it is not so much a difference in variety as a difference in breeding that distinguishes the good layer or the indifferent layer. Brahmas, usually considered sluggish layers except in winter, have been produced that made record egg yields upwards of 200 and 250 eggs per year per hen. Plymouth Rocks, Wyandottes and Rhode Island Reds have likewise shown top notch egg records that equal those of any Leghorns and Minorcas both duly accredited egg machines. The heavier varieties are slower to mature and do not as a rule lay as early as their lighter weight sisters, but here too breeding has much to do with the case in point for we have plenty of evidence that American and even Asiatic varieties can be bred for early maturity.

There is no one best breed. The beginner should be governed by his personal taste, his liking for the birds. Let him choose a breed that pleases his particular fancy, then get the best stock obtainable within his means, study the birds and put good earnest effort into breeding good ones. If the breeder does his part intelligently he can count on getting eggs and meat too, as well as fine feathers and exhibition quality. When it comes to meat production the lighter weight varieties suffer a little handicap, they don't remain "soft-meated" long and they haven't the size, but when young they go well on the home table and as small broilers are hard to beat.

Brahmas, Langshans, Cochins, Plymouth Rocks, Wyandottes, Reds, Minorcas, or Leghorns, there is much that is good in all of them, and after all a choice is merely what you or I see in the breed that pleases us, you can't go wrong with any one, but make it *one*, life is too short for any man to thoroughly

know more than one variety. Choose that variety which pleases you best. Be guided somewhat by your location and the demand of your market. Some markets want white eggs, some brown. All brown egg markets prefer yellow skin and legs. Some will take and pay good prices for white skinned birds. Try to combine your needs in one variety if you can. It pays to be a specialist.

In Chapter I. in the symposium "Starting in the Poultry Business" well known successful breeders tell which are their favorite varieties and why. Read and study that advice but bear in mind that each man is bound to say a good word for his own choice.

ASIATICS

Grand size, wealth of plumage, feathered or booted legs, stately, dignified, albeit somewhat clumsy deportment, are among the chief characteristics of the Asiatic breeds. Brahmas, Langshans and Cochins all are worthy of special mention, but we can only find room to briefly notice the leaders.

LIGHT BRAHMAS AS UTILITY AND EXHIBITION FOWL

I. K. FELCH, Natick, Mass.

That the Brahma is the best all 'round fowl for every purpose fowls are put to, cannot be denied. The fact that following all excited booms for new varieties, when the excitement is over, the breeders come back to the Brahma in its original conformation; of an oblong body, full-rounded breast, wide posteriors, birds that appear to have an equal breast and posterior weight when divided at and with line of shanks; with a close, adhesive, whalebone texture of plumage that shows hock joints in profile below the body line. This was the original condition when the hen, Rebecca, secured the world's record of laying 313 eggs in 333 days, the record is for the year of 1876. Hens shown at Rutland the year following scored 97 points, since which time we have repeated records of 96½ points with males as high as 95½ points, and I know of two records where a pen of Light Brahmas sweepstaked two shows where even Bantams competed at a score of 189½ points for two pens. All this establishes their merit as exhibition stock, while flocks of 35 to 75 birds have average individual records of 160-11-15, 161, 192 eggs, hatching and rearing an average of 8 chicks each, with the hen Pareppa laying 23 consecutive months when sold. Is not this piling up merit in a few words? These, with other individual hens laying even 231 eggs in a year!

As poultry, Brahmas will grow the largest number of pounds at eight months per fowl for food consumed. The late hatched cockerels pay better to feed through the winter for the spring trade for roasters and this is the only breed that will do this. When kept in celibacy so as to remain soft meated, we have sold many as high as \$3. each as virgin cocks, this enables a breeder to carry over all males for breeding purposes. When March and

LEADING STANDARD VARIETIES

April comes it enables him to sell the surplus at 25 to 30 cents per pound for large, soft roasters. The present call for the breed out of which to produce capons has quickened the demand for Brahmas in a marked degree. Their large, dark-shelled eggs, which are the heaviest of all eggs have enabled breeders to secure a private trade at a price of 50 cents per dozen the year 'round and such produced the celebrity of the breed. So much for absolute, practical merit.

For their beauty—a plumage in which is combined immaculate white and beautiful brilliant black, the white of the neck striped down the center of each feather with blue black, a pure white surface color of breast, body and wing; with a tail and maintail and sickles a lustrous black; with coverts in the females black edged with white and wing feathers black and white, the black being the predominating color. In the male we have a tail spread at an angle of the letter A, or inverted V, and filled in underneath with each curling feather of white and black; the

price for a hen \$55. We have known of birds sold in exhibitions, after having won, to be sold as high as \$150.

So much a lover of the breed am I that I would see all the other breeds I am identified with annihilated before I would consent to see the Light Brahmas become extinct; they are the best breed on earth. I believe when they are fed right, bred right and kept in the conditions under which they do their best, they are the most profitable and for me the most beautiful of all the fowls in our Standard of Perfection.

(Standard-bred Light Brahmas are our heaviest breed, adult males weighing 12 pounds, females 9½ pounds. They have rich yellow skin and yellow legs, meat is fine grained, tender, juicy and of good flavor. They are exceptional winter layers of large dark brown eggs. This variety is a favorite one with growers of the famous South Shore Soft Roaster. They are very hardy and not liable to be seriously affected by ordinary diseases. Brahmas are rather slow to mature, pullets usually lay when nine months old; cockerels are mature when eleven to twelve months old. Brahma hens make fairly good sitters but are rather too heavy and are clumsy mothers.—Ed.)



FIRST PRIZE LIGHT BRAHMA HEN, BOSTON, 1907

The challenge cup Light Brahma hen at Boston, 1907. Bred and owned by J. L. Kerr, Wilton, N. H.

shanks and feet clothed in a plumage of white or white mottled with black, the latter preferred in the male. When the last row of saddle-feathers are in character like the coverts, then does the specimen become the most striking in color combination and captivate the beholder of them at our fairs. In the point of score whole flocks have averaged to score higher than any other breed and 90 out of every 100 chickens raised have sold at a higher average price than any other. We have before now sold \$2,230. worth of chickens raised from Cour de Leon and the 8 Pareppas for an average of \$75.00 each. The highest price I ever sold is thirteen specimens at \$1300. The highest

BLACK LANGSHANS

For those who like a black bird it is hard to find a more pleasing heavy weight variety. Adult males should weigh 10 pounds, females 7 pounds. The plumage is a beautiful glossy metallic black with a greenish lustre. They have white or flesh colored skin and the legs are blueish black with soles of feet whitish or pinkish-white.

Langshans are fairly hardy, the flesh is soft meated and of fine flavor. They are good winter layers of brown eggs and are good sitters and fair mothers. In the show room they always attract attention through their beauty of form and plumage. These handsome fowls are very docile and soon get on friendly terms with their attendant.

Birds of this variety have been shown that scored 94 to 96 points under a careful judge and many have been sold at "long" prices. Although a "solid color" variety they require the use of considerable skill in mating and breeding to bring them up to full measure of Standard requirements, and the fancier will find that they give him ample opportunity for study and the exercise of his mental faculties.

Langshan chicks are not usually solid black when newly hatched, they may be grayish or splashed with white. They frequently show white in plumage until fairly well grown or until they put on adult plumage. Mature specimens to be used as breeding birds should be solid black and breeders are sometimes hard pressed to keep their birds from showing white feathers. White to the extent of one half inch in any part of the plumage except leg and toe feathers disqualifies the specimen and bars it from competition in the show room. Beginners with this variety should cull closely for this defect and should not breed from birds sporting white feathers. Purple lustre or purplish barring is another serious defect and should be guarded against. Undercolor should be either black or dark slate color.

For town or city lot poultry keeping, Langshans will prove excellent as they are easily confined and their black plumage does not show the ill effects of the dust and dirt of town and city life.

As a fancy fowl or to supply the family table this variety will always prove a source of pleasure and profit. As a market variety it has never made much progress in this country owing to the prejudice against white skin and black legs in fowls. Why this notion should exist when the same buyers would eagerly take a turkey with white skin and black legs is difficult to understand. Black pin feathers are another serious market defect. However, the variety is very popular with some breeders who cater to a special market that does not harbor these prejudices. Some of the finest capons grown in western New York

SUCCESSFUL POULTRY KEEPING

state are pure-bred Black Langshans, and it is claimed that for producing large capons of exceeding fine quality and tooth-someness this variety is hard to beat. We have aimed to treat them fairly, but some Langshan specialists will be sure to class us among the prejudiced.

BEAUTIFUL BUFF COCHINS

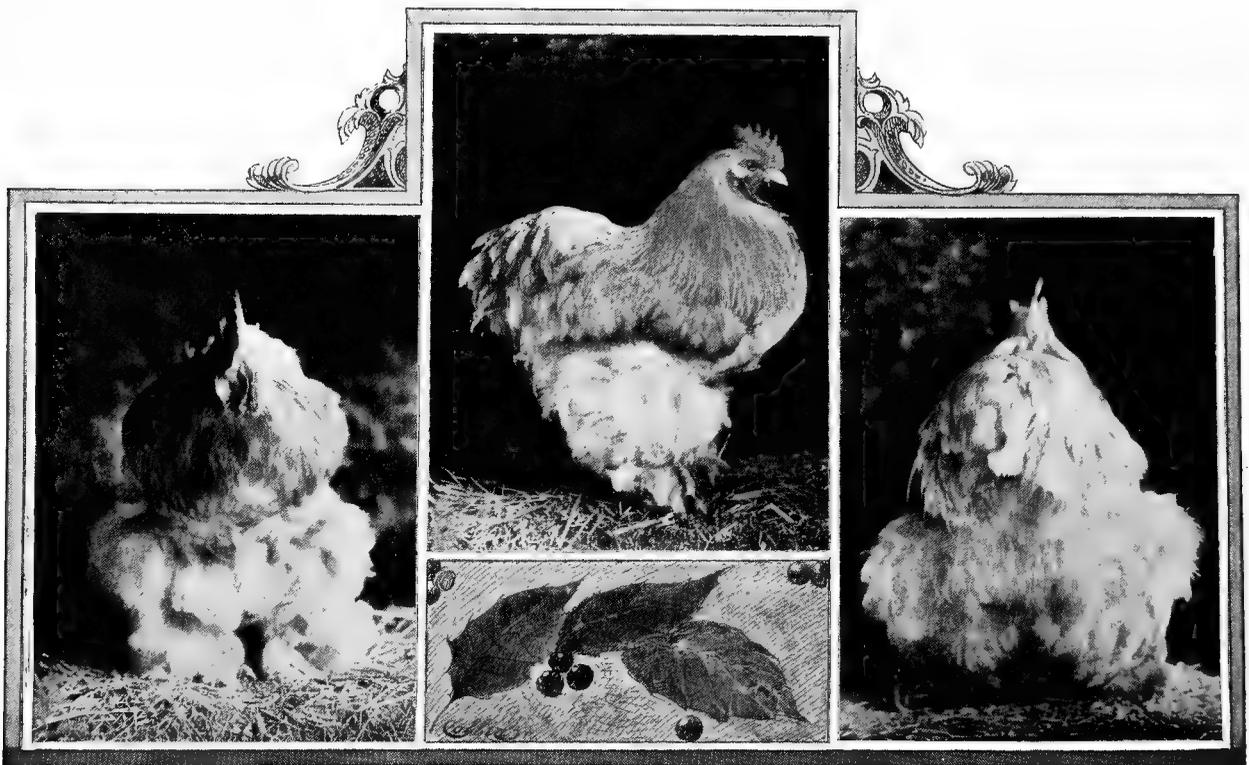
Among all the Asiatic varieties there are none that excel the well bred Buff Cochin from a standpoint of real merit in both beauty and utility. Of late years the variety has become somewhat less popular owing to the prevailing tendency to breed them to looseness of plumage and excessive feathering. There is no more beautiful sight than one of these wonderful bundles of buff plumage as soft and fluffy as a downy pillow on milady's couch.

If the breeding for plumage is not carried to the extreme this variety is entirely practical and desirable for other purposes

read so much about White Wyandottes as egg producers that I purchased twelve pullets and a cockerel. Then I bought a sitting of Silver Laced Wyandotte eggs and also one of White Plymouth Rock eggs.

"The pen of White Wyandottes began to lay the first of November and laid quite well. The White Plymouth Rocks began to lay at six months of age, the Silver Laced Wyandottes at seven months and the Buff Cochins at eight months, but I found the Buff Cochins to be the best layers. After they started to lay they soon made up for lost time and I had the least trouble with the hens becoming broody. When one became broody I would place her in a pen with pullets, feed her better and she would soon forget all about it, starting in to lay in a few days.

"I cannot say enough in praise of my favorite breed, the Buff Cochins. I have sold all the others and keep the Buffs exclusively. As winter layers my experience has found them to be unequaled, and I find the chicks easier to raise than any



THE FRONT, PROFILE AND REAR OF A MODERN BUFF COCHIN MALE

The above Buff Cochin cock bred by Dr. J. J. Hare, Proprietor of Holmhurst Poultry Yards, Whitby, Ont., Canada, is shown as an example of desirable Cochin shape and feathering

than exhibition, although as a show bird they have few equals. Buff Cochins possess an exceedingly strong and hardy constitution and are wonderfully active and vigorous for their size.

When properly bred they are fine layers of rich brown eggs of good size. The size and the number of eggs produced depends a good deal on the strain you breed. Some specimens bred with little or no attention paid to utility values are rather poor producers and lay small eggs for the variety. A lady of our acquaintance writes:

"I would like to state a few facts from my own experience since beginning to raise poultry both for pleasure and for profit. As we live in town, I decided to try Buff Cochins, because they would be easier to keep in the yards; so I sent for a sitting of eggs from standard-bred stock and got a fairly good hatch. I then concluded to try several breeds, giving them all an equal trial and keep the breed that proved the best layers. I had

other varieties. They are always ready for their food and there is not a fowl on the place that I cannot pick up at any time, they are so tame. Cochin males are very kind to the little chicks. I presume some will call me a Buff Cochin crank, and perhaps I am. Aside from a utility standpoint, their rich, even buff feathering and great size are all that any lover of the beautiful could wish."

Buff Cochin adult males should weigh 11 pounds, females 8½ pounds. Pullets reach laying maturity at seven months and are good winter layers. Hens make good sitters and mothers. Males are at breeding maturity when nine to eleven months old. If bred properly and well grown the meat is fine grained and fine flavored remaining "soft" until the birds mature. They make excellent capons. Where the stock is bred for feathers only without regard to quality of flesh they are apt to be rather coarse meated. This is true of nearly all Asiatics.

LEADING STANDARD VARIETIES

AMERICAN BREEDS

Popular size, beauty and utility combined, that describes the American varieties as a whole. Good for eggs and meat—the real general or all purpose fowls. Yet withal they rank among the best and most popular exhibition varieties. They fill the largest classes at our shows, draw some of the longest prices from our purses and make their breeders happy whether bred for show-room or the market place. Being to the manor born, originally produced and developed in the United States, they appeal to the patriotic spirit as well as the senses, not the least among these last being “common sense.” Beautiful, hardy, vigorous, active, foremost in the show-room and also in appeasing our appetites for prime quality poultry and eggs they have never yet given their originators and breeders the least cause to be ashamed of them. Plymouth Rocks, Wyandottes or Rhode Island Reds, all of the old varieties and most of the new ones are popular in the best sense of the word and deservedly so. These varieties are all hardy, stand confinement well, are good foragers on range, are easily confined, a five-foot wire fence will keep them within bounds. Excellent sitters, fine mothers and unequalled producers of good sized brown eggs. Good market size, mature early, fine flavored soft juicy flesh, easily fattened, yellow skin and clean yellow legs; these are a few of the sterling qualities of the leading American varieties.

BARRED PLYMOUTH ROCKS

WHY THEY ARE IDEAL FOWLS FOR THE FANCIER—
THEY COMBINE ARTISTIC BEAUTY AND UTILITY

E. B. THOMPSON, Amenia, N. Y.

SPECIALIST BREEDER OF BARRED PLYMOUTH ROCKS

The reasons for my preference for the Barred Plymouth Rock over all other breeds is simple and easy to tell.

Some 28 years ago as a boy I concluded to commence with one single breed and only one and bring it to the highest possible perfection. After much thinking I finally arrived at the conclusion that the Barred Plymouth Rock was the ideal breed.

In the first place they are a practical fowl, they are a utility bird, and these things are absolutely necessary in any breed of poultry if a large demand and great popularity is expected. The Barred Rocks are splendid layers the year round. In fact, I have testimonials from my customers stating almost wonderful laying records by my “Ringlets.”

The Barred Rock is a good sized bird with yellow skin and legs and a quick grower. On account of this fact they are largely bred for broiler and market purposes, the foundation being utility and practical worth—the same as a large beautiful and ornate building must stand upon a deep, solid and practical foundation.

The principal reason for my choosing the Barred Rock for my life's work is their wonderful plumage. The exquisite color of a fine exhibition specimen can hardly be told in words and to produce the clean, bright, narrow, straight barring year after year is a fascinating study and worthy of the highest skill in live stock breeding. In point of fact, a great breed with the superlative qualities of the Barred Rock must be in universal demand and have a tremendous sale.

Since I originated the “Ringlet” strain and during all the years I have bred them the demand has been enormous for breeding and exhibition birds, not only in this country but in foreign lands. I have shipped them all over the world, and during the past two months have sent “Ringlets” to Australia, Japan, South America, South Africa, Germany, England and Russia.

The kind of poultry to breed and spend time, money and labor on is the breed the majority of the people want and I have found the “Ringlet” Barred Rocks have a popularity unprecedented. This popularity could not exist without actual merit and worth.

To sum up the Barred Rock is a business fowl with exquisite feathers and plumage. They meet alike all the requirements of the market poultryman and the born fancier whose solitary purpose is to own a breed for exhibition in the largest shows where competition will be the fiercest. The prices paid for superior exhibition and prize winning specimens are very large and the Barred Rock class usually exceeds all other breeds in numbers at the leading shows. This fact is further convincing evidence of the popularity of the breed—they have been called “America's Idol.”

The coloring of an exhibition Barred Rock and the artistic beauty of a perfectly barred feather is a delight to a fancier and the best poultry artists in the country must acknowledge that when they have correctly portrayed on the canvass one of the highest types of a Barred Rock they have reached the climax of skill in poultry illustrating.

POPULAR PLYMOUTH ROCKS

The Barred Plymouth Rocks are one of the oldest and most popular of the American varieties. You will find birds showing Barred Rock feathering in nearly every farm flock in the country. Wherever a male of this breed has once been used he leaves his trademark of plumage to follow on indefinitely in the progeny. This breed was originally produced by mating a good old-fashioned Dominique male with Black Java females.

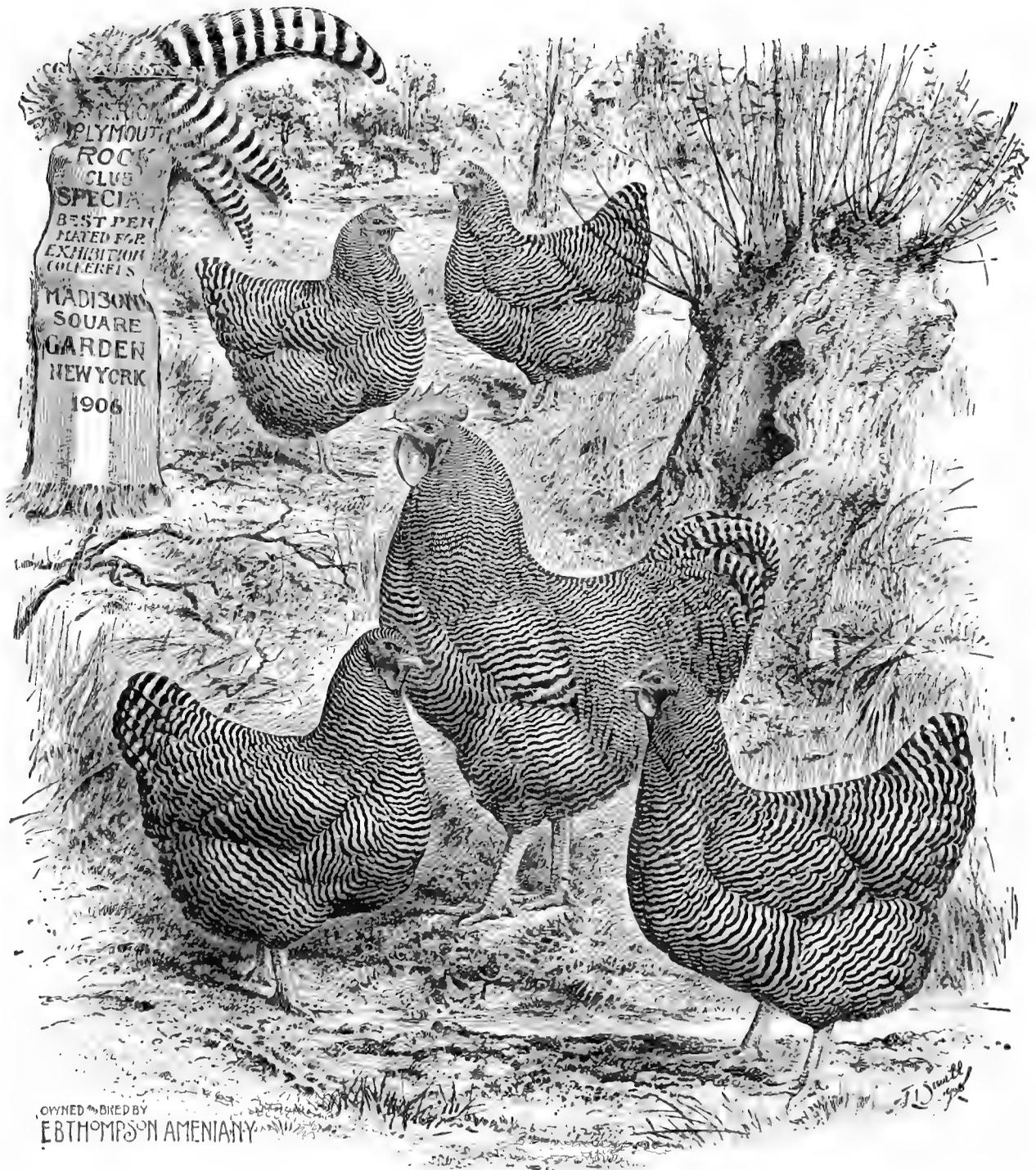
The beautiful barred plumage of standard-bred birds of this variety is too well known to need description here and is best seen in the exhibition pen to appreciate it at its full value.

To produce exhibition specimens of highest excellence all breeders of this variety find it necessary to resort to the double mating system; one special mating to produce male birds with exhibition markings, shape and size, and another to produce females with like requirements. The Barred Plymouth Rock fancier finds that he has his hands full in endeavoring to produce fancy specimens of highest excellence. When he succeeds he wins high honors in the show room in the hottest kind of competition, and he can usually command any price within the bounds of reason that he may care to ask. It frequently happens too that he does not care to sell at any price.

Mr. A. C. Hawkins, Lancaster, Mass., poultry judge and breeder, writes of the Barred Rocks as follows:

“Many of the judges have become so thoroughly carried away with the under barring that they pay little attention to the beauty of the surface color. They begin to score from the skin and cut more severely for lack of under-color than for an inferior surface. The beauty of a fowl is what we see, and while I am a believer in distinct, even barring under the surface, I do not want the bars so strong and heavy underneath that they destroy the beautiful blue on the surface, and it is a fact that most of the specimens that are very strong in under-color have a muddy black bar on the surface. It is also a fact that the very finest surface colored birds have not the strongest under-color. The two qualities do not breed together, naturally, or, in other words, those males that are most attractive in the breeding yard and exhibition pen may not have the same strength in the under-barring as other specimens that are less attractive.

“Now, breeders, which will you have? What I want, and what any real fancier wants, is perfection in surface color and all the under-barring that nature will supply with it, and not what some judges I know require, namely, perfection in under-barring and as good surface as we can get with it.



"RINGLET" BARRED PLYMOUTH ROCKS

Winners at Madison Square Garden, New York, January, 1906, of the American Plymouth Rock Club's special for the best pen mated to produce exhibition cockerels. They were owned, bred and exhibited by E. B. Thompson, Amenia, New York.

LEADING STANDARD VARIETIES

LINE FOR MALE BREEDING

"To produce fine males select the very best exhibition male to head the pen. He must be a bird of standard weight, or a little over, with broad, full breast; low, evenly serrated comb; solid red lobes, bay eyes; broad, well curved back; nicely curved tail, carried rather low; and strong, rich yellow legs, set well apart. In color he should be a rich, dark blue, even all over, and as closely barred as possible to retain distinctness, with wings and tail distinctly barred throughout. Get all the under-color possible with such a surface, but do not let the surface suffer for the sake of heavy under-color.

"Mate with this male eight or ten females of the same line of blood, or, in other words, females whose sire and grand-sire were high scoring exhibition males of the type and color I have described. Select females of standard size, with small, evenly serrated combs, bay eyes, blocky shape, broad backs, low, well-barred tails, and strong, yellow legs. In color these females should be several shades darker than exhibition color, the bars to be narrow, distinct and close together in all sections, with the under-color strong and distinct to the skin. With these strong colored females you can get all the under-color in the male product that it is possible to have with a brilliant, high colored surface.

"From such a mating as I have described, if bred in line, I can produce 95 per cent. first-class breeding males with 25 per cent. of sufficient merit for exhibition at the best shows.

LINE FOR FEMALE BREEDING

"In mating to produce high-class exhibition pullets select females of the best exhibition color, evenly and distinctly barred down to the skin. Be particular that the neck is evenly and closely barred and not lighter in color than the back and body. Have the main tail feathers and tail coverts well barred across the feather. Females are liable to fail in these sections unless care is exercised in the selection of the breeders. Have them standard weight or a little over, with broad, full breasts, broad backs, gently inclining to the tail, which should not be carried too high. I prefer a slight cushion, which gives the female a round, blocky appearance. The comb should be small and evenly serrated, eyes bay, and legs a rich yellow. Such a bird should be fit to show in any company. If these females have been bred in line for several generations the offspring will be more even in form and color.

"With these females place a male of medium light color and of even shade from head to tail. He should be of standard weight, have broad, deep, full breast; body not too short; back well curved to tail, which should be carried rather low. This male should have been bred in line from high-class exhibition females for several generations, so that his blood may have the same character as that of the females with which he is mated.

"From such a mating can be produced 95 per cent of first-class breeding females and 20 to 30 per cent of high scoring show specimens. The males from this mating will be very nearly the color of the sire, and are useful as breeding birds in mating for exhibition females. Save only those that are even in color for breeding purposes."

Barred Rock pullets reach laying maturity at the age of six and one-half to seven months and prove grand fall, winter and spring layers. The hens are exceptional mothers. Cockerels mature at from nine to ten months old. All Plymouth Rocks fatten easily and exhibit a tendency to take on fat internally after maturity. Adult males will tip the scales at 9½ pounds and hens range about two pounds lighter in weight. They are fine meated but rather coarser boned than other American varieties. Young stock is hardy and easily reared and adults are not liable to disease. Good foragers but are easily kept in confinement.

Brown eggs, yellow skin and legs. This variety is one of the favorites at the Maine Experiment Station where they are developing a wonderful capacity for egg production.

WHITE PLYMOUTH ROCKS

U. R. FISHEL, Hope, Indiana

Pardon me for stating my honest belief that the White Plymouth Rocks, as bred today, are the most beautiful and profitable of all domestic fowl. This is a rather broad assertion, it is true, but nevertheless I believe it is based on facts.

Whence came the White Plymouth Rocks? Their origin is not surrounded by mystery, nor are they a made-up, happy-go-lucky variety. They originated in the year 1874, the first birds shown being a pair of chicks exhibited in the fall of that year by Wm. P. Woodworth, at the Eastern Maine fair held at Bangor. Mr. Woodworth wrote me under date of October 13, 1904: "I was the first one to raise and exhibit the White Plymouth Rocks. I had a pair on exhibition at the Eastern Maine Fair, held at Bangor, this state, the year before Mr. Frost got his chicks. Mine were raised from eggs of Barred Rocks of the Essex strain. Unfortunately my birds were both cockerels but Dr. G. W. Twitchell and myself thought they were a pair at the fair. Mr. Frost had a few pullets the next year, and the White Plymouth Rocks were bred from them."

We may reasonably conclude, therefore, that the origin of the White Plymouth Rocks is quite definitely fixed; they are "sports" from Barred Plymouth Rocks, pure and simple. By careful culling and breeding, Mr. Frost soon established a new and valuable variety, bearing the name White Plymouth Rocks, which were duplicates of the, at that time, standard Barred Rocks in all respects except color.

In one of the leading poultry publications way back in 1886, a breeder of White Plymouth Rocks said, "They are true to color, size, shape, etc., and in an experience of over one hundred chicks reared this season there is not a colored feather to be found." Certainly it took careful breeding to get these results twenty years ago, and yet some people wonder at the marvelous growth in the demand for White Plymouth Rocks.

Mr. Frost, above referred to as one of the originators of this variety, said in an article, also published back in the 80's: "They are superior to any other breed as layers." If twenty years ago the White Plymouth Rocks were considered the best egg producers, it is not surprising that they have more than held their own. Plenty of evidence is at hand to prove that the remarkable egg yield of the White Plymouth Rocks has been conserved and increased by White Rock specialists until today no other fowl equals the White Plymouth Rocks as egg producers. No matter in what climate they are bred, whether in the cold regions of Alaska and Nova Scotia, or in the hot climate of South Africa and Southern Australia, or on the Islands of Java, New Zealand and Tasmania, they give perfect satisfaction, both as egg producers and as table fowl.

Is there any other variety for which equal or greater claims can truthfully be made, as regards utility value? With full respect to all other breeds and varieties, White Plymouth Rock breeders can safely challenge comparison.

The improvements made in the standard qualities and general make-up of the White Plymouth Rocks of today, as compared with the best specimens of ten years ago, is marvelous. The White Rocks of today are bred larger in size, have better shaped bodies, the bodies being rather long and deep, with broad full breast, thus producing a far more powerful looking and stately fowl, as well as a better carcass for the table.

As a fancy fowl the White Plymouth Rocks now command the highest prices paid for any standard variety, single specimens

SUCCESSFUL POULTRY KEEPING

the past season having sold for five hundred dollars each in males and fifty dollars each for females. It has come to pass that hundreds of White Rock exhibition males are now sold each season at from fifty to one hundred dollars each. This is evidence in proof of my opening statement that the White Plymouth Rocks are today the most beautiful and profitable of all standard varieties.

Remember, however, that the White Plymouth Rocks are "bred for business" as well as fancy. White Rock chicks mature earlier than those of most other varieties, becoming broilers at six to eight weeks of age. As above stated, they have no superiors as egg producers. If this claim is not acknowledged today, it soon will be the world over. White Rock pullets often begin to lay at five months of age, and I have known flocks that did not stop laying even during molting season.

In conclusion, I make bold to say that there is no other variety of fowl that has won the admiration of the fancier, the farmer and the market poultryman as have the White Plymouth Rocks. As a farm and market fowl they have no equal, and the prices paid for fancy specimens are a fair index of their standard qualities. Farmers and market poultrymen are adopting them as the superiors of all other breeds and varieties. They are always ready for market from the age of six weeks on; their large size commands attention and high prices, the hens weighing from seven and a half to nine pounds; their rich, yellow shanks and skin insure a clean plump carcass, bringing the highest market prices obtainable, at any season. Last, but not least, the feathers from White Rocks today bring twenty-eight cents per pound while those of parti-colored varieties bring but two and one-half cents per pound. Please consider well the difference, for here is a strong argument in favor of "pure white" plumage.

When it comes to breeding White Plymouth Rocks, this is a pleasure indeed. Their beautiful plumage, bright red combs, deep bay eyes, rich, yellow legs and upright, powerful appearance are a constant source of delight to the genuine fancier. I have been a breeder of fancy poultry for more than a quarter of a century, starting with the exact opposites of White Plymouth Rocks, so far as color is concerned, having bred and exhibited prize-winning Black Langshans at the New Orleans World's Fair which was held so long ago that most poultrymen of today have forgotten the event, but at present I am making a specialty of the White Rocks, and intend to continue doing so the rest of my active life, because I like them best of all. If you, reader, have not yet become wedded to a particular breed or variety, try the White Plymouth Rocks and become convinced of their excellent qualities.

BUFF PLYMOUTH ROCKS

C. L. PENCYL, Bloomsburg, Pa.

I breed Buff Plymouth Rocks exclusively. I have had quite a number of other varieties in my early poultry life—being somewhat undecided as to what breed I would like the best—

and after several years experience I decided that I could not find the same pleasure in any of the other breeds. I think for any fancier to make a success of the fancy poultry business, that is, profit as well as pleasure, he must see which breed is going to please him the best and then breed but the one variety. He will find that the one variety will give him plenty to do and that he can make just as much money out of one breed as he can out of two or three other varieties. I find both pleasure and profit in the Buff Plymouth Rocks, and that is why I breed them exclusively, and from the several hundred birds raised every year, I have the first year yet to come that I have raised more than I could sell.

Buff Rocks as a utility fowl for the market cannot be excelled. They have the size, rich yellow skin, no black pin feathers and good plump bodies—any more you cannot ask for in a table fowl. As egg producers, I find them excellent layers. They get broody occasionally, but if taken when first noticed and penned up for a few days, they will soon forget and will get



TWO OF MR. PENCYL'S BUFF ROCK HENS

back to laying in a very short time. Take it the year around, I think their egg account will balance any of the other Rock varieties. We know some of the smaller varieties may lay a few more eggs, but the Buffs are fitted up with nice low combs and a heavy coat of feathers and well prepared for the extreme cold weather; if housed up in good quarters will lay the whole winter when eggs are at their highest price. I find from experience that they will lay more eggs in the winter than the large combed varieties.

Taking fancy Buff Plymouth Rocks, I consider there is no fowl in the world that is more attractive in the yard or on the farm than this variety—for what attracts the eye more than a beautiful shade of rich golden buff—the coat of a Buff Rock. They are equally as attractive in the show room and if you are lucky to start in right with the best standard stock, you will not have much trouble by a little careful mating to breed specimens fit to show or win at the leading shows of America. There usually is a good demand for fine specimens selling in price for \$50. to \$100. each.

LEADING STANDARD VARIETIES

Buff Rocks are growing stronger every year in the eyes of the fanciers and they number right up in line at the big shows of America. At the World's Fair, St. Louis, the Buff Plymouth Rocks were second largest class of any variety at the show, probably the largest poultry show ever held in America. I can honestly advise any person that wants to breed poultry for fancy or market, for pleasure or profit, that they won't make any mistake in taking up the Buff Rocks. They make money for us, and they will do the same for you by dealing honestly with your trade. I have shipped to nearly every state in the union and Canada, and as far in the foreign countries as Malaysia, Java and India, and the reports were that after eight weeks of a journey the birds arrived safely in good condition and more than pleased the customer. The Buff Rocks are strongly constituted and can stand lots of cold weather and long journeys.

The Buff Plymouth Rock Club is using every possible effort to place this variety on the "top notch." If any person who may read this is undecided as to what breed to start with, I can say from experience that the Buff Plymouth Rocks will start you on the road to success.

WHITE WYANDOTTES

ARTHUR G. DUSTON, So. Framingham, Mass.

It has been almost fifteen years now that I have been writing and preaching of the virtues of the White Wyandottes and while other breeds have come and gone the White Wyandotte has been gaining ground not only as a fancy but as a market bird as well. I will first make mention of the intrinsic or market value, for no matter how handsome a fowl may be, they must "make good" as egg producers and table fowl to maintain their popularity with the American people.

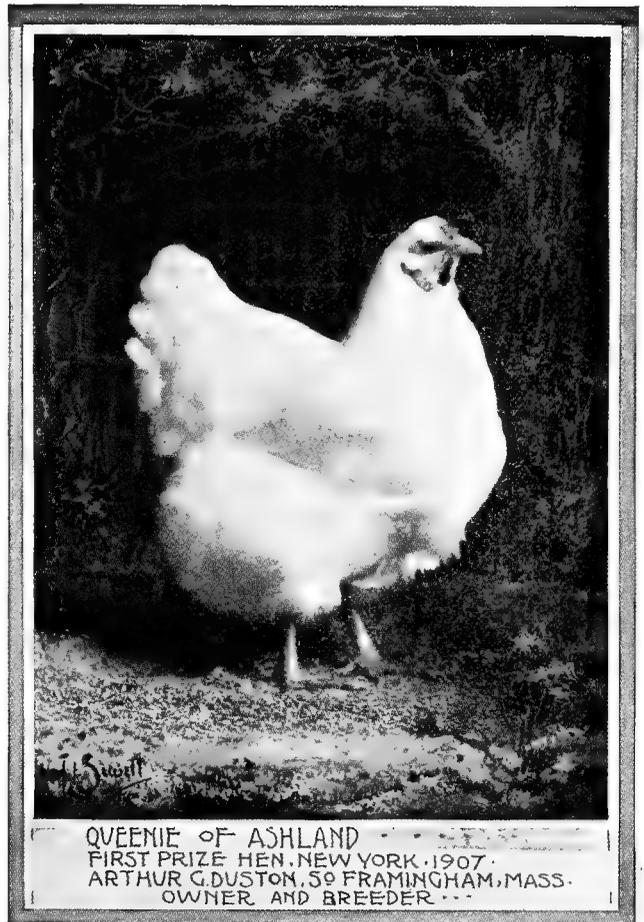
My experience raising broilers and roasters covers some years, and when first taken up was with a prejudice for another variety, but a short trial proved to me that nothing that I was running at that time would begin to stand the forcing and make the quick growth that the White Wyandottes would, and as roasters for brooder house work they would stand more forcing, and keep on their feet, than any of the half dozen other varieties I tried. For the Boston market, considered one of the most fastidious in the country to cater to, they were complimented as the best poultry sent in in the season.

As layers I have letters from customers where they have discarded the Leghorns as their White Wyandottes out-laid them. Birds sold by me have made records of 207 eggs in Experiment Station and other work, and the farms that are running today with layers having big records are almost without exception breeding White Wyandottes exclusively. Regards laying, with ordinary care they will come to laying in from five to seven months, laying persistently through all changes of weather and conditions. It is these practical qualities that make possible the real popularity of this splendid breed.

Now from a fancy standpoint we have what is acknowledged by all breeders of the different varieties a handsome fowl, and by those the least favorable to them, as the handsomest bird bred today. A solid colored bird, with pure white plumage, close fitting comb, stout yellow legs, and of splendid proportions (if our Standard makers do not spoil them by trying to make them "dumpy" by the demand for extreme shortness) and withal a bright active appearance, does truly substantiate the claim of the handsomest all round variety bred today. As a proof of their popularity witness the New York Show with four hundred and eighty-one specimens on exhibition in 1905. More than was ever before shown of any one variety in the largest exhibition in America, and competition was so keen that scores of birds that would ordinarily be in the winning could not be considered. Specimens changed hands at splendid prices. I myself have refused \$200. for a male, while I have

known of a cock bird for which \$500. was refused. This speaks of not only the interest and enthusiasm of the breeders and exhibitors of this breed, but also that while a solid colored bird, to breed it "up to the minute" means that one has no easy task. It also demonstrates that as the individual specimens have improved, the fancier has also insisted that the standard requirements also be moved forward so that the lines of beauty are continually being filled out and broader, richer colored birds have to be produced if one would win with them.

The breed is truly an American variety, in as much as for years they were bred only in a small way in other countries. Today this is changed, calls come from every country, and the White Wyandottes have made a place for themselves with our

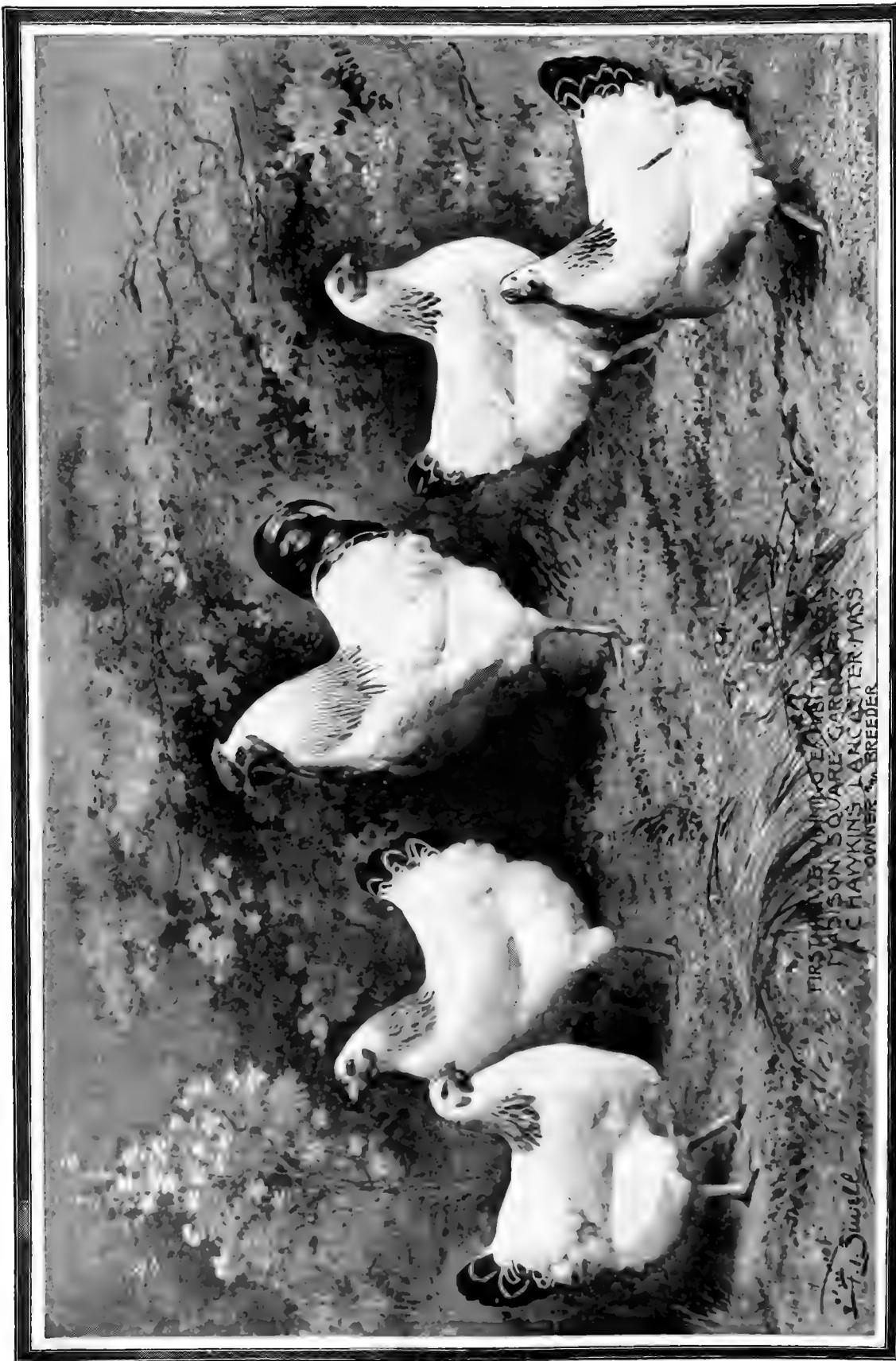


WHITE WYANDOTTE HEN

One of the finest White Wyandottes that ever appeared at Madison Square Garden show, was Arthur G. Duston's (South Framingham, Mass.) first prize-winning hen. There is Standard finish to her fine head, back and tail and modern show style in the way she is posed on her short, well set legs.

friends in England, Germany, South America, South Africa, New Zealand and Australia. In fact, the list is too long to continue for I have shipped stock to practically every foreign country. Australia seems to be taking the lead in the interest of American-bred White Wyandottes, with an especially strong interest in England.

With the unprecedented interest taken the past few years in this practical breed it seems almost impossible that it should continue to increase in popularity and yet there are many many sections of the country that have yet to find breeders who are handling the White Wyandottes, and the thousands who annually are discarding other varieties, together with hosts in all parts of the country becoming interested in them makes a grow-



A. C. HAWKINS' CHAMPIONSHIP EXHIBITION PEN OF COLUMBIAN WYANDOTTES

First prize exhibition pen of Columbian Wyandottes at Madison Square Garden, 1907. Bred and owned by A. C. Hawkins, Lancaster, Mass.

LEADING STANDARD VARIETIES

ing demand for what, without doubt, is the best all purpose fowl today, and whose breeding to standard requirements means the utilizing of all the scientific knowledge and mental capacity that those who breed them possess.

As I said above, it has been about fifteen years now that I have been singing the praises of the White Wyandotte and while the story must of a necessity be much the same, it must convince readers that the bird has of a truth "made good" and in many ways has made great gains, otherwise the thousands of breeders of this and other varieties would have discovered the falsity of these claims.

In closing I can only suggest to my readers to do what seems, at this time, to be the fashion—investigate these claims. Our President, our Secretaries, our Senate, in fact everybody in every walk in life feels they must do that with which the very atmosphere seems charged—investigate—so let me suggest what lines you should follow: For market worth; the laying qualities—number of eggs, color of shells, and quality of egg; the best of sitters (but easily broken up and careful mothers); plump, quick grown broilers; hardy full-breasted roasters with a small amount of offal; hardy chicks. Their eggs will compare favorably with those of the Leghorns for ease with which the chick is finally excluded at the end of three weeks incubation. The square built hardy growing chicken, coming to an early maturity, the female producing an exceptionally large number of eggs. Breeding birds always in demand at highest prices. As show birds they occupy today the centre of the stage and command the top prices for show specimens of merit, that more than compare with any variety, or breed. As I have always claimed, they are the handsomest birds with pure white plumage, bright red comb and face, and yellow legs, a combination that *must* please. A word more, "Handsome is that handsome does," is a fitting climax to our argument.

SILVER WYANDOTTES

While possessing all the requisites of a general purpose fowl of exceptional merit the Silver Wyandottes are primarily and will probably remain an ideal "fancier's fowl." It takes the ingenuity of the most skillful breeders to maintain them at the highest standard of excellence. In short, as a show bird they are difficult to breed to such a state of perfection as to win in the competition they must meet. This is just what the true fancier enjoys. Honors that come easy are not valued highly. Where recognition in the show room must be won by good hard brain work in selection and handling of the breeding stock, that is where real pleasure comes to the fancier. He enjoys the trophies of a well fought battle all the more because of the good hard work in the breeding yards and with the growing stock.

Silver Wyandottes came into being early in the seventies or late sixties and were originally known as American Sebrights. In some sections of the country they are extensively kept by the farmers and are very popular with them. This was the original Wyandotte variety and at one time enjoyed a most vigorous boom. The White Wyandottes, true sports from the Silvers, being developed and judiciously advertised as a general purpose fowl without an equal, and not without substantial evidence of the truth of the statement, soon after the beginning of the boom in Silvers did much to divert attention from the parti-colored variety, so much so that the Whites completely outstripped the Silvers in the race for first place in popular favor and became a formidable competitor of the Barred Rocks. This did not prevent the Silvers from gaining and keeping many friends and supporters, and today the breeders of this variety are all staunch advocates of its good qualities both for beauty and utility. Exhibition specimens are in demand and bring fancy prices. As a fowl for the beginner who wishes to study mating parti-colored birds for results in standard requirements,

this variety is sure to please. On the city or town lot where dust, smoke and dirt has to be considered and where white fowls will not keep clean, there is no variety that will sooner find favor or be more certain to please. The beautiful rich black and silver-white color combinations in this variety are always a delight to the eyes.

These birds stand confinement well, are hardy, active and vigorous, good layers of brown eggs. Pullets mature at six months and are fine winter layers. Hens make fine sitters and mothers. Cockerels are mature at nine to ten months old. As a meat breed they are a little slower to mature than the white variety, but are of excellent quality, the only drawback being the dark pin feathers.

BUFF WYANDOTTES

In the early nineties Buff Wyandottes began to be regarded seriously as a breed with a "future." Their development during the years immediately succeeding was normal. Popularity came to them as they earned it and clung to them because they stood the test. Yet merit is not spontaneous, but must be developed and brought out by careful handling. In fact, the success of a breed, or variety, is said to depend largely upon the ability and energy of its breeders. In this particular, Buff Wyandottes have been more than ordinarily fortunate. Some of the brainiest men in the fancy have given thought, effort and money to improve them.

While perfecting their shape and color, in accordance with the requirements of the Standard, breeders have not neglected the laying and meat producing qualities of their strains. Buff Wyandottes will make a profit on market eggs alone and they grow fast, make good broilers and plump, full breasted roasters.

Their attractive golden-buff plumage, with bright yellow skin and legs, marks them as destined to reach the first rank in popular favor. The Buff Wyandottes undoubtedly had several different origins, some being produced by a Wyandotte-Buff Cochin cross, others by crossing Rhode Island Reds and Wyandottes, and still other crosses were used before this desirable breed as we now have it, was produced.

The Buff Wyandotte, more than any of the other Wyandotte varieties, is more closely related to the Asiatic family, as Buff Cochins were much used in the formation of this breed in order to get the desired coloring. The Rhode Island Red also entered largely into the Buff Wyandotte ancestry, thus increasing the tendency to the Asiatic form, as the Rhode Island Reds were themselves principally descended from the Asiatics. The Buffs mature early, pullets laying at six months old. Cockerels are mature at nine to eleven months old. They possess all the other good qualities of Whites and Silvers.

NEW VARIETIES

Columbian, Silver Penciled, and Partridge Wyandottes, and Plymouth Rocks, are among the newer aspirants for public favor and are being shown at all the large exhibitions in increasing numbers. Their sponsors claim for them all of the meritorious features, as general purpose fowls, that are possessed by older representatives of the breeds.

Undoubtedly the Columbians are destined to become the most popular and it remains to be seen whether the rose comb of the Wyandotte or the single comb of the Rock will gain precedence. At present writing the Columbian Wyandotte seems to have a good lead. They are being bred to good size and shape and their compact shape and small neat combs make them very attractive. Briefly the Columbian Wyandotte is a bird having Wyandotte shape, with the beautiful black and white combination known as Light Brahma colored plumage and clean yellow legs. They are said to be excellent layers of brown eggs, good sitters and mothers. Pullets mature to lay at six months old and cockerels are mature at nine to ten months old.

RHODE ISLAND REDS

The Rhode Island Reds originated in the state from which they take their name, and their forebears were the hardy red fowls common on most farms in that section of New England. There they were kept and bred for utility purposes for many years, chiefly for eggs, then meat, before they were discovered and developed into exhibition poultry by the fanciers. Since their adoption by the fancy there has been much improvement in uniformity of size, shape and color and the economic or practical value has in no wise suffered thereby. They produce more eggs and make better poultry than ever before. Whatever varieties may have been crossed and re-crossed in their make-up it is certain that they possess quite a little Asiatic blood which contributes to their hardiness and meat producing qualities. They are now bred with both rose and single combs, both varieties being recognized by the Standard.

Rhode Island Reds take their name from their beautiful red plumage. It is to be hoped that the leading fanciers will breed cherry red specimens, and keep as far from buff color as possible, for red in these fowls is an infinitely more beautiful color, although harder to breed, but when you obtain the right shade, there is no color in show room to compare with it.

Breeders claim for them that the old hens do not "fat up behind" like many of the larger breeds do, but will continue to lay large eggs every year, until four years of age.

This breed does not require extra warm houses. Any one who has had occasion to wash a Red fowl will find it almost impossible to make the water reach the skin, on account of the number and closeness of the feathers on its body. This accounts for their hardiness and good winter laying qualities, as the cold does not affect them. It is not generally necessary to wash Reds for the show room, as they have the best color on the list. This fact will be appreciated by all breeders of white fowls.

The only valid objection that can be brought against the Reds is that some strains do not breed true to color, although the fine specimens that have been shown this winter have surprised many by their high quality. One important fact to consider is that if the females do not always breed true to color you may depend upon getting a good layer every time.

The Reds are prolific layers of large brown eggs, are plump bodied and fine meated. Adult males should weigh 8½ pounds, females 6½ pounds. Pullets reach laying maturity at six months and the hens make dependable sitters and good mothers. Cockerels mature at eight to ten months old. This variety has enjoyed great popularity since its introduction and is carried in large flocks on many poultry plants devoted to the production of fowls for both exhibition and practical purposes. One New England egg farm regularly carries 1500 head of Rhode Island Red breeders.

ENGLISH BREEDS

Of the English varieties the Buff Orpingtons and Silver Gray Dorkings are among the most popular in America today. Both are combined exhibition and practical fowls of great merit and valuable as general purpose stock. With already so many good breeds of native origin on this side of the water, it will be patent to the ordinary observer that these varieties must possess remarkably good qualities to bring them prominently into public favor. Undoubtedly the Orpingtons are destined to become the most generally bred of the two.

BUFF ORPINGTONS

The Orpingtons were made in England, especially planned for utility purposes, the efforts of their originator, the late Mr.

William Cook, being to produce a fowl that would combine great egg production with the highest quality of meat for table poultry.

Buff Orpingtons are handsome fowls with their deep, broad breasts and massive bodies. They are white skinned and make first-class table fowl, fattening early and presenting a nice appearance when dressed. The hens are good layers of brown or tinted eggs of average size, are quiet in disposition and, although not inveterate sitters, they make good mothers when entrusted with eggs.

The Buffs first appeared in 1904 and were produced by mating Golden Spangled Hamburgs with colored, i. e., dark Dorking Hens, the pullets resulting from this mating being crossed with Buff Cochin cocks as free of leg feathering as could be secured. The Buff Orpington is a modernized Buff Cochin, a big, hardy, handsome fowl, a good layer, and a first-class table product. Probably its chief attraction is its white legs and shanks. Adult males weigh 10 pounds, females 8 pounds.

The people of Great Britain are much in favor of birds with white legs, in fact, a first-class table fowl must show a white shank, or else it ceases to be a first-class table fowl. As the



SINGLE-COMB BLACK ORPINGTON HEN

Bred and owned by G. S. Byers, Hazelrigg, Indiana.

only white-legged fowls, previous to the advent of the Buff Orpingtons, were the Dorkings and some of the Game varieties, there naturally followed a boom in that variety. Fanciers, farmers, and suburban poultry keepers all took them up. Since the early days of the Buff Orpington it has been wonderfully improved, but even now it is far from perfect, though feathered legs and long backs no longer appear in the show pen. It is still quite difficult to breed them anywhere true to color, and indeed, sound buff tails are yet scarce, but the utility value of the variety makes amends, as the off-colored pullets may be kept for layers and the cockerels fattened for the table.

LEADING STANDARD VARIETIES

The three points to be considered in breeding Buff Orpingtons are: First, color, which should be a sound buff, free from black and white feathers; second, shape, which should be similar to that of the Black Orpington; third, clean, white feet and shanks, free from feathering.

Serious defects in Buff Orpingtons are: More than four

allowed unlimited range, the breed is hardy and the young easy to rear if not hatched too early in the season. The hens are fair layers.

MEDITERRANEAN BREEDS

These are the so-called egg machines of poultrydom, the White, Buff and Brown Leghorns and Black Minorcas, all non-sitters. Where good-sized white eggs alone are wanted the Leghorns will be found to fill the need. If a heavier fowl producing large white eggs is desired the Minorcas can be depended upon to give satisfaction.

The above mentioned fowls are all bred with both rose and single combs, making six separate varieties. Those who live in the milder climates will find the single comb birds entirely to their liking. The rose combed varieties are well adapted to cold climates and those who want either Leghorns or Minorcas for cold latitudes will do well to consider them.

WHITE LEGHORNS

D. W. YOUNG, Ridgewood, N. J.

There is no family of the domestic fowl so universally known as the Leghorn. I have been in nearly every country on the globe, and being a breeder and lover of the "Little Italians," have spent a good deal of time in the farming districts, in search of information as to their origin. In no country where domestic fowls are kept did I fail to find a trace of the Leghorn blood. In fact, some of the best specimens that I saw in the Mediterranean countries were in a little town just outside of Constantinople, Turkey.

I find that lovers of White Leghorns are apt to consider them the originals, and to regard the Browns as "sports," (also *vice versa*); but it seems to me that the old Leghorn family of Italy was very much like our mongrel fowls of today, i. e., would breed to almost any color, but would hold the Leghorn characteristics which are so much admired in these days.

Antonio Conto, who has one of the best established poultry ranches in Italy, just in the suburbs of Florence, told me in an interesting conversation that I had with him, that he started over fifty years ago to breed the Whites and the Reds (as the Browns are called in Italy), by selecting here and there a bird as near to his liking as possible, and after mating the Whites together found that he got almost as many Browns, Blues and Blacks as he did Whites, and same way with the pen of Browns. This seemed to be the general opinion of the breeders I met in many parts of Italy.

I have often heard my father say the same thing of the first birds he imported from Italy, between the years of 1853 and 1860, which were brought over by an old sea captain named Stratton, of Lewisburg, N. Y., who made a business of taking merchandise from this country to Leghorn, Italy, and bringing back marble for ballast. Those early birds were very much the same as may be seen today in Italy, or in the other Mediterranean countries. The Whites were small, with yellowish white plumage, squirrel tails, roach backs, short, low set bodies, having large, beefy, unevenly serrated combs, long pendulous wattles, red faces, red ear-lobes and yellow eyes. The majority of them had yellow legs with stubs or down on the shanks and between the toes, but they always were very sprightly and alert and were known for their great laying qualities.

Take the show specimens of today and one can readily see what the American fancier, by persistent study and hard work, has done to beautify this noble variety which, without a doubt, is the most profitable of any of our domestic birds, as is proved by the great number that are kept by the most successful egg



BLUE-RIBBON BUFF ORPINGTON COCKEREL

This cockerel won first prize at Madison Square Garden, New York, 1905. He was owned and exhibited by W. Barry Owen, Owen Farms, Vineyard Haven, Mass.

toes; wry tail; feathers or stubs on legs and feet; yellow skin; yellow in legs or feet; any colored feathers other than buff.

Orpingtons were originally bred for utility only, and although fanciers have taken them up so warmly that at all big poultry exhibitions they form a show of themselves, the economic qualities of the breed have not suffered.

SILVER GRAY DORKINGS

The Silver Gray Dorking as a table fowl enjoys the distinction of surpassing any other English breed for the excellent quality and abundance of meat. Being deep and full as to body, with broad, plump breast, the Dorking probably leads for the greatest quality of choice meat. A prominence and plumpness of the breast is especially noticeable in the cock bird, which viewed side ways should form a right angle with the lower part of the body. There is probably no other breed so easily placed in good marketable condition. The size, form, and weight, in judging the Dorking hen counts much more so than in any other variety of fowls. The hen is a fine sitter and excellent mother, caring for her brood until they are well grown. If

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farmers who send the large white eggs to the fancy egg market of New York City. Some of them keep as many as eight thousand layers and are getting all the way from five to twenty cents per dozen more for their eggs than the market price.

There has been a tendency of late by the American breeders to divide the different strains of Single-Comb White Leghorns into two classes; the Utility Class and the Show Class. This I think is a mistake, because I have found that my best show specimens are the most vigorous and include the greatest layers. This is as it should be. Thinking that perhaps I was mistaken, I have bought eggs to experiment with from several of our well-known utility breeders, and reared the chicks on the same farm under the same conditions that I did my very best show speci-

first prizes he may win in the show room, unless he has good ancestry back of him for at least five generations, he is not worth for breeding purposes the price that he would bring at the butchers. One of the greatest mistakes our breeders and fanciers make is in going out for new blood through the male. New blood should always be introduced in the flock through the female. When one parts with the male line of his strain and substitutes a male of another strain, he has broken his male line of descent, and no longer has a strain of his own.

The Leghorn fancier has been favored by the American Poultry Association in regard to the size and weight problem. It seems to me that old mother Nature has figured out a certain size for the egg type and if we go beyond this, we not only will lose the productiveness of the breed, but also will lose its alertness and that sprightly carriage and grace of movement so dear to all true lovers of the breed. Let us retain the true Leghorn model because the large birds will not lay as many eggs and are not by any means as good foragers. In England, they have crossed White Leghorns with the White Minorca in order to get size, chalk white plumage and a low tail; the outcome is that they have got the low tail and large size, but have entirely lost the Leghorn type and characteristics. I think that the American White Leghorn fanciers are on the right road. While they have made their favorites the greatest layers on earth, they have not marred their beauty nor destroyed the Leghorn characteristics that are so much admired in the show room today.

In answer to the question "Why I Keep Single-Comb White Leghorns," Mr. H. J. Blanchard, proprietor of Fairview Farm, Groton, Tompkins Co., N. Y., and one of the largest and most successful breeders of this variety, states:

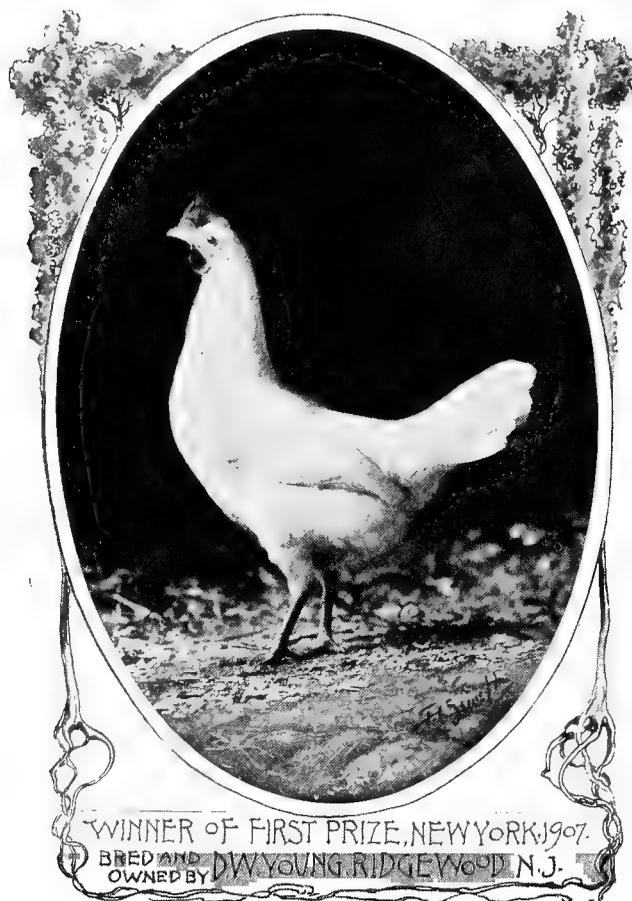
"To begin with, most people keep fowls for profit and here is the Single-Comb White Leghorn's strongest point. The greatest profit to be derived from utility poultry keeping is in producing fancy market eggs and in most cities, large white eggs bring the highest price. In New York City, where I sell all my market eggs in the season of greatest scarcity, and consequent highest prices, there is often a difference of eight to twelve cents a dozen between fancy brown and fancy white eggs in favor of the white, and at other times more or less difference. A good strain of this variety lays an egg of good size and it is universally conceded that no fowl produces a greater number.

"As squab broilers of $\frac{3}{4}$ to 1 pound each, Single-Comb White Leghorns are very profitable. When old fowls are to be closed out for market purposes they should be confined for several weeks and carefully fattened.

"As a fancy fowl the Single-Comb White Leghorn is equally profitable. They are a very old and widely distributed breed and consequently individuals do not sell at as high figures as some of the newer breeds, but the greater demand for them more than makes up on the difference in price. Single males have, I believe, sold as high as \$200. and females \$100. Pens of four females and one male for \$250. Good exhibition males that have never been shown sell for \$25 to \$50 each and females \$15. to \$25. each. As utility breeders the females bring \$2. to \$5. each and males \$2. to \$10. each.

"In all the years I have bred Single-Comb White Leghorns the demand for breeding and exhibition stock and eggs for hatching has been heavy and the popularity of the breed was never so great as at present.

"The great market egg farms of New York, New Jersey and California almost without exception are stocked with Single-Comb White Leghorns, as it has greater numbers at a lower cost than any other breed, hence is most profitable. The Single-Comb White Leghorn is vigorous, hardy and thrives in nearly all countries, climates and under all reasonable conditions. The eggs are generally well fertilized, hatch well and the chicks are as hardy and as easily raised as any.



WHITE LEGHORN PULLET

First prize-winning pullet at Madison Square Garden Show, 1907.
Bred and owned by D. W. Young, Ridgewood, N. J.

mens, and I then made practical tests with trap-nests. In no case have I found the utility birds to be the greatest layers, or to possess as great stamina and vigor as my line-bred birds.

I have been using trap-nests and have practiced line breeding since 1885. In May 1884, I visited the Channel Islands and during my investigations on the Island of Jersey, asked one of the breeders of Jersey cattle from what source they got their new blood. He answered me by saying, "We do not get new blood, but practice line-breeding." After he had thoroughly explained what line-breeding was and what it had done for the Jersey cattle, the thought came to me, "why can I not do the same with my Leghorns?" I started line-breeding the next year and have practiced it ever since and I believe it to be the only way to establish a strain and to hold it to the Standard.

It makes no difference how fine a bird is, or how many

LEADING STANDARD VARIETIES

"As to the beauty of the Single-Comb White Leghorn, none can deny but that a well bred, well developed specimen, either male or female is an inspiring sight; the stately, almost haughty bearing of the male, the dignified, graceful female, the beautiful white plumage, bright red combs and yellow legs, the curved back and well rounded breast, all go to make the most beautiful of all our fowls."

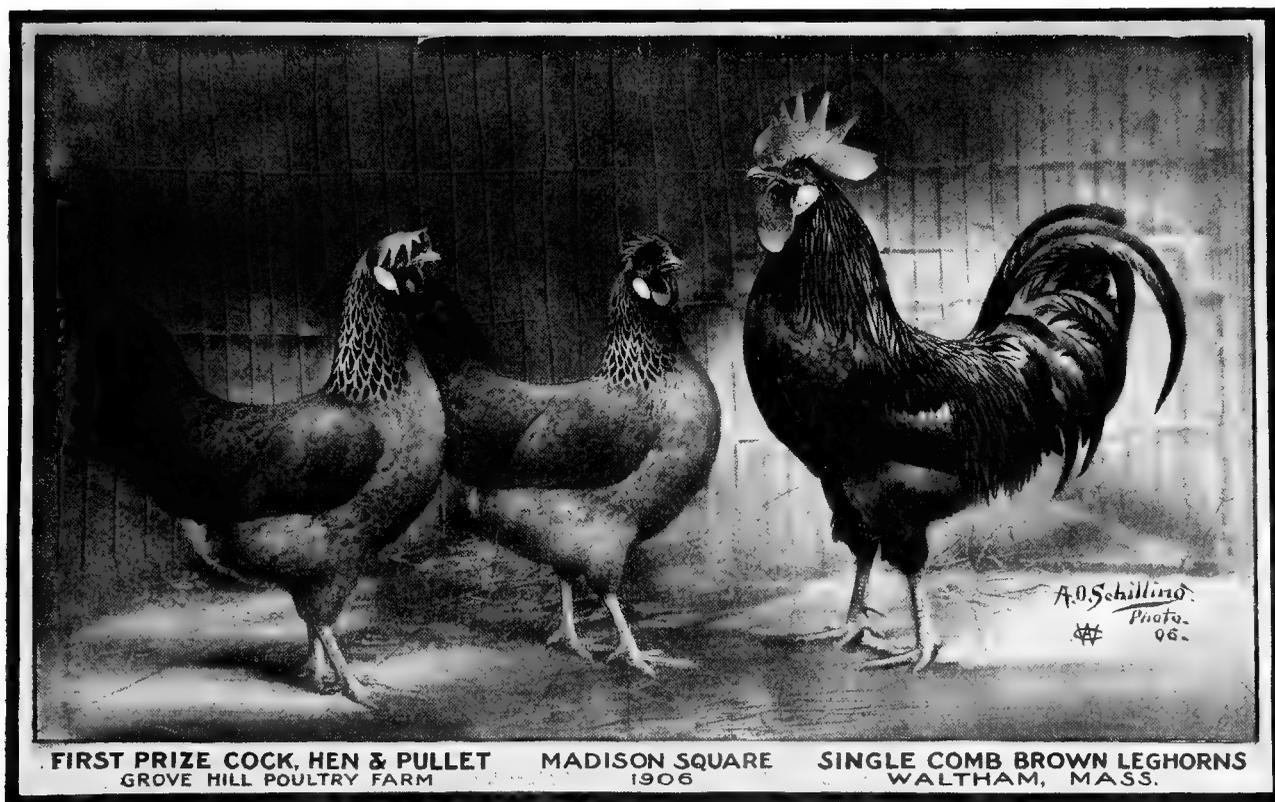
BROWN LEGHORNS

W. W. KULP, Pottstown, Pa.

Twenty years ago when I studied the ads I found many breeding Brown Leghorns. Look over the poultry papers today and see how many advertise S. C. Brown Leghorns. Why do they last so long? There are other kinds of Leghorns, some have

of ours you will find them in long lines in almost every show. I have seen ten pens besides the many singles in a local show. This alone will testify to their beauty. The combination of white, black and red, or as in the female white, brown and gold, is always beautiful, then the shape and style are models of grace and beauty. In choosing what breeds I would keep if I wished to have a few to ornament a place, I should select the Brown Leghorns for one. The best specimens bring fine prices, too. A winning male of the top ones will bring \$100. and perhaps more. The females will bring fully one-half of it. The market for fine birds is always with us, they can be sold readily.

It requires skill to breed them as any one well knows who has tried it. They are hardy, matured birds can live anywhere that any other fowls can and will lay eggs if treated right. The young are easy to raise, especially in their season. They can be put out with a hen, given any food that is fit for a young chick and they will thrive.



CHAMPION BROWN LEGHORNS

These blue-ribbon winners at America's greatest poultry show, Madison Square Garden, New York, were bred by Grove Hill Poultry Yards, Waltham, Mass., and show the remarkable quality of Grove Hill's strain of Single Comb Brown Leghorns.

been very popular, they were beautiful and laid well, but their day has passed.

The qualities that a breed or variety must have to stay popular are beauty, yellow legs, hardiness, requiring skill to breed to standard, young easy to raise, must be either very good for meat or for eggs or combining both. These are about what the American public will demand and no amount of booming will keep a breed popular that has not a goodly supply of these qualities. A breed can be forced on the public for a few years with part of these requirements lacking, but after a few years the boom wanes.

How many of the above qualities have the Brown Leghorns? If you will take note of all the shows held over this broad land

One of the great points in favor of the Leghorns is that the young can be raised in a short season in comparison to the larger breeds. This is very important when winter eggs are wanted for, in spite of incubators and brooders, we are often left with too few chicks when April is here, when the earlier broods should be out.

They are not a meat breed but are good eating. Meat fine and sweet. It has been said that they are not good table fowls. I cannot see why unless you take an overtime young male and kill him right off the range. He will be a little out of the best condition but that is the persons fault, not that of the breed. They are easy to sell to local trade as small families do not want so many pounds at a meal as the big breeds furnish. Lots

SUCCESSFUL POULTRY KEEPING

of white eggs are the Leghorns strong hold and they can well fill and hold it. Records of from 200 up to 250 in twelve months have been made and they can do it easily, but man must manage them properly to do it. A 240-egg hen requires a man or woman who is a 240-egg manager, too.

Mr. C. E. Howell used to say that the Leghorns, he kept the S. C. Browns, laid so well that we could afford to throw the body away after they were done laying and yet have more in the end than if we kept heavy breeds.

BUFF LEGHORNS

All Leghorns lay well and the Buff variety is not behind the others in this respect. Since this variety was introduced it has become wonderfully popular and breeders have succeeded in producing some very remarkable specimens of beautiful buff color combined with Leghorn size, shape and sprightly carriage. They are quite as large as the White and some run even larger, and they produce a good sized white egg. The fancier will find them a beautiful and most attractive fowl, possessed of all the good points to be found in the excellent Leghorn family. They are bred with single combs only. They are hardy, easily raised and non-sitters. They do well in confinement but are naturally rangers and foragers and will "fly the coop" at the first opportunity. It takes high fences or covered runs to keep them in if penned, even in fair sized yards.

Buff, White or Brown Leghorn chicks will make good broilers, friers and small individual roasters, but the White variety is much to be preferred for this purpose on account of the absence of dark pin feathers. Leghorns are better suited to farms with liberal range than to city or town lots, although if properly confined in such locations will do well and prove a profitable investment.

PROFITABLE BLACK MINORCAS

Mr. Geo. H. Northup, Raceville, N. Y., who deserves more credit than any other American breeder for popularizing and uplifting the Black Minorcas, writes:

Black Minorcas are among the chief varieties of poultry. They stand at the head of all breeds as layers of large white eggs. The first and second prizes for the "best dozen white eggs" at the 1906 Boston Show were won by Minorcas. Black Minorcas, both Single and Rose-Comb, are the largest non-sitting varieties known, and they are also excellent for table use. My sales of Black Minorcas during the first six months of 1906 amounted to more than \$2,000, and on the 20th of February I found that I had sold every Minorca that I could spare excepting a few of the lower priced cockerels. During this time I refused requests for many special birds which I could not supply so that my sales of Single-Comb Black Minorcas alone would have more than doubled the amount mentioned had I been able to take care of the demand.

After selling my surplus I learned that Dr. C. J. Andruss had sold his farm and for that reason would dispose of his Minorcas. I lost no time in purchasing his entire stock and advertising the greater part of it for sale. The result was that in about two weeks time all of the Dr. Andruss' stock was sold excepting a sufficient number of the finest females to fill two breeding pens. If there is anyone who has good Black Minorca hens to sell in the spring of the year, it would be to their advantage to advertise the fact in the poultry journals, because I know there are hundreds now who wish to buy them. There is every indication of a brilliant season for the Black Minorcas, both Rose and Single-Comb.

Dr. W. F. Holmes, Randolph, Mass., answers the question "Why do we hear so little about the Single-Comb Black Minorcas" as follows:

It is my desire to say a few words for the benefit of those not acquainted with the virtues of this beautiful and useful breed of fowl, so that some who are contemplating breeding them and are anxious to breed the best, may know a few of their good qualities.

Many and possibly the majority of the general poultry public are of the opinion that Minorcas are not hardy, are of a delicate constitution and easily affected by the cold of our New England winters. This is an entirely wrong impression and has arisen probably because of the extremely large combs these fowls possess.

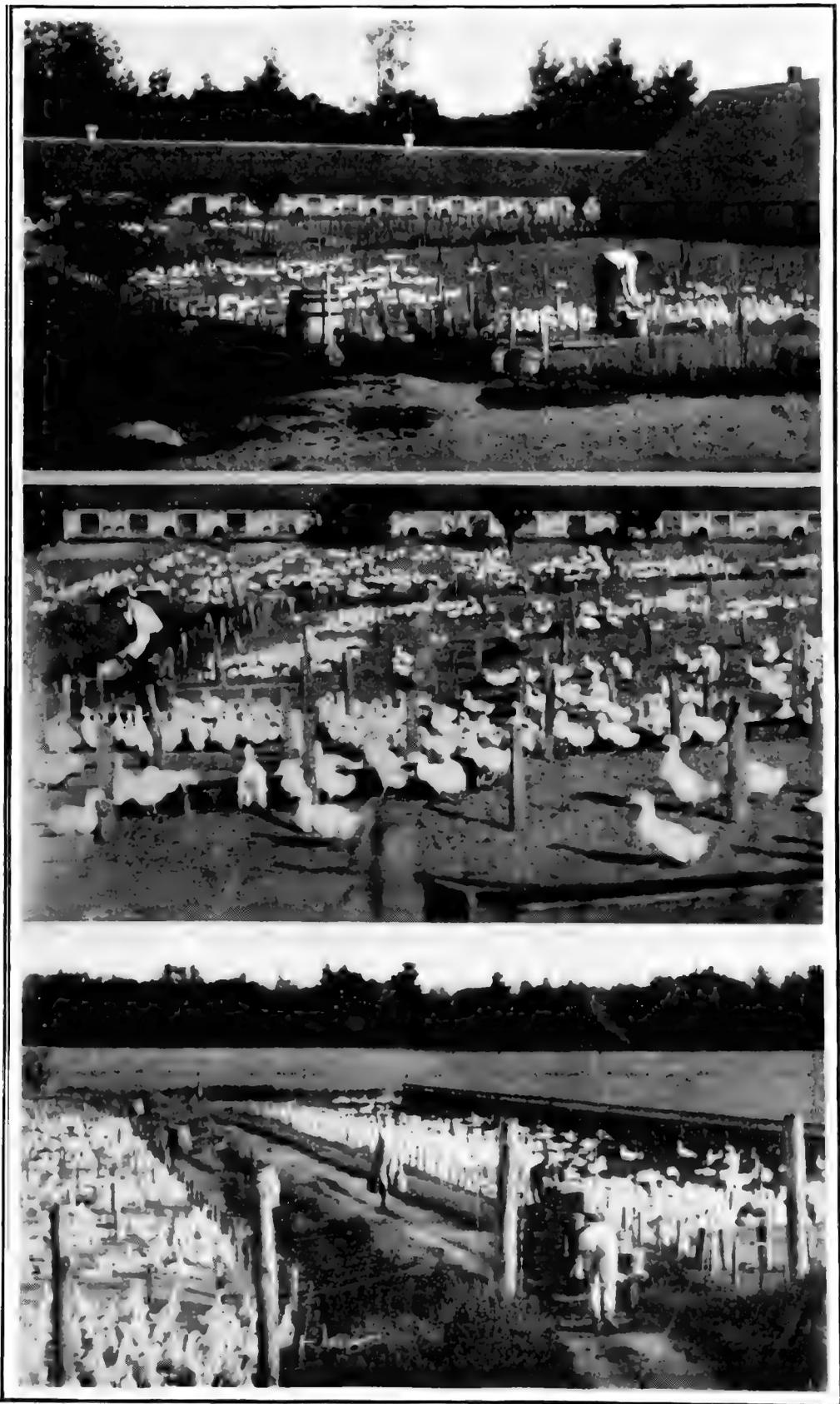


BLACK MINORCA COCKEREL

This male won the special for the best comb and head at the Madison Square Garden, New York, show, 1906. He is owned by Frank McGrann, Lancaster, Pa.

Single-Comb Black Minorcas are in my opinion one of the most pleasing and best paying varieties of fowl known today. I make this statement only after many years of careful breeding both of Minorcas and other popular breeds. Because of the general impression of the inability of these fowl to withstand cold many people keep them in air-tight houses and supply artificial heat, thus converting a naturally hardy-constituted bird into one with weak powers of resistance; then when subjected to cold winds and weather the birds develop severe colds or other diseases and they are credited with being a fowl extremely susceptible to illness. This is not the fault of the breed, but of the breeder. You can make any variety delicate by such treatment.

The first necessity in breeding Minorcas, as in breeding any other fowl, is to have strong, vigorous foundation stock. I believe in breeding Minorcas we should select only those birds



VIEWS OF ONE OF THE LARGE EASTERN DUCK PLANTS

SUCCESSFUL POULTRY KEEPING

that have always been strong. Never breed from a bird that has shown even one day's illness. Select those birds with medium or not over-large combs. I am of the opinion we ought not to breed the exceedingly large, beefy combs we see so frequently, but rather breed from the small, thin, smooth-combed birds.

We want the large, deep-chested, long-bodied Minorcas for business, and in order to get them our foundation stock must be right.

Mate birds that are as near the Standard requirements as you can and you will get results. There is no necessity for double matings. Have your matings of vigorous birds and your eggs will be fertile.

My experience has been that it is an exception for a Minorca to die from disease if properly hatched. My chicks are not fed for twenty-four hours after hatching. Then they are given water and a feed of fine white grit, and every two hours afterwards feed of bread crumbs soaked in milk squeezed dry in the hand. After three days they are fed at three-hour intervals on some prepared chick food.

After four weeks they have cracked corn and cracked wheat, grit, beef scraps and fresh water always before them. With this food and a green grass run my chicks are always healthy. I give my chicks liberty early in the morning whether the grass is dry or wet and have never seen any ill effects from the same. Absolute cleanliness must always be our motto.

When three months old they are allowed to select their own roosting place, and this is usually in the apple trees, where they remain until late in November, when they are removed to the laying houses. All through the heavy cold fall storms they roost in the trees and bright and early in the morning they are busily at work.

Get your Minorcas as near to nature as possible and keep them there and you will never have a case of sickness in your yards. My laying and breeding houses are protected by oiled cloth (heavy cotton painted with boiled linseed oil) in front and the doors are wide open each day, no matter what the weather may be. By keeping Minorcas in perfect health and keeping up a good blood supply by exercise, proper food and fresh air, they will never freeze.

IMPERIAL PEKIN DUCKS

THE BUSINESS BIRDS OF THE TWENTIETH CENTURY—EXCEPTIONAL EGG PRODUCTION AND UNUSUAL PRECOCITY AMONG THEIR GOOD QUALITIES

JAMES RANKIN, South Easton, Mass.

The Pekin Duck is pre-eminent above all other varieties as a profitable market bird. I will here enumerate a few of their good qualities as compared to the other breeds. I have been breeding ducks for more than fifty years including all the Standard varieties with the exception of the Indian Runner. As the result of that experience I have for the past fifteen years confined myself entirely to the Pekin as being by far the best as a profitable market bird. I have bred of this variety some twenty thousand birds annually. The fecundity is wonderful and its precocity equally so. The Pekin duck can be depended on, under proper treatment, to produce 125 eggs each season and under good condition 140 and in many cases where small numbers are kept, 160.

Our own experience the past season has been 130 eggs each from one thousand birds. It may seem almost incredible to some but I have often known birds to tip the scales at 9 pounds

each dressed, when but ten to eleven weeks old. The last birds we shipped to market averaged 8 pounds each, dressed, though they were but four months old.

The great advantage of the Pekin over the other breeds is that they not only commence laying a month or two sooner but they will mature several weeks earlier than any other variety, thus giving us the control of the early spring markets which is by far the most profitable season of the year. I have always emphasized the point that size as well as fecundity is necessary to a profitable market bird. While it is no more trouble or risk to grow a large than a small one the returns are almost double, as the large bird will always command two or three cents per pound more than a small one. In addition to these advantages I have always found the Pekin more hardy than any of the other breeds.

As an experiment, I would fill a machine with eggs from the different varieties, hatching them together and growing them in the same yards, subjecting them to the same care and food. I soon found that when any mortality occurred it was seldom with the Pekin but always with the others. Best of all, weeks after the Pekins were dressed and in the market, the others were still in the pens being fatted.

Another point in favor of the Pekin is unusual precocity. I have always contended that it cost much less to grow a precocious bird than the opposite, for instance, you can grow as many pounds on a Pekin duck in ten weeks as you can on a chicken in twenty-five weeks. In the one case you have animal life to sustain nearly three times as long in a chicken as in a duck, so that I have always considered that it cost me two cents per pound more to grow a chicken than a duck. Another good feature in favor of the Pekin is this—robust constitution. From the time the hardy little fellows are taken from the incubator until they are ready for market the mortality is insignificant. I have repeatedly crossed them with other breeds, Rouen, Cayuga, Aylesbury, etc., with the hope of getting a better market bird, resulting invariably in a greater mortality, impaired vigor, with no increase in size or good market qualities.

Still another point in favor of the Pekin is the perfect control the grower has over the bird from the time it is hatched to maturity; he can not only grow them by the thousands in a small compass but can regulate that growth, control the mortality, increase the fecundity, grow flesh or feathers at will, and put the bird in the market three weeks earlier than any other variety. We think that the millions of these birds that are grown almost to the exclusion of any other breed, except for the fancy trade, is sufficient proof of its superiority over any other breed as a market bird.

GEESE

Geese are extremely hardy and long-lived. They thrive on low-lying lands which would not be suitable for fowls. Old pasture is best suited to their requirements, as they crop the grass very short and would likely destroy the roots of newly sown grass. They must be afforded liberty and plenty of grass range. They are very coarse feeders and will eat nearly anything in the shape of green food.

The gander likes to follow his own sweet will in choosing his mate, and it is sometimes difficult to induce him to transfer his affections; so that it is necessary to mate them some little time before the breeding season opens. Geese have been known to breed at a great age. It is better, however, to discard them after eight or ten years. Young birds do not breed as satisfactorily as old ones.

Although it is desirable to hatch early, it is not always advisable, as it depends upon the climate and location. Gos-

LEADING STANDARD VARIETIES

lings need grass and do not thrive unless green food is supplied when they cannot get range. Where a grass range can be obtained in early spring, by all means hatch them early.

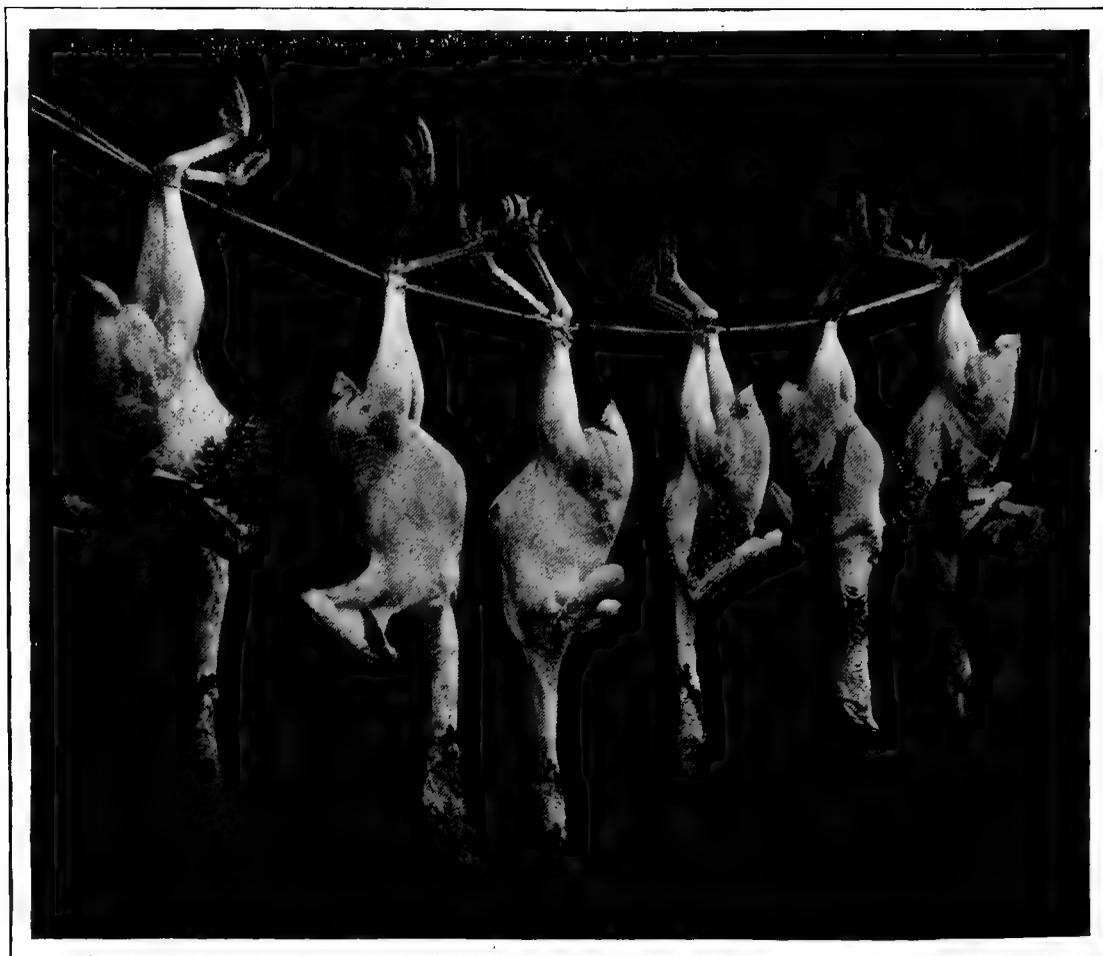
Geese for market always bring good prices during the holiday season and are in demand both alive and dressed in all of our city markets. Geese feathers are also a source of profit and at times bring fancy prices at retail. The prevailing wholesale prices for geese feathers in America will, however, usually average 45 to 55 cents a pound for solid white and 35 to 45 cents a pound for mixed or colored feathers. These are lowest wholesale or farm prices—those paid the producer.

The more popular varieties of geese for the farmer are the Embdens, Toulouse and Africans. Embden geese have pure white plumage and orange legs. Adult ganders average to

weigh 20 pounds; young ganders, 16 pounds; adult geese, 18 pounds; young geese, 14 pounds. Toulouse geese are extensively bred, they have long deep bodies, color gray, shaded to white except on wings which are gray or brown, legs orange. Adult ganders will average to weigh 20 pounds, young ganders 18 pounds, adult geese 18 pounds, young geese 15 pounds. African geese are the least noisy of all varieties and are popular for crossing with other pure-bred or common geese to produce quick growing market birds. They are gray in color, with orange legs and have a large knob on their heads which gives them a formidable appearance. Adult ganders will weigh 20 pounds, young ganders 16 pounds, adult geese 18 pounds, young geese 14 pounds.



WELL-BRED, FARM-RAISED GEESE



TURKEYS

During the Thanksgiving week of 1906 good fresh killed turkeys ranged from 28 to 40 cents a pound, according to size and quality, at retail in our large eastern city markets. Popular sized birds weighing from 8 to 14 pounds brought the highest prices because they were most in demand. The larger birds being less in demand sold for less and went chiefly to large wealthy families and to the better class of clubs, hotels and restaurants where large birds serve to the best advantage.

Every year turkeys become more scarce and higher priced in the large city markets. Turkey growing is becoming more and more difficult as the increasing needs of growing population occupy and develop large pastures, woodland and wild lands and now in some sections of the country, where comparatively "new" soil cannot be had for range, these greatest of all table fowl grow fewer and fewer in numbers year by year. Where formerly large flocks ranged over the fields and attracted little or no attention from passers by, a flock of a dozen or two will now call forth excited comments from the wayfarer.

Tainting of the soil by prolonged use for poultry and stock pasturage and the free use of various fertilizer materials in cultivation of the fields is by many believed to be, at least in part, the source of difficulty in turkey raising. Normally and naturally a wild fowl, they have never taken kindly to domestication in close confinement. They do best on wild, virgin soil and require liberal range to have them thrive.

Today an ailment known as "blackhead," a germ disease affecting chiefly the liver and digestive organs, is responsible for the difficulty in raising young turkeys, or poults as they are called, in many sections of the country, and it also causes alarm-

ing mortality among adult stock. Apparently the germ of this disease may remain dormant in the soil for a long time, only to become virulent when taken into the fowl's body with contaminated food or water. Experiment stations are giving this source of trouble careful investigation, although as yet but little has been accomplished that will serve to enable the farmer to grow turkeys in infected districts.

In sections where liberal range can be had and where turkeys will thrive, they are exceptional profit earners. The demand for good stock is always in excess of the supply both for breeding and market purposes.

The most highly favored varieties are the Mammoth Bronze and the White Hollands. Both varieties are remarkable for size and beauty and are considered as hardy as any. Of late years much is being done in the south and west in crossing the Bronze with the native wild turkeys. It is claimed that this gives a hardier bird and one that can be more easily grown. Half-wild males and females are in demand as breeders at prices ranging from \$10. to \$25. each.

Bronze Turkeys are the largest and their black, brown, white and rich bronze coloring makes them exceedingly attractive on any farm. They are hardy, fair layers and sitters. Adult toms will weigh 36 pounds, young toms 25 to 33 pounds, adult females 20 pounds, young females 16 pounds.

White Holland turkeys have pure white plumage which heightens the wonderful head and wattle colorings, making them a beautiful ornamental as well as practical fowl. They are rather better layers than the Bronze and when well bred are quite as hardy. Fairly good sitters and mothers. Adult toms will weigh 26 pounds, young toms 18 pounds, adult hens 16 pounds, young hens 12 pounds.

CHAPTER SIX

THE MATURE FOWLS

MANAGEMENT OF BREEDERS AND LAYERS

HELPFUL SUGGESTIONS FROM MANY PROMINENT POULTRY KEEPERS ON THE CARE AND FEEDING OF BREEDING AND LAYING STOCK—TESTED DRY AND MOIST MASH RATIONS FOR THE MOST POPULAR VARIETIES—ANOTHER EXPERIENCE SYMPOSIUM OF SUCCESS



THE beginner with poultry there is probably no more troublesome question than: "What and how shall I feed my fowls?" There are many good rations and as many good methods of feeding them. Believing that the best possible way to place before the beginner reliable information on this subject was to obtain advice from successful poultrymen concerning the rations and

methods employed by them, we asked the following questions:

Q. 27. What do you feed your breeding stock?

Q. 28. How do you feed adult stock, also how often?

Sixty-five of the leading successful American breeders replied to our questions, some briefly and some in detail. It is interesting to note that 28 are decidedly in favor of dry rations and 37 use moist mashes. Of these latter there are a number who are trying both plans but are not yet decided which is preferable. By careful study of these replies the beginner should be able to select a ration and method of feeding that will be well suited to give satisfactory results with his favorite variety. Under the name of each breeder is given the variety or varieties he breeds, and that should be considered when comparing his ration with others, for there are some poultrymen who claim that different varieties need different food and care.

In the care of all breeding stock irrespective of variety there are six essentials to success and these must never be overlooked, they are: Comfortable quarters, cleanliness, wholesome food in variety, pure water, exercise, and an abundance of pure fresh air.

Comfortable quarters means good buildings (not necessarily expensive), dry, well ventilated and free from drafts. These should never be overcrowded—better keep too few fowls in a house than too many. Provide comfortable roosts above an easily cleaned droppings board, have roomy nests, at least three to every twenty birds; all nests, grit and shell boxes and food troughs or hoppers freely accessible and easily removable. A good dust bath and plenty of clean, bright and sweet litter are necessary to comfort. Good sized yards kept clean and with ample shade must be supplied.

Cleanliness means that the droppings are to be removed sufficiently often to prevent them from becoming offensive and to prevent soiling the plumage of the fowls. Use loam, land plaster or sawdust on the droppings boards as an absorbent and clean up often. Once a day is less work than once a month, but once a week will answer if you must put it off and the weather is not too warm. Keep clean straw or shavings in the nests. Don't let too much dust accumulate on walls and timbers, sweep down once in a while and whitewash the whole interior of house at least once or twice a year if you can. Keep the fowls free from vermin. Use a good lice powder often to dust the birds thoroughly. Use a good liquid lice killer on the roosts and droppings boards. Both the powder and liquid are necessary. The

powder for the body lice and the liquid for the mites that may infest the roosts and droppings boards unless guarded against.

Wholesome food in variety means good, sound, sweet grains, wheat, corn, oats, barley and buckwheat, preferred in the order named: Green stuff like grass, clover, alfalfa, green rye, corn fodder, lettuce, etc; raw vegetables including potatoes, cabbage, beets, mangel wurzels, turnips, etc; animal food, (bugs and worms preferred) then beef scrap, lean meat scraps, green cut bone, blood, meat meals, etc; good clean grit, crushed oyster shells or clam shells and last but not least good, honest charcoal, well granulated. Charcoal as a preventive of digestive disorders and bowel trouble is unequalled, and no poultryman can afford to try to get along without it. It is best kept before the flock in a hopper in the same manner as grit and shell.

Pure water means water that you would consider fit to drink yourself. Don't draw the poultry supply from the duck-pond, or brook that runs through barnyards and hog-wallows and then look for success. Impure or fouled drinking water is a prolific source of disease and death among domestic poultry. Many a man gives his birds water to drink that he would be unwilling to wet his lips with. This is neither safe nor sane. Use good pure water and have it fresh and clean. Keep it in clean drinking vessels or fountains. Earthen crocks are best in summer and galvanized iron buckets in winter. See that all drinking water receptacles are rinsed often and refilled at least once a day in winter and twice a day in summer.

Exercise, that means that no matter how you feed, the birds should have a chance to scratch and enjoy themselves. Without exercise they will not make the best disposition of their food and you will not get as many or as fertile eggs. A sufficient amount of exercise means health, eggs and fertility. Any healthy hen will scratch if you give her a chance. In winter provide good, clean litter 6 to 8 inches deep on the floor of the houses, and keep just enough whole grain in it to give them something to work for. Pile the litter in front near the light and the hens work it toward the back of the house. They will work in litter even if you keep hoppers full of food before them all the time. In summer provide ample outdoor runs, plough them up and plant with grain. The hens will scratch it up again but that is what you want them to do, and the fresh green sprouts are very beneficial. Remember that the same ration that gives an abundance of eggs with exercising fowls will produce fat if they do not exercise.

An abundance of pure fresh air means well ventilated, open front, scratching-shed or curtain-front houses. Buildings in which an abundance of fresh air is supplied without drafts at all times night and day. Plenty of fresh air and sunshine are the most reliable, safe, sure preventives of disease that we have and they do not cost money. Provide cool, well-aired quarters in warm weather, and in cold weather see that all buildings are well ventilated night and day. A house that is kept too tightly

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closed will be damp and there will be moisture or frost on the walls. You don't get any "house sweating" in fresh air or well ventilated buildings. Cold houses are better than artificially heated ones if well ventilated. The fowls in well-aired, cold houses are not as easily affected by weather and temperature changes.

Following we give the answers to questions 27 and 28 mentioned in the fore part of this general introduction. A careful study of these answers will prove profitable for the experienced poultryman as well as the beginner.

MOIST MASH RATIONS

A. C. HAWKINS, Lancaster, Mass.

BREEDER OF WHITE, BUFF AND BARRED PLYMOUTH ROCKS,
SILVER, BUFF AND WHITE WYANDOTTES

A. 27. A mash early in the morning, warm in winter, consisting of one-third corn meal, one-third ground oats, one-third wheat middlings. To this grain I add 10 per cent cooked vegetables and 10 per cent animal food. At noon a light feed of wheat in litter and at night all they will eat of cracked corn and oats. Give free range.

A. 28. Same as breeding stock.

THOMAS F. RIGG, Iowa Falls, Iowa

HOUDANS AND WHITE WYANDOTTES

A. 27. Mixture of grains, corn, oats, wheat, barley, millet and buckwheat, all run through mill and cracked, not fine. Also a mash once a day, at noon. Beef scraps kept in hoppers in each breeding pen; charcoal, grit, oyster shells and bone given in same way.

A. 28. Same as 27, three times a day.

W. B. CANDEE, De Witt, N. Y.

WHITE WYANDOTTE SPECIALIST

A. 27. Am using two methods now, trying to determine which I like. No. 1: Morning scratch feed, light, in litter; noon, mash, wet, made of 100 pounds bran, 50 pounds middlings, 50 pounds corn meal; night, full feed, usually a mixture of cracked corn, oats, wheat and barley, with small amount of buckwheat in cold weather. Three times a week the mash is omitted and a cut bone feed given, cabbage or beets for green stuff. Hopper contains grit, oyster shells and charcoal, before them all the time.

No. 2: Same identically as No. 1, except the mash is mixed dry and hoppers kept full where the birds can have access to it all the time.

G. W. BROWN, Camden, Arkansas

BREEDER OF WHITE WYANDOTTES, BARRED ROCKS, INDIAN GAMES,
BUFF COCHINS, LIGHT BRAHMAS, LEGHORNS, PIT GAMES,
WILD AND BRONZE TURKEYS

A. 27. Our breeding stock is fed largely on corn, wheat, chops, oats and shorts, with green stuff and green bones, making a mash in the morning with the above and some well cooked vegetables, such as beets or turnips, and at night grain is fed, with a small amount scattered in the scratching pens at noon.

B. S. HUME, French Village, Ill.

WHITE WYANDOTTE SPECIALIST

A. 27. Soaked oats in the morning or wheat scattered in the straw to keep them busy; about twice a week give a mash for noon meal and in cold weather feed corn at night.

A. 28. About the same way but only twice a day.

N. V. FOGG, Mt. Sterling, Ky.

BREEDER OF SINGLE COMB WHITE LEGHORNS EXCLUSIVELY

A. 27. From October on through the winter I feed equal parts of wheat, cracked corn and oats, also other grains when I can get them. This is fed morning and night in litter; at noon I feed a mash composed of the following: 100 pounds of each, wheat bran, corn meal, ground oats, wheat middlings and beef scrap. I also use a little charcoal in the mash. Pure water, grit and oyster shells are kept before the birds at all times. In the summer I do not feed as much corn, but more wheat and oats.

GEO. A. BARROWS, Groton, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 27. Morning: A light feed of four parts oats, one part corn and one part wheat. Noon: A mash mixed with milk and made up of three parts good bran, one part middlings, one part ground oats, one part corn meal, one part oil meal and one part beef scraps, all salted. Night: A good feed of mixed grain.

In the summer I feed grass or clover and in the winter beets, cabbage and green cut bone. I always furnish the hens fresh water, also grit and shells.

A. 28. I feed three times a day. Morning and night I feed grain in litter and let the hens scratch for it and at noon I feed mash in a trough.

H. H. FIKE, Libertyville, Ill.

WHITE WYANDOTTE SPECIALIST

A. 28. Wheat, corn or oats, morning and night; mash in winter. Summer, all grain. Feed twice daily.

J. L. JEFFERSON, Des Plaines, Ill.

WHITE PLYMOUTH ROCKS EXCLUSIVELY

A. 27. Oats, wheat and mash, and in very cold weather some corn.

A. 28. Same as breeding stock, oats and wheat in litter, and mash at night, three times a day.

GUS. L. HAINLINE, Lamar, Missouri

BREEDER OF WHITE WYANDOTTES

A. 27. Oats and millet in litter in the morning; mash of steeped alfalfa, bran, middlings with cracklings or beef scrap at noon, and kaffir corn or Indian corn at night; oyster shell and grit, etc., in feed hoppers at all times, also a frequent feed of turnips or other succulent roots.

A. 28. Have good range; feed mash of alfalfa, bran, etc.

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at noon and plenty of corn at night, oyster shell and grit always handy. Winter time, feed roots, boiled potatoes, etc., once in a while.

G. MONROE WOOD, Woodville, N. Y.

WHITE LEGHORN SPECIALIST

A. 27. We feed mixed grains consisting of wheat, cracked corn, barley and oats, equal parts by measure. This we feed morning and night; at noon we feed a mash composed of equal parts of oatmeal, corn meal, and bran, also beef scraps, 2 pounds to 100 hens; oil meal, $\frac{1}{2}$ pound to 100 hens; a handful of salt to whole flock of 800 hens, the whole mixed to a crumbly mash with milk if we have it, if not water or whey. This is for summer.

In winter we feed cut clover thoroughly steamed to wet up the mash with. We also feed mangel wurzels in winter.

A. 28. The same as for breeding stock.

MRS. H. W. HAND, White Hall, Ill.

WHITE WYANDOTTES EXCLUSIVELY

A. 27. I feed my breeding and all adult stock a light feed of small grain, principally wheat in the litter in the morning, and either steamed oats or a carefully balanced mash at noon, and all they will eat of mixed grain or whole corn at night.

HARMON BRADSHAW, Lebanon, Ind.

S. C. WHITE LEGHORN SPECIALIST

A. 27. Hot mash in morning, mixed grains at noon and night, corn, wheat, oats, millet and kaffir corn.

A. 28. Feed the mash in troughs and the grains in straw so they will have to work.

C. L. PENCYL, Bloomsburg, Pa.

BREEDER OF BUFF PLYMOUTH ROCKS

A. 27. I usually feed a mixture of wheat, cracked corn, clipped oats, buckwheat; feed this every morning thrown among straw for exercise. At noon I feed greens, sometimes a bran mash, just wet enough to hold together; don't believe in very wet and sloppy feeds. At night I usually feed whole corn, sometimes mixed with wheat.

A. 28. The same as above, three times per day.

W. W. KULP, Pottstown, Pa.

BREEDER OF SINGLE AND ROSE-COMB WHITE AND BROWN LEGHORN, WHITE WYANDOTTES, BUFF AND BARRED ROCKS, AND PEKIN DUCKS

A. 27. In the morning I make a mixture of bran, middlings, corn meal and meat. Noon, wheat; evening, corn with greens.

A. 28. Same as 27.

F. C. SHEPARD, Toledo, Ohio

SPECIALTY BREEDER OF BUFF PLYMOUTH ROCKS

A. 27. A warm mash in the morning made of ground corn, oats and wheat bran mixed with cut clover that has been

soaked in hot water over night, adding one ounce of green cut bone for each bird. At noon and again about an hour before roosting time I give a feed of either oats, wheat or corn.

A. 28. Just about the same as 27, except that I make the mash cold and leave out the cut clover and green bone as the weather grows warmer, also cutting the amount down as they are turned out on their range.

AUG. D. ARNOLD, Dillsburg, Pa.

COLUMBIAN WYANDOTTES EXCLUSIVELY

A. 27. Wheat, corn and oats mixed at noon and night, with cut clover, bran and shorts with hot water and left to cool for morning. The wheat, corn and oats is thrown into straw and litter in order to make them work.

E. B. THOMPSON, Amenia, N. Y.

BARRED PLYMOUTH ROCK SPECIALIST

A. 27. Wheat, cracked corn, oats and a mash made of ground grains. Some beef scrap or green cut bone is fed, also green food. The breeders have large grassy runs and plenty of exercise. The above mash is made of hominy, ground oats, wheat middlings and bran. Cabbage makes the best green food.

A. 28. Similar to breeding stock and twice a day.

C. H. WELLES, Stratford, Conn.

BARRED PLYMOUTH ROCK SPECIALIST

A. 27. Mash in the morning consisting of cut clover or alfalfa, the best prepared meat, ground oats, wheat bran and a very little corn meal. At noon and evening, cracked corn and whole wheat fed in litter of straw or leaves.

A. 28. Whole wheat, cracked corn and oats two or three times a day.

BRADLEY BROS., Lee, Mass.

BARRED PLYMOUTH ROCK SPECIALISTS

A. 27. Mash once a day (p. m.), made of meal, ground wheat, bran, oatmeal or rolled oats, broken rice and best beef scraps with ground clover or alfalfa scalded in boiling water; when cooled stir in oats, etc., to make it crumbly. Mixed grain, a. m. and p. m.

A. 28. See above. Night, full feed; afternoon, mash; morning, grain enough to make them scratch.

MRS. TILLA LEACH, Cheneyville, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS

A. 27. Corn, wheat, oats, etc. for breakfast fed in the litter, some corn on cob in good weather. For supper a mash composed of boiled oats, table scraps, bran, corn meal, beef scraps, etc. In winter, or when they cannot get green food, I add clover or alfalfa meal or clover blossoms, leaves, etc., from under the huller where the clover is hulled for seed. I find the latter, if from clover that did not get wet, fully as good as clover meal and much cheaper.

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A. 28. Same as above, only twice a day except in very cold weather, when extra fine grains, millet, cracked corn, etc. are given at noon to keep them exercising.

GEO. H. BIE, Racine, Wis.

BREEDER OF BARRED PLYMOUTH ROCKS

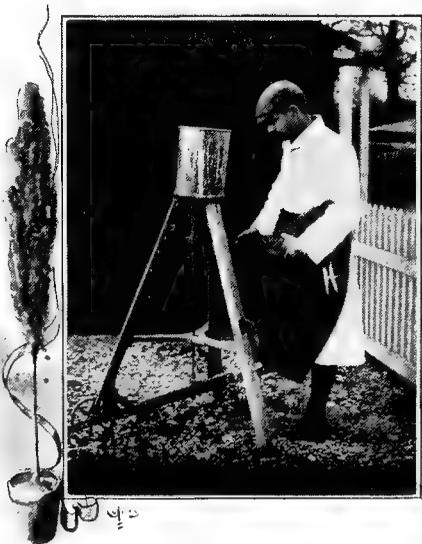
A. 27. I feed my breeding stock wheat, oats and barley. Corn and oats ground equal parts, 200 pounds; 100 pounds bran, 25 pounds oil meal, and 15 pounds alfalfa meal mixed for mash, and either beef scraps or green cut bone. Cabbage to pick at in the winter time. Grit and oyster shell before them at all times.

A. 28. The grain is thrown into litter, they have to scratch for all they get; the mash is fed in troughs. I feed three times a day, mash in the morning, grain at noon and night.

**ROSEDALE POULTRY FARM CO.,
Greenwood, Mass.**

WHITE WYANDOTTES EXCLUSIVELY

A. 27. About equal proportions of whole wheat, cracked corn, barley, and oats. Swiss chard, fresh cut green bone, mangels, cabbages, charcoal, grit, oyster shells. Also a mash three or four times a week of: Bran, two parts (by weight);



CRAMMING A CHICKEN

The machine method of feeding chickens is extensively used on the continent. Some of the American packing houses have adopted this system of forced feeding.

corn meal, one part; middlings, one part; cut clover one part.

A. 28. Same as above. Six a. m. and 6 p. m. in summer; Seven a. m. and 4 p. m. in winter. Mash at night.

W. S. HARRIS, Mansfield, Mass.

RHODE ISLAND RED SPECIALIST

A. 27 & 28. Mostly ready-mixed, balanced ration poultry foods. The most essential things are proper housing, good fowls and correct feeding. Will say for the benefit of the ama-

teur as well as the more experienced, that if he will adopt the method of feeding recommended by reliable firms who prepare ready-mixed food for poultry of every age and for all purposes, he will have far better success. Use these foods from the start. If you doubt this try one pen on the ready-mixed, prepared or balanced ration and another on your own plan of feeding, and watch results. The tendency with most poultrymen is to feed too much of the same kind of grain and that does more harm than good, and as most of them don't experiment they continue this great waste with only partial success instead of complete success.

O. E. SKINNER, Columbus, Kansas

BREEDER OF BARRED PLYMOUTH ROCKS, BUFF AND
PARTRIDGE COCHINS

A. 27. A morning mash of two-thirds bran, one-third corn chop or corn and oat chop, fed warm through the winter with small cooked potatoes or turnips; meat scraps every other day. The other feed is mixed grains.

A. 28. I feed mash in long troughs; the mixed grain fed in straw to induce as much exercise as possible.

F. J. WEHRMEYER, Benton Harbor, Mich.

WHITE WYANDOTTE SPECIALIST

A. 27. The main thing is variety and plenty, keeping in view always the idea of not allowing them to grow too fat, and give them exercise.

A. 28. During summer, dry feed twice daily with beef scraps, bone, charcoal and grit convenient always. In winter, usually three times daily, except in real cold weather when we add "morning lunch" say 9 or 10 a. m. All grain in litter. Mash once a day, usually evening (used to feed mash at noon, but now evening). Lots of cabbage and turnips, beef scraps, etc. in hoppers.

DR. O. P. BENNETT, Mazon, Ill.

BARRED PLYMOUTH ROCK SPECIALIST

A. 27. Mixed grains, wheat principally, oats and a little corn. Ground mash food at noon.

A. 28. Same as above three times a day.

A. B. TODD, Vermillion, Ohio

S. C. WHITE LEGHORN SPECIALIST

A. 27. Wheat, corn, oats, buckwheat, a little millet, fresh ground bone, beef scraps, green food in variety, cut clover, charcoal, a good poultry food or tonic two or three times a week, grit and oyster shells always before them, and plenty of fresh water.

A. 28. I feed my adult stock same as my breeding stock, grains scattered in litter 4 to 6 inches deep. In winter, grains fed morning and noon, and mash in the evening; in summer mash in the morning, grains noon and night.

EDW. KNAPP OF KNAPP BROS., Fabius, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 27. We feed once a day a warm mash of ground corn and oats, ground meat scraps and clover meal scalded,

THE MATURE FOWLS

then thinned with buttermilk. Add a little oil meal, then wheat, bran and middlings to thicken to proper consistency for feeding, and a grain ration of cracked corn, oats, wheat and buckwheat twice a day; when no grass run we keep cabbage or roots (beets) constantly before them.

A. 28. Three times a day, as above explained.

H J BLANCHARD, Groton, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 27. Wheat, cracked corn, and oats for whole grains, about three parts wheat, two parts corn, and one part oats. Also use a moist mash and a dry mash composed of corn meal two parts, wheat bran one part, wheat middlings or ground oats one part, alfalfa meal one part, beef scraps one part—all by measure. Green food for summer is clover, and for winter mangel-wurzel. Crushed oyster shell, grit and charcoal before them at all times.

A. 28. A light whole grain ration scattered in litter in the morning, next, green food. At midday moist mash to some and dry mash to others, fed in troughs. Toward night a full ration of whole grains in litter. Also use some corn in the ear in winter to amuse and promote exercise.

A. & E. TARBOX, Yorkville, Ill.

SILVER LACED WYANDOTTE SPECIALIST

A. 27. A patent poultry food; balanced ration grain food, wheat, oats and corn.

A. 28. Same as above, three times a day.

F. W. RICHARDSON, Hicksville, Ohio

BARRED PLYMOUTH ROCKS EXCLUSIVELY

A. 27. For grains I feed soft feed once a day, usually in the morning. Feed wheat, corn, oats and barley mixed for whole grain. Feed oats and barley scattered in litter; cut clover hay and cabbage for bulky food mostly in winter season. Have plenty of grass in runs for summer.

A. 28. Feed soft mash of corn and oats in evening, whole corn, wheat and oats noon and evening.

ARTHUR G. BOUCK, Frankfort, N. Y.

BARRED PLYMOUTH ROCKS EXCLUSIVELY

A. 27. I feed mash about four times a week composed of bran, corn meal, middlings, ground oats and alfalfa meal with a small quantity of linseed meal added. My other feed consists of corn, cracked and whole, oats, barley, and a little wheat, with an occasional feeding of green cut bone. Beef scraps, grit, oyster shell and charcoal are fed from hoppers. Cabbage and small potatoes are fed for green food in winter.

A. 28. I feed adult stock same as breeding stock, three times a day in summer and twice a day in winter. When fowls are confined I feed the grain in litter.

IRVING F. RICE, Courtland, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 27. Wheat, oats, barley, etc., small grains in the morning; mash composed of meat meal, cooked vegetables and

different varieties of ground grains at night. Green food is kept before them at all times, such as cabbage and mangel wurzels.

A. 28. I feed about the same as above and three times a day.

J. T. THOMPSON, Hope, Ind.

BREEDER OF WHITE PLYMOUTH ROCKS AND MAMMOTH
BRONZE TURKEYS

A. 27. I feed my breeding stock about twice per week a mash food composed of equal parts of wheat bran, meal, and ground oats, and I add to this cooked vegetables. In mixing this feed be careful not to get it too wet, add just enough water to make the food crumbly when put into the feed troughs. The evening feed, as I only feed twice per day, consists of wheat, corn and oats, scattered well in the straw so as to make them work for it. During the coldest weather I feed more corn, as there are more heat-producing elements in corn than any other grain. I always keep my birds well supplied with charcoal, as that helps a great deal in keeping them healthy. Every fall I sow several fields in rye, which they have access to all winter. I also cover the floors of my houses every fall with about 3 inches of fine gravel which furnishes them with plenty of grit all winter and at small cost. The mornings that I don't feed the mash food I feed oats one morning and wheat the next.

WILBER BROS., Petros, Tennessee

S. C. WHITE LEGHORN SPECIALISTS

A. 27. How and when to feed fowls in order to secure the best results is one of the greatest questions for the average poultry keeper. We must feed our fowls so as to keep them in a good, healthy condition. If this is done, it naturally follows that we will get fertile eggs and plenty of them. While we do not claim our method of feeding to be the only correct one, it gives us satisfactory results, and we take pleasure in presenting it herewith, hoping that it will prove helpful to some one who is having trouble along this line.

The first thing in the morning (as soon after daylight as possible) we give a pint of mixed grain, corn, wheat, oats, and buckwheat, equal parts, to each twenty-five fowls; well scattered in the litter of the scratching shed. If for any reason it should be inconvenient for the attendant to get out so early as this, it may be done just as well the night before, after the fowls have gone to roost, in order that they may begin working it out next morning as soon as it is light enough for them to see. At 9 o'clock we give them water and hang a head of cabbage in each pen. At 11:30 they are quite hungry, having worked steadily all morning in the litter of the scratching-shed, and are ready for their noon meal, which is a soft mash, prepared as follows:

Cornmeal, ground oats, wheat bran, shorts or middlings, and ground beef scrap, one part by measure. These are placed in the mash tub and thoroughly mixed. To this we add two quarts of clover-meal (thoroughly steamed) for each 100 fowls. Next comes the vegetable matter, which may be boiled potatoes, turnips, or cabbage, which ever is most convenient, to the amount of one part. Two days in the week omit the boiled vegetables, adding instead, the same quantity of boiled rice. Rice has no particular feeding value for fowls other than it prevents bowel trouble and allows us to feed more liberally of meat than we could otherwise.

The above mixture is moistened with boiling water (in which a small quantity of salt has been dissolved, to a crumbly consistency, not sloppy) and fed while warm in winter, allowing

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it to cool before feeding in summer. Of this mash we feed what our birds will eat up clean in about ten minutes, or approximately one quart to each twelve fowls.

An hour before roosting time we feed a mixture of corn, wheat, oats, and buckwheat, equal parts, what they will eat, well scattered in litter. During warm weather reduce the amount of corn and buckwheat one-half, as they are very heating. See to it that each pen is well supplied with good, sharp grit and ground oyster shell and that your fowls are kept free from vermin.

J. H. DOANE, Gouverneur, N. Y.

BREEDER OF S. C. BLACK MINORCAS AND WHITE WYANDOTTES

A. 27. Wheat, oats, buckwheat and barley, in the order named for choice. Plenty of vegetables (ensilage from the silo is most welcomed by the hens), green bone fed very lightly and ground feed made in a stiff mash not oftener than every other morning. Fresh water, a liberal supply of good grit, shells and charcoal. I believe too little litter is supplied in most cases for the good of the fowls and to promote good laying. The writer never yet put Minorcas in the show room but that they were not only in laying condition, but actually laying, as many can well remember who have seen them on exhibition.

A. 28. As above, three times daily.

DRY FOOD RATIONS

ALBERT F. DIKEMAN, So. Peabody, Mass.

BREEDER OF WHITE WYANDOTTES AND WHITE PLYMOUTH ROCKS

A. 27. We use self-feeding hoppers containing grit, shell, charcoal and good beef scraps, (substitute green bone for scraps from Oct. 1st to May 1st); a dry mash mixture, 50 per cent ground oats, 25 per cent bran, 25 per cent corn meal, (by weight). A hard grain mixture of wheat, corn, barley, kaffir corn, sunflower seed, buckwheat, oats, etc., ratio varying according to the season of the year at which it is fed, but the basis of it is always 50 per cent good white wheat; no buckwheat in summer and very little corn.

A. 28. A half feed of hard grains in a. m., a full feed of same an hour before sundown, all fed in deep litter. In season, green bone one noon and some kind of fresh natural green vegetable food the alternate noon, substituting steamed alfalfa and scrap when green bone and natural green food is unavailable.

W. R. CURTISS & CO., Ransomville, N. Y.

BREEDERS OF WHITE WYANDOTTES, SINGLE-COMB WHITE LEGHORNS
AND MAMMOTH PEKIN DUCKS

A. 27. All dry feed, dry grain and mash.

A. 28. Feed before them at all times.

J. C. FISHEL & SON, Hope, Ind.

WHITE WYANDOTTE SPECIALISTS

A. 27. Simply whole grain, a mixture; not too much corn. We advocate dry feed.

A. 28. Dry feed mixture of grain twice a day only; in hot weather only once and that in the morning.

J. H. JACKSON, Hudson, Mass.

WHITE WYANDOTTE SPECIALIST

A. 27. I practice giving dry feed and mash for the morning meal. Am in favor of dry mash on account of labor saved. Give plenty of green cut grass or clover dry in winter, cut bone or scraps, oats and cracked corn at night.

A. 28. In dry or hopper feeding, feed at noon green cut vegetable food if possible; cut bone and oats or corn at night.

ROWLAND G. BUFFINTON, Somerset, Mass.

BREEDER OF BUFF, SILVER PENCILED AND COLUMBIAN WYANDOTTES;
BUFF AND PARTRIDGE PLYMOUTH ROCKS; BUFF ORPINGTONS;
RHODE ISLAND REDS; BUFF, BLACK, WHITE
AND PARTRIDGE COCHIN BANTAMS

A. 27. We have fed dry mash for eight years and at first about 90 per cent of the poultrymen called us crazy; the 90 per cent are on my side now.

A. 28. Keep the dry mash before them nearly all day. Give a small amount of cracked corn, wheat and oats at noon.

U. R. FISHEL, Hope, Ind.

WHITE PLYMOUTH ROCK SPECIALIST

A. 27. Corn, oats, wheat, green cut bone, sunflower and sorghum seed.

A. 28. Mostly dry feed, twice a day.

CHAS. E. VASS, Washington, N. J.

BREEDER OF SINGLE AND ROSE-COMB BUEF ORPINGTONS AND SINGLE-COMB WHITE AND BLACK ORPINGTONS

A. 27. In the hatching season our diet runs as follows: Wheat or barley in the morning scattered in litter, oats at noon, corn at night, heated in severe cold weather. Three times per week green bone takes the place of oats for the noon feed; oyster shells, grit, etc., is always before them.

D. F. PALMER & SON, Yorkville, Ill.

BARRED PLYMOUTH ROCK SPECIALISTS

A. 27. Wheat, oats and corn, and a good grass run.

A. 28. Keep new corn on the ear before them all the time in the fall as soon as it is hard enough to pick from the cob.

CHARLES G. PAPE, Fort Wayne, Indiana

S. C. BLACK MINORCA SPECIALIST

A. 27. Sprinkle grain in chaff; small per cent of whole corn, wheat, barley and sunflower seed.

A. 28. Three times daily.

WM. H. ROBINSON, La Fayette, Ind.

BREEDER OF BARRED PLYMOUTH ROCKS AND WHITE WYANDOTTES

A. 27. My breeding stock are properly housed, and are hopper fed; that is, I feed all hard grain in litter three times a day; a hopper each of beef scraps, dry bran and one of cracked

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corn, wheat and oats, ground, is before them, while they must exercise and keep scratching for all hard grain. A very satisfactory egg yield is always obtained and eggs are strong in fertility. Green food is daily fed and also green cut bone of a limited amount.

A. 28. I feed about as above. Keep them well exercised and well fed with hoppers before them, and three times a day on hard grain in litter.

MRS. CHAS. JONES, Paw Paw, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS, BUFF COCHINS,
GOLDEN BRONZE TURKEYS

A. 27. Dry grain, oats and corn raised on the farm; boiled beets and carrots, cabbage, apple peelings, potato parings, fed raw. I do not feed hot or warm mash.

A. 28. Twice a day on grassy yards.

J. M. WILLIAMS, No. Adams, Mich.

SINGLE AND ROSE-COMB BUFF ORPINGTON SPECIALIST

A. 27. Wheat, oats, beef scrap, oyster shell, and some green food early in the season before they can get to grass.

A. 28. Morning and night. In the morning we make them work for it.

OTTO O. WILD, Benton Harbor, Mich.

WHITE WYANDOTTE SPECIALIST

A. 27. A balanced commercial scratching food without corn. Clipped oats, corn, alfalfa, roots, apples, cut bone and beef scrap in rotation, grit and shell always.

A. 28. Grains in litter twice per day; green food and meat ration at noon, alternately.

GARDNER & DUNNING, Auburn. N. Y.

BARRED PLYMOUTH ROCK SPECIALISTS

A. 27. Corn, wheat, buckwheat, oats, barley, beef scraps, cabbage, mangel wurzels, and clover.

A. 28. Twice in summer, three times in winter.

A. OBERNDORF, Centralia, Kansas

BREEDER OF SINGLE-COMB WHITE LEGHORNS AND BARRED
PLYMOUTH ROCKS

A. 27. Corn, wheat, bran, beef scraps, cut clover, a variety of vegetables, grit and charcoal, and always plenty of fresh water.

A. 28. Same as 27, twice a day

WM. BYWATERS, Camden Point, Mo.

BARRED PLYMOUTH ROCK SPECIALIST

A. 27. During the season of 1906 I fed my breeding stock on a mixture of corn, cracked corn, wheat and oats in abundance, and a small amount of cut bone regularly without any

mash food of any kind. I gave them plenty of grit and oyster shell and some charcoal and they laid well and eggs hatched well on an average, both at home and for customers. A few customers hatched every egg sent them.

FRANK D. HAM, Livingstone, N. Y.

BARRED PLYMOUTH ROCK SPECIALIST

A. 27. Corn, oats, wheat, buckwheat, beef scraps and green food.

A. 28. Same as above, twice a day.

J. C. MACOMBER, Reading, Mass.

BREEDER OF PARTRIDGE WYANDOTTES AND BARRED
PLYMOUTH ROCKS

A. 27. I feed them all they will eat up twice a day of one part corn, one part wheat, one part oats, and one part barley, keeping beef scraps, charcoal, grit and oyster shells in hoppers before them all the time.

A. 28. During the winter season, I keep dry mash before them all the time composed as follows: Equal parts of bran, corn meal, middlings, ground oats, gluten meal and beef scrap, fed in hoppers. In addition to this, I feed them twice a day one part wheat, one part oats and two parts corn. In summer time, I reduce the corn to one part.

C. BRICAULT, M. D. V., Andover, Mass.

BREEDER OF WHITE WYANDOTTES

A. 27. Wheat, oats, corn, barley, beef scraps, grit, oyster shells, charcoal, all in self-feeding hoppers. Cabbage mangels, and cut clover. Every day some hard grain thrown in litter to induce scratching, for exercise. This method has given me more fertile eggs and strong chicks than any other

FRANK McGRANN, Lancaster, Pa.

BREEDER OF SINGLE-COMB BLACK MINORCAS, BARRED PLYMOUTH
ROCKS, WHITE WYANDOTTES AND SINGLE-COMB
WHITE LEGHORNS

A. 27. I feed cracked corn, wheat and oats, in equal parts in cold weather, but reduce the corn in warm weather. I always throw the feed among shredded corn fodder, which I keep about 6 inches thick on the entire floor of the pen and keep meat scraps, grit, oyster shells, and charcoal before them all the time.

A. 28. Same as my breeding stock.

W. D. HOLTERMAN, Ft. Wayne, Ind.

BARRED PLYMOUTH ROCK SPECIALIST

A. 27. Everything that's good. Principally I use one of the prepared dry-grain poultry foods put up in 100 pound sacks. Next in favor is good wheat and good oats. Very little corn do I feed as I do not like its effect on the plumage. I do not use wet mash. I feed meat scraps and greens during the winter. One of the items I watch very closely is absolutely

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pure, fresh water at all times. Charcoal is my condition powder.

A. 28. Adult stock I feed dry foods three times daily. Will try hopper feeding.

H. E. BENEDICT, Horseheads, N. Y.

BUFF PLYMOUTH ROCK SPECIALIST

A. 27. All kinds of whole grain in litter. Green cut bone when I can get it; if I can't get green bone I use beef scrap, or use together clover, cabbage, beets, onions, and most anything they like. Keep grit and oyster shell before them all the time. I want lots of open fresh air work for them.

A. 28. Whole grain in litter, making them work for what they get, the same as breeding stock. I have found twice a day enough, if you have sufficient straw to make them work.

ARTHUR G. DUSTON, So. Framingham, Mass.

WHITE WYANDOTTE SPECIALIST

A. 27. I make up a dry mash and this is hopper fed, and at night I feed a ration of hard grains, usually one-third each, cracked corn, wheat and oats, in the litter. I raise mangels which are before them most of the time and cut clover or alfalfa is fed daily.

S. J. McQUILLIANDE, Metuchen, N. J.

WHITE PLYMOUTH ROCK SPECIALIST

A. 27. I feed twice a day, wheat, oats, barley and corn, also green bone.

C. H. WYCKOFF, Aurora, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 27. A good variety of the various grains obtainable, a little meat food of some kind, green grass, clover, or vegetables daily.

A. 28. Same as above. Feed three times a day.

W. R. GRAVES, Springfield, Mass.

WHITE WYANDOTTE SPECIALIST

A. 27. A mixture of grains, beef scrap, charcoal, grit and oyster shell.

A. 28. Twice a day.

J. W. PARKS, Altoona, Pa.

BARRED PLYMOUTH ROCK SPECIALIST

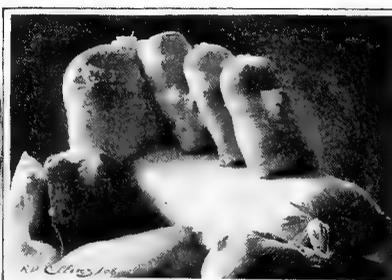
A. 27. We, of course, feed only clean, wholesome grain; in fact, the best of food and care are none too good for our birds. At present (November) we are feeding oats in litter for breakfast. We prefer to feed oats at this time, because while oats is one of our best bone, muscle and egg making foods, being high in protein, as a general rule it is hard to get chickens to eat oats, so we give it to them for breakfast, as this is the meal when they have the strongest appetite. Wheat or barley for dinner; for supper corn and wheat. We have dry mash in front of them in hoppers at all times. Our mash is composed of six parts corn chop, two parts oats chop, two parts middlings, two parts wheat bran, one part meat meal. We also add a little flaxseed meal, charcoal, salt and clover, short cut.

A. 28. We have no iron-clad rules for feeding our stock. As to what and how we feed, we are governed by the weather, the condition of the birds we are feeding, etc. We, of course, see that they get a ration for winter that contains a little more carbohydrates, or fat and heat-forming foods. We keep our mash before them in hoppers at all times, but make them work for their grain in litter in the scratching shed. This is not so necessary where our chickens have range.

W. L. DAVIS, WILLOW BROOK FARM,
Berlin, Conn.

BREEDER OF S. C. BUFF, BLACK AND WHITE ORPINGTONS

A. 28. Our adult stock is fed twice each day at the present time. Their food consists entirely of oats, wheat and barley. We feed but little corn as this has a tendency to fatten our stock, and we do not get the best results from same.



HOT WEATHER PROBLEMS

FIGHT INSECT PESTS UNCEASINGLY—THE NECESSITY OF SHADE AND PURE WATER EMPHASIZED

MRS. S. B. TITTERINGTON



It seems trite to say that each season has its own peculiar conditions and needs. Yet, to be successful in poultry raising, it is indispensable that one study and understand the requirements of each changing period.

One problem that comes to the front in the heated term is a question of ownership. Do we own the poultry houses, or have the lice and mites taken possession? When the sun's rays grow torrid and the ground becomes heated, then wooden walls absorb heat and insect enemies have their hour of triumph if they are not fought to a finish. Troubles develop with lightning-like rapidity at this season, and the hoped for success vanishes into thin air if proper precautions have not been taken.

It is not necessary to dwell on the methods of warfare which have proved effective in conquering insect pests. Every poultry paper has enumerated them scores of times. The thought emphasized here is the folly of carelessness and neglect.

For the careless and heedless poultry raiser is with us, and I fear always will be to the end of the chapter. If the consequences of this carelessness could be confined to the guilty ones, it would not matter so much. A rather extreme case recently under observation will illustrate this point.

AN EXTREME CASE

A certain poultry raiser (a woman, I am sorry to say) had her surroundings in as bad a condition as is possible to imagine. The yard was so low that except in a dry season or when not frozen in winter, it was a mud puddle. The poultry house was unworthy the name. It leaked through every inch of the broken roof; one side was entirely open, the roosts were too high for the fowls to reach easily and the floor was of dirt and the accumulated droppings of years. In wet weather water covered the whole area. Mites had taken possession of the dilapidated old shell, and preyed on the helpless fowls. When the poor birds were dying too fast, the woman would empty a coal-oil can as far as she could reach, which only checked the pests temporarily. A frosty, wet winter spent in such damp, unwholesome quarters gave the flock cold, and, as spring opened, they caught the roup from fowls purchased from a huckster's wagon. An expert who was called to see the aggregation of swelled heads, blind eyes and running nostrils, gave some strenuous advice in regard to getting rid of the entire lot, but the advice was not followed. Quite a number survived the epidemic, though many died. The disease spread to the flock of turkeys, taking every one. The living fowls layed a few eggs, and by buying more eggs from her neighbors, this woman manages to hatch out a good many chickens each year, only to have them take the roup later and die. The ground has become so saturated with the germs of the disease that of late men hired to work about the premises have carried the germs to their homes on their feet, infecting flocks as far as two miles away. These outside birds develop roup in its most malignant form. Who can say this woman's carelessness is not a public menace?

SHADE MOST IMPORTANT

To those without trees in their poultry yards the question of shade becomes a serious one. In this case, as in others, necessity becomes the mother of invention. Shelters can be

erected of boards but these are not so good as cloth or canvas, as the wood absorbs heat, but they are far better than nothing. Cloth stretched upon stakes, leaving an opening on all sides for the circulation of air, is particularly good.

By taking forethought in the spring, sunflowers and other tall growing vegetation may be planted, which will afford grateful shade when the hot days come. If a corn-field is accessible, the fowls will have an ideal summer home, with shade and animal food to be had for the scratching.

The problem of fresh water in hot weather needs careful consideration. The water fountains or troughs must not stand in the sun, or the water will become rank poison. Frequent replenishing is indispensable to the best interests of the fowls. This means work, but what success can be obtained without effort and plenty of it?

CONDITIONING BREEDING STOCK

A PROBLEM REQUIRING INTELLIGENT ATTENTION BUT NOT DIFFICULT TO SOLVE—NATURE'S CONDITIONS MUST BE FURNISHED—THE UTILITY OF EXERCISE IN PURE AIR—HOW TO DECIDE THE FEEDING QUESTIONS

H. A. NOURSE

The problem of conditioning breeding birds is by no means a difficult or intricate one. Any poultryman worthy the name selects each season, birds of the development and style that denote vigor and constitution, while selecting the shape required for the variety in hand. It is a fact that birds of standard size and shape are not produced year after year by any but healthy, vigorous stock and the breeder cannot avoid protecting the constitution of his strain when following the course necessary to produce good representatives of his variety. Constitutional vigor is the source of strong procreative power and is built up only by careful breeding for a term of years.

With this characteristic well established it remains only to maintain good health and normal condition of flesh to produce eggs which will bring forth chicks that will live, thrive and make a profit. In this connection it is safe to remember that appearance, although a good indicator of health, is by no means infallible and a bird may be in the best of condition, apparently, yet unable to produce a fertile egg. Supply the food and conditions required and trust to nothing less, whatever the appearances, to bring about the desired results.

Every effort should be made to conserve the energy and maintain the strength during the winter when conditions are largely artificial. This does not mean that all profit from the birds in a practical way must be lost or that a hen may not lay well during the winter and produce strong, fertile eggs in the spring. It is only necessary to build up day by day the vitality which egg production tears down, that the hen shall not be the loser. The best rule to follow during the winter is this: Provide as well as possible the exercise, fresh air and foods that the hen would get if allowed her freedom on a grass range in summer.

Of these, exercise is the most difficult to obtain. The dry grain may be fed in the scratching material and the methods of dry feeding now becoming popular, enable the feeder to get

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the most exercise for the grain fed. As the hen cannot range wide, she must dig deep and the scratching material upon the floors therefore should be deep and frequently renewed to keep it light and clean.

Fresh air is easy to obtain and costs nothing; yet it is rigidly excluded from some poultry houses where the moisture from the bird's breath, condensing upon the cold walls of the building, keeps the interior damp and the fowls unhealthy and the caretaker condemns the house as unfit, and the birds as delicate. But let the windows on the south side be opened wide whenever the temperature outside is not below twenty-five degrees above zero, Fahr., or open less in proportion as the cold increases and the moisture will disappear as fast as it collected, leaving the house dry and comfortable.

In severely cold weather or when winds drive snow or rain into the house, light frames filled with cotton cloth may be fitted into the space made by dropping or raising a window a few inches, admitting plenty of air, but preventing a draft. The use of these frames will make it unnecessary to entirely close the house even in the coldest weather. There is but little danger from the cold so long as the birds are at work and exercise not obtained in fresh air loses half its value.

These are important factors. Feed as carefully and as scientifically as you may, you cannot achieve success without them.

We cannot lay down a rule for feeding. What will produce good results in one yard will not always in another, because of varying conditions. Sufficient information upon the feeding values of all commercial foods and their effects upon the birds under various conditions has been published that a little experience and intelligent observation will enable one to compound the ration best adapted for his use.

The problem of supplying green food in cold weather has been practically eliminated; clover and alfalfa cured green, and mangel wurzels and cabbage may be had throughout the winter and furnish the required elements in an acceptable form.

Birds constitutionally strong, provided with the foods and surrounded by the conditions intended for them by nature will produce offspring that will live and thrive.

FALL AND WINTER WORK

DISINFECTION AND RENOVATION OF POULTRY BUILDINGS AND RUNS—WHITEWASH, HOW TO MAKE AND APPLY IT—SOWING GRAINS IN RUNS—RAT-PROOF, FLOORS—FALL AND WINTER CARE OF BREEDING AND LAYING STOCK—HOUSE VENTILATION IN COLD WEATHER—IMPORTANCE OF FRESH AIR—PREVENTION OF DISEASE

PRINCE T. WOODS, M. D.

September is a good month in which to undertake the fall poultry-house cleaning and general disinfection of the entire poultry plant. The chickens are or should be well grown, and the buildings and runs are in need of renovating after the hot, humid, dogday weather. So far as possible the buildings should all be put in order to make ready for housing the stock in winter quarters during the month of October or early in November.

A great many of the correspondents who write to the R. P. J. seem very much in doubt as to the simplest and best means of disinfecting or renovating their poultry plants, and the majority of them are inclined to make very difficult work of

what is a comparatively simple matter. The work must be done thoroughly to be effective but there is nothing mysterious or complex about it.

FUMIGATING WITH BURNING SULPHUR

On some plants where there has been contagious disease or where lice and mites have been allowed to multiply in great numbers, it is advisable to thoroughly fumigate the poultry buildings. One of the cheapest and most generally practiced plans is to fumigate with burning sulphur, using either the commercial sulphur candles or the common flowers of sulphur, burning the same in shallow pans. As a rule one sulphur candle or a quarter of a pound will serve to fumigate a room 10 feet square and not over 7 feet high. Fumigation with burning sulphur is one of the most economical and effective proceedings in the work of disinfecting and sweetening poultry houses.

When fumigating every living thing must be excluded from the building and all doors and windows tightly closed, and cracks and crevices plugged up. The sulphur or sulphur candles should be placed in small metal pans which should rest in quantity of moist ashes or earth, and should be so placed that they cannot possibly set fire to the building. A little blotting paper soaked in a saturate solution of saltpetre, and then thoroughly dried, when used as a wick placed in the center of a little heap of flowers of sulphur will prove an effective means of quickly setting fire to the sulphur. Simply light the end of the blotting paper and it will soon fire the sulphur.

After the sulphur is lighted and burning well leave the building and close it up tightly, first making sure that all live animals are out of the building. Leave the house closed for from 12 to 24 hours, then open all doors and windows wide and let the whole building air thoroughly. It should air out for two or three days before stock is allowed to use it. At this season of the year it will do the birds no harm to roost out of doors in roosting coops, boxes, or in an open shed or even in the trees, though if it is absolutely necessary they could be removed to another building while their quarters are being overhauled.

After fumigating remove six to eight inches of the top earth of the floors of the poultry buildings where earth floors are used, and carry this to some portion of the farm remote from the poultry buildings. If wood or cement floors are used remove all earth, dirt and litter and scrub up with hot water and plenty of yellow soap. Good results will be found to follow the use of one fluid ounce of creolin in each three-gallon bucket of wash water.

WHITEWASH—HOW TO MAKE AND USE IT

After fumigating and carting out the polluted top earth, dirt and old litter material from the floors, give the interior of the house a thorough whitewashing with good, freshly made whitewash applied if possible while still warm from slaking. A good whitewash for this purpose can be made by slaking quick lime with just a sufficient amount of water to make a thick paste, adding a pint of melted lard or other grease and a cupful of common table salt to each half bushel of lime while slaking. This lime paste should be further reduced with water to a consistency of thick cream. One fluid ounce of creolin may be added to each three-gallon bucketful of whitewash when it is ready to use. Apply with an old broom or coarse brush, slapping it on freely so that it will work well into the cracks.

Many poultrymen object to whitewash in the poultry-house because it rubs off. A receipt for a wash that will not "rub" is as follows: One peck of lime slaked in boiling water and kept just covered by the water while slaking. Strain through coarse cloth. Add two quarts of fine salt dissolved in warm water

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one pound of rice meal boiled in water to a thin paste, one-quarter pound of whiting, and half a pound of glue dissolved in warm water. Mix all thoroughly and let stand covered for two or three days; stir occasionally. Heat the mixture before using.

Be sure to wear old clothes and old shoes when whitewashing, as the lime is sure to injure cloth and leather. It is a good plan to wear a pair of automobile goggles to protect the eyes, and gauntleted gloves to keep the lime off the hands. Do not be afraid to put the wash on freely.

If you object to whitewash, the house can be freshened up and rid of vermin by fumigation with sulphur, or painting with paint or any of the wood preservatives; or spray the interior of the house with kerosene emulsion or with hot soapy water containing three ounces of creolin to the gallon of water. Whatever method you employ, be sure to air and dry out the house thoroughly before you permit the fowls to return to it. Never shut fowls up closely at night in a house that has been fumigated with sulphur during the day, the results will be disastrous.

The roosts and droppings boards should now receive attention and it is well to paint them with a good liquid lice killer, or else use a home-made lice paint made of kerosene in which has been dissolved all it will take up of crude naphthalene flakes, painting this thoroughly and freely on to the roosts and droppings boards.

All nests should be taken out of the building and whitewashed inside and out after they have been thoroughly cleaned. Or if you object to whitewash they should be cleansed with yellow soap and hot water, and then shellaced or treated with wood preservative. Leave them out in the sunshine to thoroughly dry before they are returned to the building. After the whitewashing or cleansing is completed fill in the floor with good fresh fairly coarse gravel from which the larger stones have been removed to replace the earth which has been removed.

FRESHENING UP THE RUNS OR YARDS

The runs or yards should next receive attention. They should first be swept up or scraped to remove the greater part of the accumulated droppings, which should be used as fertilizer on some other part of the farm. Then give the runs or yards a thorough top dressing with thoroughly air-slaked lime. This should be spaded in or plowed under and the ground leveled with a brush, harrow or rake. Seed down with winter rye or wheat and rake it in, and then run a roller over the ground to smooth it. Keep the poultry out of the seeded portion of the runs until the grain sprouts are at least two inches above the ground.

Care taken in the disinfection and renovation of poultry houses and runs in this manner will well repay the time and labor involved, as there will be practically no danger from disease where the quarters are given thorough treatment. In the spring the runs should again be scraped or brushed clean, the ground turned over and seeded down again to wheat, rye or oats. With the runs and houses treated in this manner the fowls will stand confinement well and illness will be conspicuous only by its absence.

In using air-slaked lime be sure that it is thoroughly slaked. Do not use it on the droppings boards, in the dust bath or in brooders or brood coops, as the fine particles of lime dust are very irritating to the fowls' respiratory organs, and its use in such a manner is liable to result in catarrhal disorders. Use either fine sand or fine ground land plaster mixed with loam on the droppings boards, or sawdust may be used as an absorbent if removed frequently.

All brood coops, brooders and other chicken fixtures should be thoroughly scraped, cleaned and whitewashed or washed with hot soap suds and allowed to dry in the sun before they

are put away for the season. We prefer to treat all brood coops to a good coat of whitewash on the inside. Brooders are scrubbed out with hot soap suds and afterwards rinsed with clear water. Occasionally creolin is used in the proportion of half an ounce to each bucket of water used for cleansing the brooders, but unless there has been sickness among the chicks it is not absolutely necessary to use it. Brooders are only whitewashed after the wood has become discolored and darkened.

RAT-PROOF CEMENT FLOORS

September will also be found to be an ideal month for erecting necessary poultry buildings, as they will have ample opportunity to dry out before winter sets in. During the past season we have had a great many requests from those about to build, for directions for making a rat-proof floor for poultry houses. The most satisfactory means we know of is to put in a well made cement floor.

The best plan is to dig out a pit about 10 inches deep from 6 to 8 inches wider on all sides than you intend the poultry house to be. This should be filled with stone and broken rock to within about one inch of the surface. Place boards around the outer edge to confine the cement. On top of this foundation build the cement floor. The best Portland cement should be mixed with coarse sharp sand in the proportion of one bushel of cement to each two bushels of sand, wet with just sufficient water to make a thick stiff mixture. The cement must not be wet and sloppy. This should be well tamped or beaten down from the top, using a flat spade or a piece of plank for the purpose. Build up two or three inches of cement in this manner on top of the foundation of crushed rock, then add a finish coating about one inch thick made of equal parts by measure, cement and coarse sand, this last coat being well smoothed off and the sills of the building set firmly into it before it hardens. Cover the job over until the cement is firmly set. When it is hard go about putting up the studs and the balance of the frame of the building in the ordinary manner. If the job is well done it will make an absolutely rat-proof house and one that will always be a satisfaction to the owner.

Three or four inches of sand, sandy loam or fine gravel should be filled in on top of the cement floor, the litter material being placed on top of this before it is occupied by the fowls.

Another quite satisfactory plan of making a rat-proof building where an earth floor is desired is to set the building on posts, run a 12-inch wide board down into the ground on these posts so that not more than 2 inches of it projects above the surface of the ground on all sides of the building. From this run 2 or 3 inches below the surface of the ground a 12-inch wide strip of quarter-inch mesh poultry wire projecting outward and downward from the 12-inch board to six or eight inches below the ground level. When the earth is replaced after putting this board and wire screen in position see that it is well and firmly tamped into position. Rats will very rarely burrow into a building so protected.

BREEDING AND LAYING STOCK

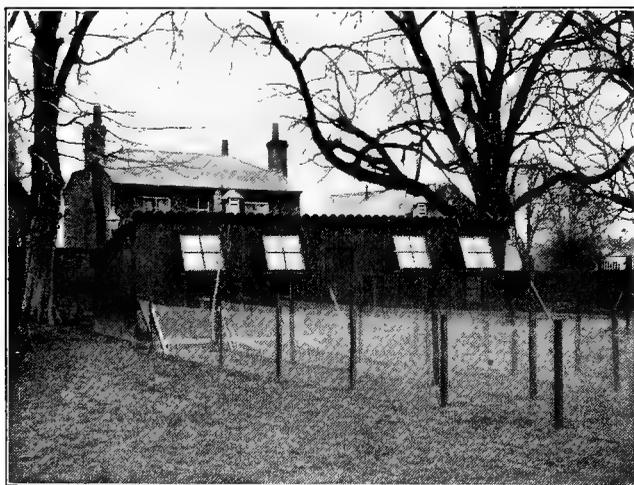
November first should find the breeding and laying stock safely housed in their permanent winter quarters. If the growing chickens have been properly cared for during the summer and early fall the first pullets should be well advanced in laying, while the later ones are making rapid progress toward beginning their work as egg producers. The yearlings and two-year-olds should have finished or be nearly through their molt, and should be plump and in good condition to resist the rigors of the coming winter weather. Birds that have received good care through the summer and autumn, if properly housed and fed on a variety of good wholesome food, can be depended upon

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to give satisfactory returns during the winter months. If they have been neglected and do not go to winter quarters in good condition, there will be little hope of getting them down to work until Christmas time or after.

IMPORTANCE OF FRESH AIR

Care must be taken not to shut these birds up too closely. As long as mild weather lasts the closed houses should be run as wide open as possible, at the same time taking due precautions to avoid drafts about the roosts. Those who are fortunate enough to possess one of the many good types of fresh air or open front poultry buildings will not find it necessary to give much thought to the matter of ventilation. The poultryman making use of the ordinary types of closed poultry houses will find this matter of ventilation one of vital importance at this season of the year. Where so-called fresh air or open front houses are used the birds are sure of a plentiful supply of fresh air at all times, and this is of the greatest importance in the prevention of late fall and early winter diseases. An



AN ENGLISH BROODER HOUSE

abundance of fresh air at all times is absolutely necessary for keeping the birds in the best condition of health and vigor. If one begins the practice of shutting the fowls up tightly in a closed house without due regard to proper airing at frequent intervals the birds are almost certain to develop catarrhal colds which later may result in roup. Thin drafts of cold air in a close house will sow the seed for more sickness during a single night than would ever make its appearance were the birds allowed to roost out in the open exposed to the elements, and too close confinement in any tight, ill-ventilated house is equally certain to be productive of disastrous results. The windows of these tight houses should be kept open night and day as long as weather will permit. When severe stormy weather comes, the windows may be closed at night to protect the fowls on the roosts, but should be thrown wide open for the greater part of the day, particularly when the sun can shine in. Even at night it will be better if some of the windows are left open and provided with muslin or burlap screens to keep out the storms. Failure to properly air a closed house results in dampness or "house sweating," and fowls cannot thrive in a damp poultry house. Houses that front south or a little east of south are usually the most satisfactory winter quarters.

MOVING FROM CLOSED HOUSE TO FRESH AIR QUARTERS

During the past two winters we have made it a practice to keep the windows of our closed poultry houses partly open

both day and night. Last winter at the time of the most severe weather we had occasion to purchase a number of breeding birds that had been kept in a closed poultry house. This necessitated removing a number of birds from one pen of our own closed poultry house to a fresh air house of the Tolman pattern. About half of the purchased birds were placed in another Tolman house. In spite of the fact that the new birds had been accustomed to tightly closed quarters not one case of sickness developed, not even a case of snuffles. Two cockerels that had been washed and prepared for the show and kept for nearly two weeks in a heated room were also taken direct from their shipping coops and placed in these open front buildings with no ill effect noticeable; in fact, all of these birds seemed to improve daily in health and vigor and continued throughout the season in the best possible breeding condition. We believe our home stock was also benefitted by the move into fresh air quarters.

ROOSTING OUT OF DOORS IS NOT RECOMMENDED

There is a vast difference between using well ventilated or open front, fresh air houses, and permitting birds to roost out in the open. Fresh air is essential to life and health. It is one of the best things that we have, but even our best possessions may be abused, and it is sometimes possible to have too much of a good thing. While roosting out of doors in the trees may be productive of no harm during summer weather and early autumn, we firmly believe that much harm may result by permitting them to continue to occupy these airy perches after the severe, changeable late fall and winter weather sets in. Birds kept under such conditions could not be expected to give satisfactory returns in either eggs or fertility. With an open front house they have all the advantages of the pure air obtained by sleeping in the open and none of the disadvantages. They are well protected by the tight roof overhead and the snug back and sides of their roosting quarters. The cold, chilling winds cannot reach them and storms cannot injure them.

ADAPTING TIGHT CLOSED HOUSES TO FRESH AIR PLAN

Of the many types of fresh air poultry houses the following rank as the best examples of satisfactory buildings for breeding and laying stock: The Maine Experiment Station curtain-front poultry house, the Tolman 8 by 14 colony fresh-air poultry house, the J. H. Robinson pattern of cheap poultry house with wide doors which open the entire front, and Dr. Bricault's convertible "new idea" poultry house possessing a two-part door in the front of each pen, the upper half of which may be made to give place to a burlap or muslin screen. Nearly all closed poultry houses may be adapted to the fresh air plan by simply substituting a screen of heavy unbleached muslin for the upper half of one window in the south front of each pen, provided the house possesses sufficient depth to permit the birds to roost in the rear portion without being exposed to direct drafts.

No one need fear frosted combs or wattles in a well aired house, if the birds have been accustomed to open windows or open front quarters from the beginning of winter. The only cases of frosted wattles that we have had during the past two winters occurred in close buildings where the windows were left closed at night through oversight on the part of the attendant. The combs were not touched because our birds have rose combs that are not liable to be frosted.

Of equal importance to a plentiful supply of fresh air is a liberal ration of good, sound, wholesome food in reasonable variety, and plenty of pure, fresh water. There is no necessity for a very elaborate ration. Simple food formulas prop-

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erly applied have been found to give equally as good results as any of the elaborate mixtures adopted by those who have a passion for so-called scientific feeding.

EXERCISE IS IMPORTANT

As birds in winter are more or less confined to the poultry house we must supply an incentive to exercise to keep them out of mischief in the form of acquiring bad habits, like feather pulling and egg eating, as well as to keep them in good condition with keen appetites. The best exerciser is an abundance of deep, clean litter. Sweet new straw undoubtedly makes the very best litter material, though leaves, chaff, and even planer shavings may be used. Hay is not desirable for litter, since the birds are almost certain to eat it and become crop bound. Litter material must always be clean and sweet, never mouldy, musty, damp and rotten litter will give rise to canker, chicken pox, and other diseases even more dangerous to the life and welfare of your flock. Prevention of sickness by good management is far preferable to treatment and cure after disease is established.

DRY FEEDING—A SIMPLE RATION

One of the simplest and most successful food rations is a combination of two or more good sound grains, fed together with a plentiful supply of animal and vegetable food. Two-thirds dry, sweet, sound, cracked corn or whole corn mixed with one-third heavy clipped white oats (wheat or barley may be substituted for the oats if the price makes it advisable), makes an excellent ration for both laying and breeding stock. It may be given in a food hopper or the grains may be fed separately in different compartments of a trough or hopper, or used as daily scratching food rations in deep litter. The method of feeding is adaptable to suit the convenience of the feeder. Where the birds are hopper fed it is advisable to occasionally scatter a few handfuls of grain in the litter. This is best done daily at watering time, and we usually make it a practice with our hopper fed birds to take a few handfuls of whole grain from the food hoppers and scatter it in the litter when we make our morning round to fill the water pails. For these birds we keep a food hopper containing mixed grain in one compartment and pure beef scrap in another before them all the time. They also have a plentiful supply of grit, oyster shell, charcoal and pure water. Vegetable food like raw potatoes, raw turnips, beets, cabbages, and any other available green food is fed freely, as much as experience has taught us that they will clean up during the day. If the last supply was not promptly cleaned up they get less at the next feeding. This plan of feeding has given quite as good results as any other that we have tried, and it is a plan followed by many poultrymen who make their livelihood by supplying fresh eggs to the markets.

SIMPLE RATION POPULAR FOR HALF A CENTURY

There is nothing new about this simple method of poultry feeding. As long ago as 1864 the State Board of Agriculture of Massachusetts advocated a similar ration for laying fowls. We quote the following from an article by Mr. E. A. Samuels published in the report of the Board of Agriculture for that year:

"The poultry house prepared and the flock selected, the farmer should see that they have proper care and food; that unhealthy fowls are restored or removed; that those hens which incline to sit are provided with eggs; and that the chickens when hatched are taken proper care of. Fowls in confinement require an abundance of pure water, ashes to dust in, and nourishing food. Of grain, equal parts each of Indian corn and oats is very acceptable; at least three times a week scraps of meat should be thrown in to them, and a supply of crushed oyster

shells or clam shells should be accessible at all times. Green sods also thrown frequently into the fowl-yard will be of great advantage. These few attentions are all that are necessary with laying hens."

These simple rules for poultry feeding have continued to give satisfactory results for nearly half a century. They have been improved upon by keeping a supply of beef scrap always before the birds instead of throwing in meat scraps three times a week, and prepared green foods together with raw vegetables are now freely used to supply a substitute for the green sods that are not always obtainable.

Another excellent dry food ration for winter feeding is the plan of keeping before the birds all the time a supply of dry mash consisting of one-fourth corn meal, one-fourth beef scraps, and one-half wheat bran thoroughly mixed together and fed dry in boxes or hoppers. In addition to this either two or three regular feeds are given daily, of dry grains scattered in the litter, consisting either of a mixture of cracked corn, oats, wheat and barley, or the grains fed separately, making corn about 50 per cent of the total amount fed. Green food, consisting of cut clover or alfalfa or else a supply of fresh raw vegetables, is fed freely. The cut clover or alfalfa may be fed dry, but gives best results, as a rule, if scalded and lightly seasoned with salt.

MAINE EXPERIMENT STATION RATION

A third and more elaborate dry ration is that recommended by the Maine Experiment Station. The method of feeding breeding and laying birds in winter employed at this station is as follows:

Early in the morning each one hundred hens receive an allowance of four quarts of screened cracked corn scattered in the litter. The litter consists of clean straw 6 or 8 inches deep. At ten o'clock the birds have another feed in the litter consisting of two quarts of wheat and two quarts of oats. No other regular feeding is done. A food trough with a slatted front extends along one side of the pen. In this is kept a supply of mixed dry meals, the so-called dry mash. This dry meal mixture is composed of the following materials: 200 pounds wheat bran; 100 pounds corn meal; 100 pounds wheat middlings; 100 pounds of either gluten meal or dry brewer's grain; 100 pounds linseed meal; 100 pounds beef scrap. These meals are thoroughly mixed together before being used in the food trough. The trough is never allowed to remain empty. Oyster shell, dry cracked bone, grit and charcoal are kept accessible to the fowls at all times. Pure water is always before them. They are also given a supply of mangolds or other raw vegetable food, and have an allowance of about five pounds of cut clover fed dry daily to each one hundred birds.

The Maine Station reports that birds fed on this ration average to lay twelve dozen eggs each during the year, this average being for the entire flock. This station has in one yard 80 birds each one of which has laid from 200 to 250 eggs in a year on this same ration.

There is less labor involved in feeding hens according to the dry method than in any other plan of caring for them, and this appeals strongly to many poultry keepers who cannot devote much time to their birds. To date all experiments tend to show that the results in fresh eggs in winter are quite as satisfactory where the birds are fed by the dry methods as they are where moist mashes are used. There are, however, many who still adhere to the moist mash plan of feeding and for the benefit of those who prefer this method we give a few of the least elaborate and most satisfactory moist mash rations.

MOIST MASH RATIOS

In feeding moist mashes it apparently makes little difference whether the mash is fed in the morning, at noon or at

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night, although the birds fed on an evening mash will undoubtedly take much more exercise and be more easily kept in good condition than those that receive a heavy feed of bulky warm mash earlier in the day, which disposes them to seek some quiet place to sleep off the effects of the hearty food with which they gorged themselves.

A good moist mash may be made of four parts (by measure) of wheat bran, one part ground oats, one part ground barley, one part meat meal or beef scrap, and one ounce of salt. This should be thoroughly mixed together dry and wet up with warm skim milk or water. It should never be made sloppy, should always be dry and crumbly, and may be fed warm but never hot. Feed in clean troughs as much as the birds will eat up cleanly and quickly in from fifteen to twenty minutes. The other meals for the day should consist of grain scattered in the litter, fifty per cent corn, and wheat or oats, about twenty-five per cent each, fed separately or mixed together. Usually two feeds a day will be sufficient, one feed of mixed grain in the litter and one feed of mash at night. Some prefer to give three meals, allowing a second feeding of dry grain in the litter at noon. Green food, pure water, charcoal, shells and grit should be freely supplied. The only important variation in other moist mash methods of feeding is in the composition of the mash itself.

A commonly used and very satisfactory mash is made up of equal parts bran, corn meal and middlings, with 10 per cent beef scrap and 15 per cent scalded cut clover or alfalfa.

Another excellent mash may be made of equal parts corn meal, ground oats and bran, mixed with warm sweet skim milk into a moist crumbly mash. Ten to fifteen per cent of scalded cut clover or alfalfa should be added to this mash to give bulk as well as supply desirable green food.

SOME SUGGESTIONS

There are many other very satisfactory food rations that will give good results in winter egg production. Any one of the above rations can be depended upon to give satisfaction if properly fed. The chief requirements are that the food be wholesome, that there be a reasonable variety, a plentiful supply of food to keep the birds in good condition, and sufficient incentive to exercise to keep them busy. Whether two or three meals are given daily is a matter of comparatively little importance where regular meals are fed. Personally we prefer but two regular meals a day for breeding or laying stock, and where the birds are hopper fed we aim to keep a little grain in the litter to encourage them to scratch. As a rule moist mashes should not be fed oftener than five times a week, as the stock is liable to tire of it and so get out of condition. Good pure beef scrap may with safety be kept before the birds all the time, either in combination with the dry mash or separately as may be desired, but fresh meat, blood, or green cut bone should be given sparingly and seldom fed oftener than three times a week, the amount fed and the frequency of feeding depending chiefly upon the condition of the birds as indicated by the droppings. Any tendency to watery looseness of the bowels indicates the desirability of cutting down the supply of fresh meat food. Looseness of the bowels in fowls fed on moist mash calls for less bran or less meat food and more middlings. If the looseness persists powdered charcoal should be added to the mash, or the moist mash food should be stopped entirely and the fowls put on a dry grain ration until the droppings again become normal. Fowls fed on moist mashes will frequently void large quantities of wet droppings, while at the same time laying heavily. With such birds it will be common to find that they are laying large watery eggs that cannot be depended upon to hatch well. Dry fed birds produce plenty of good, large sized eggs that are full meated and never watery.

In conclusion, we want to say most emphatically that no matter what sort of a ration you may now be feeding, if it gives you satisfactory results in good large eggs and plenty of them, with a fair percentage of fertility, do not drop your present plan of feeding for the sake of adopting one that is new to you simply because it is giving good results for others. Where desirable results are being attained it is well to "make haste slowly" when it comes to a matter of changing your method of feeding.

VEGETABLE OR GREEN FOOD

IS AS ESSENTIAL AS GRAIN OR ANIMAL FOOD—THE MOST SUITABLE VEGETABLES FOR POULTRY AND HOW THEY SHOULD BE GROWN AND FED—HOW TO "RAISE CHICKENS AND A GARDEN, TOO."

J. D. STEVENS, Denver, Colo.

The proper feeding of fowls confined in yards the greater portion of the year, and which cannot be allowed their liberty by reason of garden, lawn, shrubbery, etc., is a matter which has taxed the ingenuity of the poultry keeper for many years. The bewildering array of poultry "foods" advertised in all the poultry journals throughout the country, which, according to the statements of their manufacturers, contain all the necessary elements required by the fowls for their best development, best laying, best fattening, best molting, etc., respectively, are no doubt good, but, like the numerous infants' foods advertised, they do not contain all the elements necessary for the best health and development.

Fowls which have free range over orchards and fields do not need any of these foods. They will be able, as a rule, to gather all that is necessary for their best development. But fowls which are kept confined in yards during the summer months, have not this opportunity to properly balance their ration and in order to keep them in a thriving and healthy condition, we must endeavor to supply them with those things which they would obtain if given their liberty. To do this requires considerable forethought, planning and labor, and, in feeding and experimenting with the multitudinous foods above mentioned, as we are all apt to do in an endeavor to get the greatest revenue possible from our fowls, we are apt to overlook one very important element in the diet of our flock, viz.: green food.

"GREEN FOOD IS AS NECESSARY AS GRAIN OR MEAT"

This green food, or vegetable food, is just as necessary to the fowls as the grain or meat ration; in fact, during the late winter and early spring when fertile eggs are needed, it is absolutely essential that they have, regularly, a good supply of green food. Steamed clover or alfalfa leaves are a good substitute, but these can not take the place of the fresh, succulent leaves of the lettuce, cabbage, etc., or the juicy root of the mangel-wurzels, and if you want the eggs to run high in fertility (and of course you do during the season above mentioned) you must give your fowls the freshly grown leaves of such vegetables as they will eat.

For very early spring food we have nothing better than lettuce. The seed of this plant is perfectly hardy and can be sown in the fall. If it is lightly mulched, the seed will lie dormant during the winter and will start immediately upon the first warm days of spring, thereby being available for food several weeks sooner than that which is sown in the spring.

THE MANGEL-WURZEL IS THE STAPLE GREEN FOOD

Our main staple greenfood, however, is the mangel-wurzel, and the excellence of this vegetable for poultry should be more

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thoroughly recognized than it seems to be at the present time. It can be planted as early in the spring as the ground can be worked; as soon as the roots begin to grow, it can be thinned to about six inches apart and the tops fed to the poultry, alternating it with the lettuce. After the roots have reached a considerable size, and the crop of lettuce is, perhaps, exhausted, the outer leaves of each root can be broken off, without in any manner retarding the growth of the root; in fact, we think it increases the size of the mangel-wurzel to break off a certain amount of these outer leaves.

It is thus available for green food well into the summer, and when the roots have attained a good size, they also can be fed to the flock, and it is a delight to the heart of every true lover of poultry to watch with what seeming relish the hens will attach a big, juicy, white-meated mangel-wurzel, eating it out to a mere shell. In our opinion, it is the one ideal food, being absolutely tasteless and thereby imparting no disagreeable flavor to the eggs, as a continued diet of cabbage or onions will invariably do, and the flock never seems to tire of it. It is easily kept in any root house or cellar where there is no danger of freezing and is always at hand, in a convenient form for their daily ration of green food during the winter and early spring months. We always endeavor to have at least a ton of mangel-wurzels every fall, and now that we know their value, would hardly do without them.

Another good green food for winter is the cabbage. They make an excellent food if not fed too liberally, for the reasons above stated, and we feed them in conjunction with the mangel wurzel. The hens do not relish them, however, as they do the latter.

We also feed, in the mash, cut alfalfa or clover leaves, as these are rich in protein, and therefore good egg-producing food, and if you are unable to supply the cabbage or mangel-wurzels, the alfalfa and clover is the best substitute you can find. But raise the mangel-wurzels if you can. One trial will convince you that you can scarcely do without them.

"WE HAVE FOUND NOTHING BETTER FOR CHICKS THAN LETTUCE"

Not only is this green food necessary to the adult fowls, but brooder chicks, which are confined in yards, should also have their daily ration of green stuff. We have found nothing better for chicks than lettuce, as the leaves are very tender and if a bunch is fastened up where they can pick it, they will dispose of it in a very short time. They should have it every day, particularly if they are confined in runs. This vegetable is easily grown and by planting the seed a few weeks apart in the spring, a succession of fresh green food can be had all summer. It helps the chicks to digest their grain ration, thereby keeping them healthy and active, and is just as necessary to their growth as the heavier foods. It also adds bulk to the ration and consequently saves the necessity of feeding a higher-priced food, thereby cutting down the cost and adding to the profit.

Try the different "foods" if you wish to; some of them are excellent for the purpose for which they are intended, and the most of them are like the old lady's medicine—they will do no harm even if they do no good—but in your experiments with them, do not forget that all-important necessity to the health and growth of your flock—green food.

Under penalty of incurring the editor's displeasure by making this article too long for convenience, we nevertheless wish to speak of one more matter, which, although it might be made the subject of another article, yet is so closely connected with this question of green food, that it may well be combined under the same head. We refer to the poultryman's garden.

THE POULTRYMAN CAN HAVE A GOOD GARDEN

We often hear it said, "You cannot raise chickens and a garden, too." This, under ordinary circumstances, is doubtless true. But here again, with the exercise of a little forethought and planning, and with scarcely any outlay of money, the obstacle can be overcome and the poultryman can have a good garden. It is only necessary to protect the garden for a few weeks in the spring when the young vegetables are just coming up, at which time the chicks do the most damage. And where one looks to his poultry for his living, and not to his garden, it is much better to fence his garden away from the poultry than to fence his poultry away from the garden. In other words, protect your garden so the chicks cannot damage it, and let them have their liberty. Here is our scheme:

THE GARDEN SHOULD BE ENCLOSED

Our vegetable garden is a plot of ground approximately five rods square, situated just north of our dwelling, the driveway to the barn running between the garden and the house grounds. Around this garden plot we set posts, nailing to them at the ground a foot wide board. From the board to the top of the posts we have stretched such pieces of wire as we have happened to have; some of it being four feet, and some being two feet wide, and in the latter case, we have stretched one above the other, fastening the edges together making it four feet. This gives us a five-foot fence, which is plenty high enough for all purposes. A wide gate admits horse and wagon when we wish to manure the ground for spring planting.

As soon as our brooder chicks are well feathered, we release them from the runs and allow them liberty of the ten acres. The foot wide board sitting close to the ground prevents them from getting under into the garden, and they are, by that time, too large to jump through the meshes of the wire, and after trying it a few times they give it up.

By this method we are able, not only to grow all the lettuce, etc., required for them while in the runs, but are also able to have an abundance of all kinds of fresh vegetables for our own use during the early summer. As soon as everything is well up, say by the first of July, we let the chicks have the liberty of the garden also. The only vegetable they attack is the lettuce and this is by this time so large and thrifty that what little they eat does not hurt. They spend most of their time hunting bugs and worms and thus prove more of a benefit than a nuisance. Besides all this, they have their liberty to roam where they please and are much more healthy and vigorous than they would be if constantly confined in yards. You can raise chickens and a garden, too, by adopting this plan, and both yourself and your chicks will profit thereby.

IN FAVOR OF TRAP-NESTS

TRAP-NESTS STRONGLY INDORSED BY ONE WHO HAS TESTED THEM—RESULTS MORE THAN PAY FOR EXTRA WORK—MANY PET THEORIES EXPLODED—TRAP-NESTS NOT NECESSARY DURING WHOLE SEASON—INTERESTING FACTS DISCLOSED

F. J. WEHRMEYER

Get along without trap nests? I would as soon get along without any poultry as to attempt it. Scarcely a day passes but that we sing their praises, and each one is looked after and for, as some special blue-ribbon bird would be, or as an engineer on a fast train sees to it that his watch is in good running order.

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Are trap nests of more importance to the bred-to-lay strain than to their equally valuable sisters, the show-bred birds? No; they are an absolute necessity to both. No matter which kind of bird it may be, the real interest centered in it after all depends upon "eggs," the egg from which it came and the eggs it may perchance lay.

Too much extra work connected with their use? Some extra work to be sure, but not too much! The questions often arise in my mind, "Does the average buyer appreciate the efforts put forth by the breeder who is doing all this extra work, and do buyers consider the use of trap-nests and all it means and make it a factor in their decision when they want to buy?" I answer, (as far as I am concerned) I do not care about that, the fact is they are indispensable, in short—a necessity, they are likewise a source of great pleasure to the true lover of poultry. One gets acquainted with his fowls to such an extent that instead of considering them as a flock, you learn to know each one individually; and this learning is mingled with pleasure and regret. Pleasure, when some unpromising bird surprises you with doing or developing what you least expected; regret, when the "Beauty" of the whole flock proves a flat failure in more than one way. We learn that many of the "fattest" hens are great layers and also that many of the leanest are great layers; that some with the reddest combs lay regularly and some with the palest do the same thing, and some of both kinds do not lay at all. And so our trap nests keep teaching us right along.

HEAVY WINTER LAYERS

When we first installed trap nests we kept a year's record of all eggs beginning with the first egg laid as a pullet, counting from November first. We then used only the heaviest layers as breeders the next year. We continued in this practice until the facts were forced upon us by the records kept, that all the "big layers" were "big" only from the fact that they began laying the earliest and continued laying regularly during the winter months of December, January and February. Those that did not lay heavily during the winter months never caught up and hence were not numbered among the heavy layers at the end of the year. No use imagining that those that rest up during winter make up by doing better the rest of the year. Our experience denies this.

Convinced of the fact that the heavy layers were the winter-months-layers, and seeing no special reason for knowing exactly how many eggs any special individual laid, we could no longer see any advantage in keeping a record the whole year, and so we adopted the new way, and trap the pullets beginning November first. Then those not laying reasonably early are discarded at once; and again those not laying or equaling the average during the winter are also discarded. This leaves you nothing but good layers. The next fall, after molting, these pullets—now yearling hens—go into winter quarters preparatory to the breeding pens, and again our "best friends" the trap nests are set and put into use.

Experience with trap nests has taught us that all heavy layers in their pullet year do not prove heavy layers as yearlings. Many breeders are puzzled to learn that certain individual record breakers do not, as yearlings; produce the eggs they naturally expected. This has been brought to my notice by more than one. There is no accounting for this. Such hens, as we find them, are immediately discarded and not used in our breeding pens.

Our birds being selected and mated and our pens or yards being filled with these heavy layers, and the hatching season coming on, we trap every bird and number every egg, and as soon as possible incubate eggs from each one to test fertility. We use a small machine for this work, running it at 103 degrees

and add eggs any time and test on fourth or seventh days. We find all eggs laid by certain hens will not prove fertile, but it shows how they run.

Now then, the oft times repeated saying that the heavy layers prove inferior as breeders owing to the heavy drain upon their vitality, etc., has proven to be all "imagination," as far as our experience has shown. Again this very season, in February, we found among our very best layers hens that laid as early as November 10th, while still running at large, hens that became broody in December and were broken up and once in particular that went broody in December and again the week before the Cincinnati show, Jan. 16, and was broken up and exhibited among other entries both at Cincinnati and Chicago. These birds went right on laying, and their eggs run largely fertile—nine out of ten—and strong at that. These are facts. So much for the theory that the eggs of heavy layers prove infertile or are found deficient in strength.

QUESTION OF FERTILITY

We have cases where every egg laid by certain hens proves infertile. We are told that where the eggs from pens run largely fertile and some hens from the same pen lay infertile ones, the fault usually lies with the female. This does not hold good always. We take such hens and place them alone with the same male and leave them together for two days, and then place him in the regular pen, and so on, alternating him with the two sets of hens. Again we incubate eggs from these hens and find them largely fertile. We have had this experience again this very season. Our pens, or more properly speaking yards, consist mostly of ten females. This ought to prove that while the male is not at all incapacitated, he nevertheless shows favoritism. We had two unusually fine birds whose eggs were all infertile but by this means they now run strongly fertile. One of these we had not tested and had given a hen eleven of her eggs, and imagine our surprise to test on the seventh day and find all eleven to be infertile. Instead of having to use some other male we followed our way of penning them alone with excellent results.

SOME THINGS LEARNED

All this is accomplished by the use of trap nests. They also familiarize you with the kind of an egg each one lays, and some very unpromising eggs as far as looks are concerned, have proven to furnish fine birds. The hens not kept for breeding are separated according to whether they are laying or not. This not only gives the layers more room but by different feeding methods we help the non-layers along surprisingly. They are fed sparingly on fattening foods and are kept very busy hustling. This stimulates their laying organs and develops them.

While all the foregoing uses of the traps are very essential, the most important use consists in our being able to keep exact track of the breeding stock, their pedigree, mating, etc., also in keeping accurate records of every egg set. When hatched the chick is marked with a punch and entered in our book and later on numbered and the pedigree noted.

The eggs, too, frequently indicate the condition in which the hen is. Trapping will point out the one you want. While the White Wyandottes (the breed we keep) lay an irregular egg at best, you soon become familiar with each one's eggs so that you detect the slightest change.

In conclusion I wish to state that we do not believe in a 200-egg strain any more than that every prize winner will beget a prize winner, but we do know that by the use of trap nests you can breed and pick the best layers from your strain of layers. By continuing this practice of breeding from these

THE MATURE FOWLS

picked layers, their progeny will certainly develop larger laying tendencies. This surely will bring "Better Poultry and More of it."

HOW TO GET HATCHABLE EGGS

WINTER AND EARLY SPRING EGGS FOR HATCHING—THE IMPORTANCE OF HEALTHY BREEDING STOCK—HOUSING SUGGESTIONS—GREEN FOOD AN ESSENTIAL—GOOD MOIST AND DRY RATIONS

P. T. WOODS, M. D.

Every season much disappointment is caused by a low percentage of fertility in the winter and early spring eggs or the failure of such eggs to give satisfactory hatches. A part of the trouble is attributed, and justly so, to the severe cold weather, which affects the condition of the breeding stock. It is not to be expected that birds which have exhausted their vitality in resisting a long spell of extreme cold weather will be in suitable condition to supply eggs that will hatch well. But some breeders get eggs that give them very satisfactory results. Every year there are breeders who produce hatchable eggs that show a good percentage of fertility for the season in which they are laid. If other breeders will adopt the same practical and reasonable methods that are in vogue with these successful men, they too will get good hatchable winter eggs.

It is not practical and it is not reasonable to expect the same percentage of fertile eggs early in the season that can easily be obtained later, when the weather has become warmer and more settled. The generative organs are not as active and in the male not as fully developed in the winter as they are during the spring months,—the natural breeding season. This latter is a well-known physiological fact and can be readily demonstrated by post-mortem examinations of male birds at different seasons of the year. In many cases such conditions may account for low fertility where apparently the birds are receiving the best of care; but if ordinary precautions are used in selecting the male bird it need not prove a very serious obstacle.

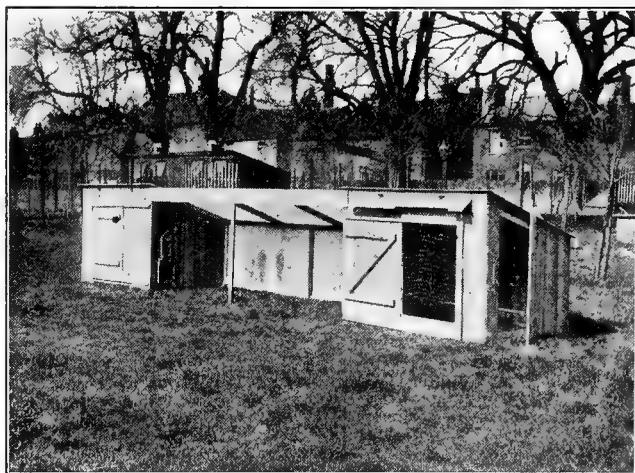
THE BREEDING STOCK

It should always be remembered that from a breeder's standpoint the male bird is, to all practical intents and purposes, one-half of the pen which he heads, and for this reason it is very necessary to observe great care in the selection of the male; he should be sound, vigorous, active and in the very best physical condition. Unless he is active and attentive to his flock he will be of very little use as a breeder. His actions should be carefully watched and the eggs from his pen tested frequently to ascertain the percentage of fertility. If the percentage of fertility is not satisfactory it will be well to try another bird. Oftentimes, early in the season, results are more satisfactory if the male is only allowed to run with the pen for a week at a time and is then cooped by himself, in a small, comfortable coop like an exhibition coop, in some building where he cannot hear or see the hens. Many breeders adopt this method and practice what is known as "alternating males." Male No. 1 being allowed to run with the flock for a week, while male No. 2 is confined in a small coop; then male No. 1 is removed from the flock and confined while male No. 2 takes his place, and so on throughout the breeding season. Whether this practice of alternating males is adopted or not, it is always advisable to have a few reserve male birds for use in case those heading the pens do not prove satisfactory.

While the selection of the male is a matter of great importance, the selection of the females is equally important. The hens must be chosen primarily for physical health and soundness; unless they are strong, healthy and vigorous the results will not be satisfactory. All other matters are of secondary importance to health. It should be borne in mind that the female, to a large extent, governs the size and shape of the progeny, the male apparently having very little influence in this regard. For this reason, while large sized females may be used, it is always better to have a medium sized male. A small, active male is to be preferred to a large, clumsy, heavy one. Very large male birds seldom give good results at the head of a breeding pen.

Never use any bird for breeding purposes until it has its adult plumage. Breeding birds of either sex should be well grown, fully matured, of good size and vigorous. Yearlings may be mated with yearlings and very satisfactory results obtained, but it is seldom advisable to mate a cockerel with pullets. For pullets use either a yearling or two-year-old male. With yearling or two-year-old hens it is best to use a good, active, vigorous cockerel.

Never attempt breeding from a bird that has had a serious



HOUSE AND SHELTER FOR CHICKS

illness during the year even though it has apparently recovered. Remember always that there is a deal of truth in the saying that "like produces like," and that if you wish to have the greatest possible number of hatchable eggs that will produce strong, sturdy chicks, it is absolutely essential that the breeding stock be in the best possible condition.

In a great majority of cases where chicks die in the shell, at various stages of incubation or at pipping time, and in many cases where they die without apparent cause during the first ten days after hatching, the trouble is directly traceable to the condition of the breeding stock. Unsound, debilitated, improperly fed breeders cannot and will not produce eggs containing strong germs or properly proportioned yolk-food. Unless the germs are strong and unless the yolk-food is well balanced, good chicks cannot be obtained.

SUGGESTIONS AS TO HOUSING

Breeding birds should be comfortably housed, but this does not mean that they need to be pampered or to have specially constructed poultry houses or buildings supplied with artificial heat. The men who are getting the best results in producing eggs that hatch well in the winter season, house their birds in

SUCCESSFUL POULTRY KEEPING

what are commonly spoken of as cold houses. These are tight, well-made buildings, either provided with scratching sheds where the fowls can have a sheltered place to exercise and are at the same time supplied with an abundance of fresh air, or closed houses having windows or doors in the front which are opened wide daily to admit a large volume of fresh air and practically convert the house into an open shed. In such buildings the birds keep in better health and are less liable to colds than when confined in warm houses and houses supplied with artificial heat.

It is a well-known fact among practical poultrymen that a fowl will catch cold quicker from a small current of cold air in a warm poultry house than it will from similar exposure in a cold house; while colds among poultry housed in cold houses, that are run wide open for a large portion of the day every day throughout the winter, are almost unknown.

In the matter of housing the safest plan is to provide comfortable, tight buildings, so arranged that they can be thoroughly aired and sunned daily while the birds are exercising. Keep these buildings practically wide open throughout the day except on very stormy days. In most localities there will be very few days in winter when the house cannot be kept open for a few hours during some portion of the day. Such houses should always be closed at least an hour or two before dark and remain tightly closed all night. Keep the houses clean and in a sanitary condition. Filth and success are sworn enemies and are never found on the same poultry plant. Care should be taken not to overcrowd the poultry buildings and there should not be more fowls in the pen that can find comfortable roosting accommodation. As a rule it is a good plan to allow about ten square feet of floor space per breeding bird and not to run more than 15 or 20 birds in a pen, according to the variety. At this point it may be well to state that there is often a great difference in breeding males as to the number of hens they can properly care for; some males cannot properly serve more than eight or ten females, while others will easily take care of 20 or more. In this matter the breeder will have to exercise his own best judgment and he should be careful not to overtax the ability of his breeding males, preferably giving them fewer, rather than more, females than they can easily take care of.

Bear in mind that exercise is of vital importance in keeping the breeding birds in good condition and for this reason they should receive a large proportion of their dry grain food fed in deep litter. It is the active, busy, hustling hen who is always scratching in litter and may be found at almost any time buried tail deep, with straw flying in all directions, that produces the eggs that hatch best. Any good litter material may be used, either straw, chaff, corn-stover or planer shavings, and this should cover the floor of the breeding pens from six to ten inches deep. Leaves may be used, but they do not make as satisfactory litter material as either straw or shavings.

After the snow comes breeding stock should always be kept confined to poultry houses until the weather becomes settled in the spring. Dry earth floors, well littered, are very satisfactory, but if there is any tendency of the earth floor to be damp or wet, a wooden floor is more desirable. Do not allow breeding birds to run out on the snow and ice or to eat frozen grass or weeds.

FOODS AND FEEDING

Given sound, healthy breeding stock, well housed, the food and the manner of feeding it plays a most important part in the getting of fertile hatchable eggs. It is not necessary for the breeder to trouble himself with regard to the chemical composition of the grains or the nutritive ratio of the food fed so long as he supplies his birds with an abundance of good, wholesome food in variety. It is much better to allow the

birds a reasonable opportunity to balance their own rather than for a breeder to attempt to prepare a scientifically balanced food, the formula for which is based largely on guesswork, haphazard reading and theory. The average healthy fowl instinctively knows what it wants and what its system craves and can be trusted to balance its own food ration if given an opportunity. This should not be construed to mean that the poultryman should entirely ignore the chemical content of the foods he supplies his flock. The government chemists supply us with ample and authoritative information as to the constituents of all the foods available for poultry feeding.

We know that the grains like wheat, barley, corn and oats are well proportioned in regard to protein, carbohydrates, fats and mineral matter. We also know that clover and alfalfa are rich in protein and mineral matters, possess health-giving properties and supply the necessary bulky food without which the digestive organs of the fowl will not work properly. We also know that in beef scraps and other meat food we have a product rich in animal protein, differing in some not thoroughly understood way from vegetable protein, and very essential to the life and health of the fowl. If we know this we have little need to worry ourselves concerning the chemistry of foods, provided we give the birds an opportunity to select what they need as they require it.

Wheat, barley and corn are named because they are the most desirable and most easily obtainable grains, as well as the most economical. Oats, if of good quality, may be substituted where barley cannot be obtained. Barley and corn can be made to answer if wheat is scarce and high. Heavy wheat bran is desirable for use in dry or moist mashes. The coarse light bran contains more fibre and is of less value. Clover or alfalfa is necessary to afford roughage and supply a substitute for the anti-scorbutic and medicinal properties of fresh plant life. Breeders who use clover or alfalfa freely and encourage their fowls to eat it, get the best results in fertile eggs.

It is not possible to get strong, well fertilized, hatchable eggs where birds are forced for egg production by feeding concentrated mash foods. Mash food too freely or too often will result in large watery eggs that will not hatch well. The free use of moist mashes also tends to create more or less disturbance of the digestive organs, resulting in looseness of the bowels or some other evidence of lack of perfect condition. This does not mean that mashes should not be fed to breeding birds, but that rich mash food should never be pushed with a view to getting the greatest possible egg production if the eggs are intended for hatching purposes.

Highly concentrated mashes, containing quantities of beef scrap or other meat food, should not be fed to breeding stock. Any considerable amount of scrap or other meat food fed in the grain mixture has a tendency to create digestive disturbances and it is the belief of the writer that nearly all of the trouble which has been experienced by those who feed mash foods is due to the use of meat and animal fats in the ground grain, moist mash mixtures.

A MOIST MASH RATION FOR BREEDING STOCK

Where it is desired to feed breeding stock according to the moist mash method, the following will be found a desirable plan for feeding: Scald a quantity of cut or mealed clover or alfalfa, sufficient to form one-fourth to one-half of the bulk of the mash for your flock, into this stir a mixture of equal parts by measure of heavy bran and coarse corn meal or equal parts by measure of corn and oat chop and heavy bran. Mix the whole into a crumbly mash as dry as possible and feed either morning, noon or night, according to the convenience of the breeder. When fed at night this mash should be followed by a feed of mixed hard grain. Adopt some regular plan of feeding and stick to it. If you start with a morning mash, make it

THE MATURE FOWLS

always a morning mash. Whatever time you select for feeding mash be sure to have it come at the same feeding time each day. No matter what else you may neglect do not fail to see that your birds have regular meals or, if you dry feed, that they are always supplied. Careless, or irregular feeding methods are sure to upset the condition of the stock.

If the birds do not take kindly to the clover in the mash, use only a very small quantity at first and gradually work it up as the fowls become accustomed to it. The other feeding should be a mixture of hard dry grains fed in the litter.

A good scratching grain mixture can be made of 30 pounds each of wheat and barley to 40 pounds of freshly cracked or whole corn. Keep grit, oyster shell and dry, pure beef scrap constantly before the birds in a grit box or food hopper. In addition to this, whenever obtainable, hang cabbages in the pen for the birds to work at, or split beets or mangel-wurzels in halves and nail them, cut surface outward, to the studding of the poultry house, at a convenient height for the birds to pick at.

A GOOD DRY FOOD RATION FOR BREEDING STOCK

Use dry grain scratching food in the litter consisting of the same dry grain mixture mentioned above, or made of 30 pounds coarse cracked or whole corn; 30 pounds wheat; 30 pounds barley; 7 pounds kaffir corn, and 3 pounds sunflower seed. This should be scattered morning and night in deep litter, always keeping a sufficient amount of grain in the litter so that the birds can find a kernel by scratching for it. Keep dry, pure beef scrap constantly before the birds in one compartment of the food hopper; keep the other compartment of the food hopper filled with a dry grain mash mixture made as follows: 40 pounds of corn; 20 pounds barley, and 20 pounds of wheat ground together to a medium coarse meal, add to this 20 pounds of heavy bran and mix thoroughly, dry. This should be fed dry from the food hopper, never moistened, and should be always kept before the birds.

Scalded or steamed cut clover and alfalfa should be fed three or four times a week. The water used in scalding the clover should be seasoned with a little salt. If the birds will not eat the clover plain, add a very little cornmeal to the clover. Stop using the meal as soon as the birds eat the clover readily. Whole cabbages, when obtainable, should be hung up in the pens for the birds to pick at. Feed mangel wurzels or beets split in halves and nailed to the studding, cut surface out. Keep grit, shell and pure water constantly before the birds.

Where only a few fowls are kept table scraps may be fed to advantage if thoroughly cooked. Cook them until they easily mash up or fall apart, boil down the scraps until there is as little liquor as possible, then add a mixture of equal parts by measure, clover or alfalfa, heavy bran or corn meal in sufficient quantity to make a crumbly mash. Feed only as much of this as the birds will eat up clean and quickly and give them a good scratching grain mixture in litter for other feedings. Where moist mashes are fed do not give mash oftener than five days a week.

“DRYING AND FLUFFING” PEN

FOR FITTING STANDARD-BREDS FOR SHOW, WHICH WAS USED WITH GREAT SATISFACTION FOR MANY YEARS AND WAS A VALUABLE ADJUNCT TO OUR PLANT—HOW TO WASH AND DRY AND IMPROVE THE APPEARANCE OF EXHIBITION FOWLS

F. C. HARE

High-class fowls in perfect show condition are necessary for capturing the blue at any of the American poultry shows.

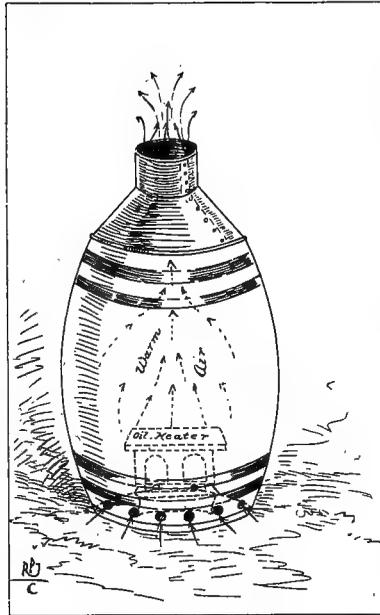
The standard-bred business has grown to such a large and important industry that the competition in the more popular classes is certain to be extremely keen, and interesting in all the others.

The older members of the poultry fraternity have learned so many secrets and tricks of fitting fowls for the show, and they have so many ways of “doctoring-up” what an amateur would believe to be an irreparable defect that the latter finds it difficult to win even a Highly Commended at a show of moderate size. Suitable advice for the amateur breeder is for him to keep everlastingly showing and constantly seeking information and if his stock is of high quality and simply unplaced because it is improperly fitted or conditioned, success will come to him in one or more years.

Fitting fowls for the shows is a constant theme in the poultry press. In fact during the past year several instructive and practical articles have appeared in the R. P. J. dealing

with this important and necessary branch of the poultry business. This type of “fitting” article usually presents detailed directions for the successful washing of fowls, but unfortunately does not explain clearly how the fowls should be treated after they are washed, or from the time they leave the rinsing tub until their plumage has returned to its original dryness and beauty.

It seems advisable at this time to present a complete system for fitting standard-breds for the show rather than to indicate simply our process of drying and fluffing the fowls.



THE BARREL DRYER

By holding the wet fowl over the mouth of the barrel dryer, slowly drying portions of the plumage—such as under the wings, back, etc.—can be specially heated and made to dry uniformly with the remainder.

THE NECESSARY APPLIANCES

Thorough washing and the proper subsequent treatment will improve the appearance of almost every fowl whether its color is white, black or an intermediate shade or shades. From four days to three weeks before the show (depending on whether you will wash one, two or three times) the fowls you contemplate exhibiting, together with some three to ten more, should be brought to a warm room where the washing can take place. A wash-boiler of boiling water (preferably rain water); two tubs for colored birds and three for white; a dipper; ivory soap; hand brush; sponge; several coal-oil stoves and numerous cheap towels or squares of cotton should be ready.

It is imperative that the soap used is a good toilet or bath article and that the water is soft or rain, because we once had an unfortunate experience with a certain hard water and soft soap, in which the lime of the water formed a sticky combination with the soap; became attached to the fowls and required a

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great amount of work to remove. The fowls' chances, moreover, were ruined for the show.

The tub in which the fowls are washed is two-thirds filled with water of a temperature equal to that in which a person would enjoy a hot bath. The tub for rinsing is filled with cold water (with the chill removed) and where the third tub is used the temperature of the water in that tub is the same as in the second.

The coal oil stoves in the drying or fluffing pen should be burning in order that the temperature of the pen will be sufficiently warm to insert the fowls as soon as they are washed. The pen will be described later.

WASHING THE FOWLS

Before the fowls are placed in the washing tub, their feet and legs should be thoroughly cleaned with a hand brush, soap

The back is first soaked; then the saddle or cushion and under plumage. Care is exercised not to break any feathers by rubbing them backwards—they will stand almost any amount of "with-the-web" and diagonal rubbing.

While the fowl is in the tub the wings are extended and carefully washed with the sponge, the feathers being supported with the palm of the left hand; the tail feathers are washed in a similar manner.

From the washing tub the fowl is placed in the moderately cold rinsing water. Here the dipper and sponge are used to thoroughly remove the soap from the plumage. With white fowls a third tub of slightly blued water is necessary; the water, however, must not be too blue or it will streak the plumage.

When the fowl is taken from the rinsing tub it is placed on a table and the superfluous water is removed with the sponge. Afterwards the plumage is carefully "patted" with a towel; then the fowl is ready for the drying and fluffing pen.

THE PEN WAS A VALUABLE ADJUNCT TO OUR PLANT

This pen was designed for use in a cellar warmed by a furnace and where there was no range or open fire place before which the fowls could be dried. It was used with great satisfaction for many years and was a valuable adjunct to our plant. The heat of several coal oil stoves (one stove for each foot in length of the pen) was utilized, and by means of these stoves the birds could be dried-off and fluffed in a few hours. They afterwards presented a more attractive appearance than if they had been ten or twelve hours drying in the orthodox manner of "sitting before a fire." A pen six feet long will accommodate from eight to ten fowls, even if several are matured males—there will be no fighting on the roost.

By boring a number of one and one-half inch holes near the bottom of a barrel and placing a coal-oil stove in it with a cone-shaped galvanized-iron top, slowly drying portions of the plumage, such as the juncture of hackle and back feathers underneath the wings, etc., can be hurried and a uniform drying produced.

THE CONSTRUCTION OF THE DRYING AND FLUFFING PEN

The drying and fluffing pen is of the following simple construction, and can be easily erected: Length 4 to 6 feet; height 5 feet; width 2 feet. There is a 3 by 2-inch roost (the fowls stand on the 3-inch face) 2 inches above the lower compartment. The back and ends and the lower half of the front are built of lumber; the four corner pieces are 2 by 4 inches in dimension.

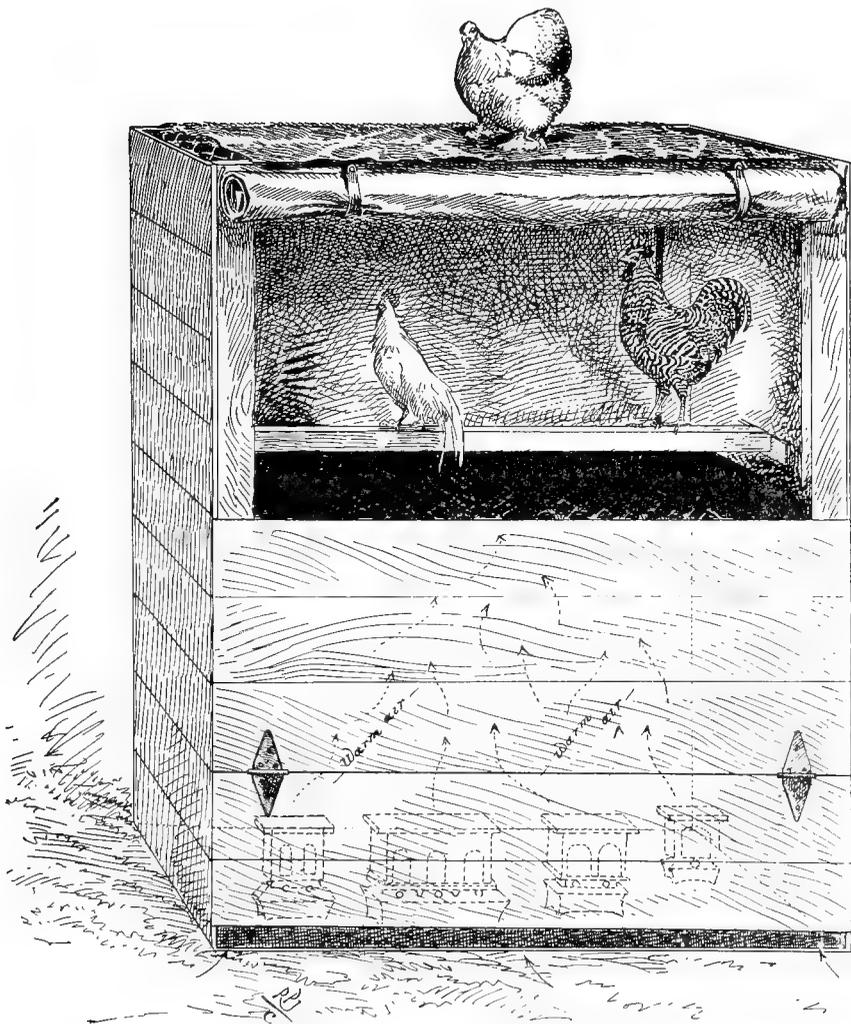
The tops of the lower and upper compartments are covered with one-inch wire netting to prevent the fowls falling to the ground. A piece of burlap can be lowered to inclose the front of the open compartment and another piece is used to cover the wire top.

The washed fowl is placed on the roost of the pen and the front and top curtains are drawn to increase the temperature. If the temperature of the pen seems too high, a corner of the front curtain is pinned back; if more ventilation is required the top curtain is partially removed.

THE DRYING AND FLUFFING PEN

After the fowls are washed they are placed on the roost of the drying and fluffing pen; the front curtain is lowered and the warm air rapidly dries their plumage. During the drying, heavily-feathered varieties can have their plumage "fluffed" and greatly improved in appearance.

and hot water; dirt on the head or face should be removed with a damp cloth. The fowl is grasped with both hands and stood in the washing tub. A lather is made with the soap and sponge and this lather is worked into the plumage with the hands.



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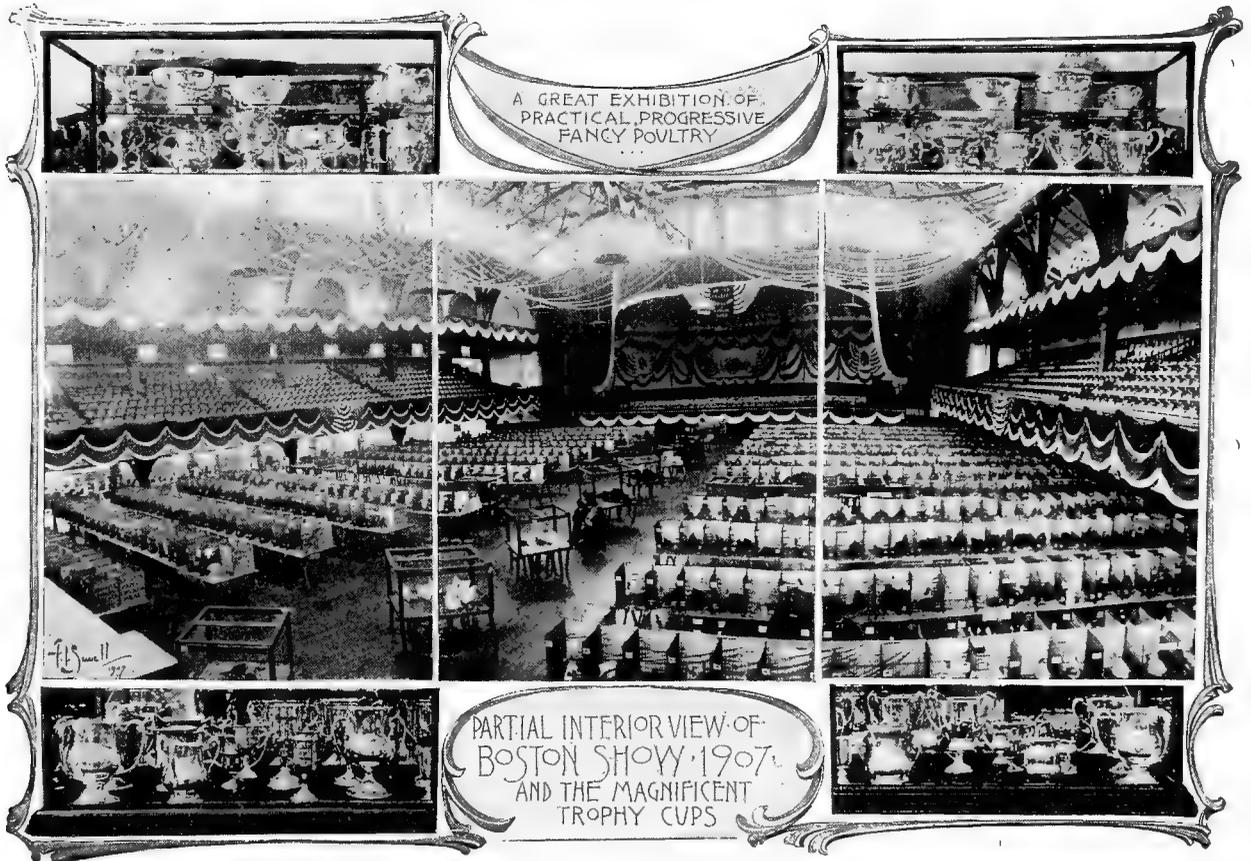
DRYING AND FLUFFING THE FOWLS

The washing of the other fowls can proceed until all are washed, and during that time it is advisable to have an assistant separate the plumage of each wet fowl (without removing it from the roost) and in this manner to make it possible for the warm air to dry out the fluffy feathering next the skin. The fowls that were washed first will be partially dried before the washing is completed.

Afterwards both operators stand in front of the pen and by continuing to open the fowls' plumage, and by utilizing the barrel dryer the feathers are dried rapidly.

There is one suggestion that should be observed; that is, that the fowls of the loose feathered varieties should have their soft feathers turned back constantly until they are perfectly dry—the result being apparently one-third more size and fluffiness; the fowls of the tight-feathered varieties must not have the feathers opened more than is necessary to dry the interior.

While in most cases one thorough washing and drying is sufficient, yet with certain fowls it is often advisable to wash the second and third times—in fact, white fowls will improve in appearance as much in the second and third washings as they did in the first. The second and third washes and drying are, of course, conducted similarly to the first.



CHAPTER SEVEN

INCUBATION AND BROODING

NATURAL AND ARTIFICIAL METHODS

LEADING SUCCESSFUL BREEDERS STATE THEIR EXPERIENCE IN HATCHING AND REARING CHICKS—MAJORITY FAVOR ARTIFICIAL METHODS FOR GREATER PART OF FLOCK—A SMALL PER CENT HATCHED BY HENS—HOW TO HATCH, BROOD AND FEED CHICKENS



UCCESSFUL hatching and rearing chickens is one of the branches of poultry work that is of equal importance with proper care and management of the breeding stock. The two go hand in hand. One must have good, sound, healthy breeding stock well cared for in order to get strong, sturdy chicks. No matter how hardy a chick may be when hatched or how good the condition of the parent stock, unless it is properly cared for and well fed the results may be discouraging. That is why these intimately related branches of poultry work, condition, care and management of breeding

with poor tools. Some hens are indifferent sitters and poor mothers.

Some incubators and brooders may be inferior when results are considered. To be on the safe side get and use only the best that can be obtained. Choose mature hens for sitters, that have a mild disposition and are quiet and motherly. So far as possible use yearling or two-year old birds that you have tested and which proved good mothers in their pullet year. For machine work get incubators and brooders that you know by reputation, and that have established a good record for doing the work required of them and doing it well.



A PAIR OF STANDARD BRED WHITE PLYMOUTH ROCKS

stock and the hatching and rearing of chicks, are considered equally important.

It is essential that the work of incubation be well and properly done, although with sound stock in good condition poor hatches are of rare occurrence. No matter whether you hatch by natural or artificial means you cannot afford to work

The majority of well-known poultrymen are today using artificial means of hatching and rearing chicks, at least for the greater proportion of the chickens they raise each season. Many of these men, practical poultrymen and fanciers of wide experience, state that they cannot see any difference between the quality and size of stock produced by artificial means and

INCUBATION AND BROODING

that mothered by the old hen, while they are able to get chicks in larger numbers and at whatever season of the year they want them by machine methods without the difficulties and trials attendant upon the so-called natural methods.

In this chapter we present articles telling about incubator cellar and brooder house, but still more important we tell how to obtain best results in hatching and brooding chicks by both natural and artificial means. The beginner and veteran will each find much that is both interesting and instructive in the following pages and a careful study of them should enable the reader to hatch and grow chicks successfully.

Believing that a symposium by some of the leading successful breeders would prove of great value for study and comparison, we prepared the following questions to be answered by them:

Q. 29. If you use incubators, what proportion of all the chicks you hatch each season do you hatch artificially and about what per cent of the whole by the natural method?

Q. 30. If you use brooders, how many newly-hatched chicks do you place in each brooder?

Q. 31. What do you feed little chicks?

Q. 32. How do you feed chicks, also how often?

The replies which were received in time for publication are given herewith, each beneath the name of the breeder answering our questions. Each question is given a number and each answer is numbered to correspond with the question asked.

W. L. DAVIS, WILLOW BROOK FARM, Berlin, Conn.

BREEDER OF S. C. BUFF, BLACK AND WHITE ORPINGTONS

A. 29. I hatch about three chickens in the incubator to one by hen. Incubators are so improved that you can hatch fully as successfully by incubator and rear by the improved methods of brooding, as you can by the hen. I consider a great percentage of loss of chickens is saved by getting rid of lice and vermin that generally come by having chickens hatched with hens.

A. 30. Our brooder house is 50 feet long, and divided into sections of 5 feet each. We generally put in about 50 chickens to each brooder, and meet with success that way.

A. 31. Little chickens that are just hatched are fed as soon as practical, and are fed mostly on stale bread and beef scrap. We continue this feeding right up to the day they are put into the breeding yards.

A. 32. Our young stock we feed three or four times a day. Their rations consist chiefly of oats, wheat and barley, also one feed each day of stale bread soaked in water, but the water is pressed out of same and the bread food given to the young stock in a moist condition.

W. R. GRAVES, Springfield, Mass.

WHITE WYANDOTTE SPECIALIST

A. 29. Seventy-five per cent with incubators.

A. 30. Not over 50 chicks for best results.

A. 31. Prepared chick food until large enough to eat cracked grains, then a mixture of different grain in right proportion to make a good growing food.

A. 32. Five or six times a day on that, gradually reducing to three times when weaned from brooder or mother.

WILBER BROS., Petros, Tennessee

S. C. WHITE LEGHORN SPECIALISTS

A. 29. We certainly use incubators, a standard make, which hatches artificially with great satisfaction our hundreds

of fine birds each year. The hen is seldom ready to sit or at her post when wanted.

A. 30. We use only brooders and 40 to 50 chicks will do fine in them, and when properly run, one seldom loses a chick.

A. 31. Our young chicks are fed from shell to age of ten weeks on a prepared chick food after which they are fed three times daily on a variety of mixed grain and cracked corn scattered broadcast in litter, sparingly except at night when they are fed a full feed.

A. 32. When chicks are first hatched they receive nothing for 48 hours, when they are moved to brooders and a light feed of chick food is scattered in litter four times daily for first two weeks, and gradually cut as age advances to three feeds daily.

J. H. DOANE, Gouverneur, N. Y.

BREEDER OF S. C. BLACK MINORCAS AND WHITE WYANDOTTES

A. 29. Until the present (1906) season hatched about 75 per cent of all chicks hatched with incubators. Being well convinced that incubator chicks are fully equal to those hatched in the natural way, with the added advantage of getting rid of all vermin, we used incubators exclusively with quite satisfactory results.

A. 30. Not to exceed 50, and 25 makes a nice bunch in one family.

A. 31. Have found nothing yet to equal the prepared chick food offered for sale by different companies.

A. 32. A chick that is old enough to eat is not too young to be fed in litter.

J. W. PARKS, Altoona, Pa.

BARRED PLYMOUTH ROCK SPECIALIST

A. 29. Ninety-five per cent with incubators.

A. 30. This of course all depends on the brooder and the place it is located. I generally put about half as many chicks in a brooder as it is rated at. Not over 50 in one flock.

A. 31. We generally start our chicks on bread crumbs browned in the oven and moistened with boiled milk. We give them a supply of fine grit before we take them from the machines, in other words, we take our trays out and scatter grit on the nursery floor, and leave them in there for a day. After they are a few days old we start them on a chick food and give them a little green stuff right along. After they are ten days or so old we begin to feed a little fine beef scrap along with the other feeds.

A. 32. We feed whatever foods we can in fine cut straw for the chicks so as to induce them to take exercise. We of course give them their first few feeds on small boards or on heavy paper, and give them what they will eat up clean. We feed about five times a day for the first few days, and then down to four times, and after they are about three or four weeks old and able to work pretty lively we feed only three times.

BRADLEY BROS., Lee, Mass.

BARRED PLYMOUTH ROCK SPECIALISTS

A. 31. Meal, ground wheat and barley, best ground scraps, mash. Later, cracked corn, cracked wheat, broken rice and small buckwheat. Mash is partially cooked over fire and when cool more meal is added to make it dry and crumbly. Meal, ten parts; scraps, one-half part; ground stuff, one-half part. Increase all but meal as birds grow.

A. 32. Four times a day. See 31.

SUCCESSFUL POULTRY KEEPING

C. H. WELLES, Stratford, Conn.

BARRED PLYMOUTH ROCK SPECIALIST

A. 29. I use incubators for all my early chicks and some of the later ones. The incubator is indispensable to the fancier, market poultryman, or the small breeder.

A. 30. About 50. Don't crowd the chicks.

A. 31. A commercial chick food the first three or four weeks. After that, foods that make bone and muscle; whole wheat, hulled oats and meat scraps principally.

A. 32. I keep it by them all the time in dry food hoppers.

FRANK McGRANN, Lancaster, Pa.

BREEDER OF SINGLE COMB BLACK MINORCAS, BARRED PLYMOUTH ROCKS, WHITE WYANDOTTES, AND SINGLE-COMB WHITE LEGHORNS

A. 29. About 75 per cent artificially.

A. 30. Not more than 50 chicks.

A. 31. For the first two days I feed a mixture of toasted bread and cooked infertile eggs, then I add chick food until they are ten days old, when I cut out the bread and eggs entirely. Then I begin feeding meat scrap in small quantities and also greens of some kind, charcoal and grit before them all the time. When the chicks are about six weeks old, I commence feeding cracked corn, and continue this until they have matured.

A. 32. Scatter the feed in cut clover and feed four times a day until the chicks are six weeks old, and then only three times a day.

W. D. HOLTERMAN, Ft. Wayne, Ind.

BARRED PLYMOUTH ROCK SPECIALIST

A. 31. I feed little chicks a dry grain mixture such as is put on the market by different manufacturers. I start them on this and feed them nothing else for the first three weeks. Then I begin with a little hulled oats and wheat.

A. 32. I feed them absolutely dry foods, nothing wet or even moist. Every two hours they are looked after and fed a little. They do not receive any water the first two days. In this way I succeed in getting them started with very little trouble or loss.

H. E. BENÉDICT, Horseheads, N. Y.

BUFF PLYMOUTH ROCK SPECIALIST

A. 29. Seventy-five to 90 per cent by incubator, and from 10 to 25 per cent by hens.

A. 30. From 25 to 50, according to the size of the brooder.

A. 31. Dry chick food until large enough to take whole wheat, cracked corn and such grains. Give them chick grit the first thing. They should have sunshine, fresh air and exercise.

A. 32. Feed them little at a time and often, every two hours at first and every three hours until well started.

A. B. TODD, Vermillion, Ohio

S. C. WHITE LEGHORN SPECIALIST

A. 29. All of my hatching is artificially done and hatch about 80 per cent of all fertile eggs.

A. 30. About 40 and not more than 60.

A. 31. Feed some good chick food in hoppers.

A. 32. Cracked grains such as corn, wheat, millet, kaffir corn, beef scraps, hopper fed, with plenty of water, and milk when it can be had. Feed all sweet or all sour milk; do not mix the two, thus avoiding sickness.

EDW. KNAPP, OF KNAPP BROS., Fabius, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 29. We use incubators for hatching all our stock.

A. 30. We place about 75 chicks in each brooder.

A. 31. Dry bread crumbs for first two days, then we believe in johnnycakes properly made to crumble nicely with meat scraps added interspersed with chick food best quality fine granulated grains.

A. 32. We feed in long shallow troughs what they will pick up quickly every two hours at first, gradually coming to three feeds a day.

H. J. BLANCHARD, Groton, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 29. All chicks hatched by incubators and raised in brooders.

A. 30. Forty to 60, according to the season and weather.

A. 31. First feed grit and bread crumbs or commercial chick food. Water, not very cold. Chick food is continued for



HEALTHY, VIGOROUS, YOUNG STOCK ON FREE RANGE

about five or six weeks alternated with johnny cake, after which this feed is gradually discontinued and a dry mixture of corn meal, wheat bran and alfalfa meal takes its place. Whole wheat and cracked corn gradually take the place of the chick food and the dry mash is continued right along with the addition of some high grade beef scraps. When the chicks are quite small and not able to run out and pick grass we feed them short cut clover or lawn clippings which they enjoy. Also keep grit and charcoal before them.

A. 32. First few feeds given on clean sand in brooder, then scattered in cut straw, cut clover or bran chaff until chicks get outdoors when the chick food is scattered in short grass when dry. The dry mash is first fed on small boards with a lath

INCUBATION AND BROODING

around the margin and later in shallow troughs. First two or three weeks we feed five times daily, then four and lastly three times.

A. & E. TARBOX, Yorkville, Ill.

SILVER LACED WYANDOTTE SPECIALISTS

A. 29. Seventy-five per cent by the incubator, 25 per cent by hens.

A. 30. Forty to 50 chicks.

A. 31. A patent chick meal, mixed grain chick feed.

A. 32. Feed five times a day. Feed the grain in litter so as to keep them busy; the meal on boards or in troughs.

F. W. RICHARDSON, Hicksville, Ohio

BARRED PLYMOUTH ROCKS EXCLUSIVELY

A. 29. Hatch about 50 per cent artificially and about 75 per cent hatch; about 65 to 70 per cent natural method.

A. 30. Thirty-five to 40.

A. 31. Chicks are fed on chick food for the first five or six weeks; if this is not to be had, oatmeal is fed sparingly, together with cracked wheat, cracked corn and millet seed, with plenty of sharp grit always before them.

A. C. HAWKINS, Lancaster, Mass.

BREEDER OF WHITE, BUFF AND BARRED PLYMOUTH ROCKS, SILVER, BUFF AND WHITE WYANDOTTES

A. 29. I hatch nearly all my chicks by the natural method.

A. 30. Fifty.

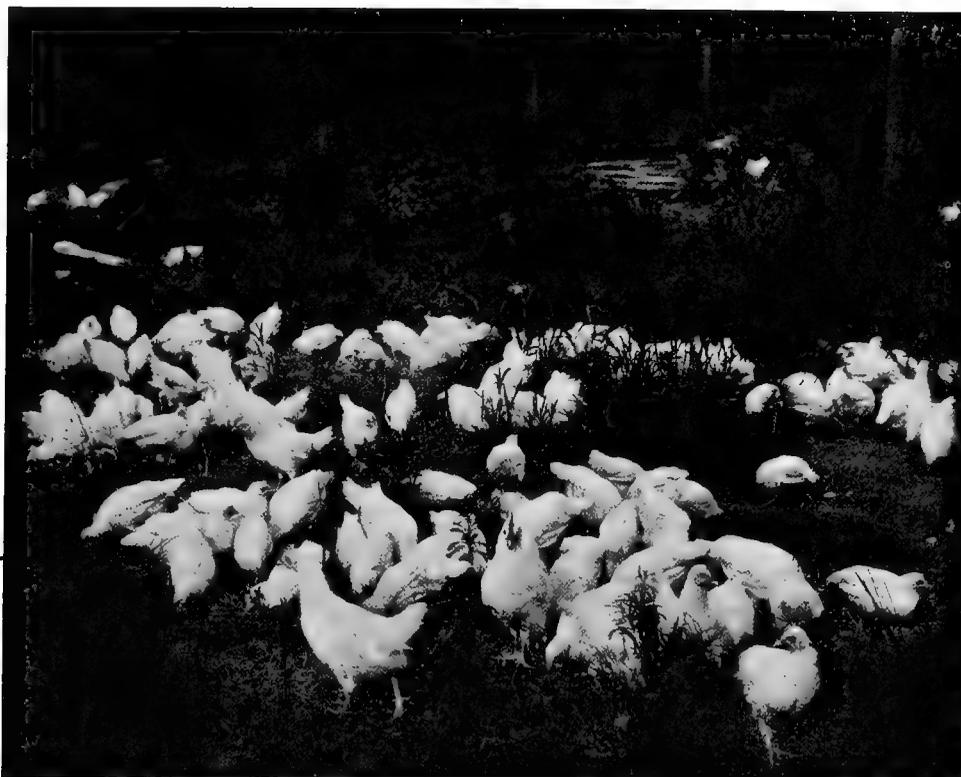
A. 31. Chick food and a mash of three-fourths corn meal, one-eighth middlings and one-eighth ground oats cooked in milk.

A. 32. I feed chicks at 5 a. m. and every three hours until dark, a feed of chick food and a feed of mash alternately.

J. C. FISHEL & SON, Hope, Ind.

WHITE WYANDOTTE SPECIALISTS

A. 29. Nearly all by incubators, only a few late chicks by hens in order to let our breeding hens have a rest.



AN ARTISTIC GROUP OF WHITE LEGHORNS

A. 31. Feed on pinhead oatmeal, toasted or oven dried bread, and cracker crumbs. Fine grit and water to drink.

A. 32. Like hopper feeding best with a good variety of mixed grains, beef scraps, grit and shell, and give lots of range.

A. 30. About 50 chicks to a brooder.

A. 31. Mostly prepared chick food of some reliable make.

A. 32. As many as five and six times a day until feathered, then we hopper feed them. That is the correct way after a certain age.

CHAS. E. VASS, Washington, N. J.

BREEDER OF SINGLE AND ROSE-COMB BUFF ORPINGTONS AND SINGLE-COMB WHITE AND BLACK ORPINGTONS

A. 30. Not over 75 chicks in 150 chick brooder, reducing to half the number in three weeks.

U. R. FISHEL, Hope, Ind.

WHITE PLYMOUTH ROCK SPECIALIST

A. 29. We hatch everything by incubators.

A. 30. We place 65 chicks in a 100-chick size brooder.

SUCCESSFUL POULTRY KEEPING

A. 31. Prepared chick food.

A. 32. We feed chicks first week about every two hours, feeding in cut straw, making chicks work for the feed.

THOMAS F. RIGG, Iowa Falls, Iowa

BREEDER OF HOUDANS AND WHITE WYANDOTTES

A. 29. Practically all chicks are hatched in incubator and raised in brooders.

A. 30. Not more than 25 chicks. I adhere to this firmly.

A. 31. Chick food and mash. Begin feeding mash when chicks are a week old. Scald it with boiling water.

A. 32. A mash and a mixture of corn, wheat, barley, oats, millet and buckwheat, all cracked.

W. R. CURTISS & CO., Ransomville, N. Y.

BREEDERS OF WHITE WYANDOTTES, SINGLE-COMB WHITE LEGHORNS AND MAMMOTH PEKIN DUCKS

A. 29. Our average hatch for eight months is about 70 per cent. We hatch 90 per cent of our chicks with incubators.

A. 30. Fifty, not over 75.

A. 31. Mixed grains cracked fine.

A. 32. Keep food in litter before them all the time.

J. H. JACKSON, Hudson, Mass.

WHITE WYANDOTTE SPECIALIST

A. 30. Not over 50 in the largest brooder; 25 or 30 in smaller brooders.

A. 31. Only chick food up to about six or eight weeks old, then sometimes a little mash with some scraps in it about four times a week for a change, also wheat and plenty of cracked corn, grit, also plenty of fresh clean water.

W. B. CANDEE, De Witt, N. Y.

WHITE WYANDOTTE SPECIALIST

A. 29. All hatched in machines.

A. 30. About 50.

A. 31. Use a dry feed in hoppers from the start, small dish each containing fine grit and charcoal from the start placed in brooder, fresh water in porcelain fount every day; this is washed thoroughly and in weather at all cold this water is warmed. Never let the founts get entirely empty. When about two weeks old begin to give a little beef scrap or good lean meat cooked, also something in the line of green stuff; have used cabbage, beets, green oats, and lettuce.

A. 32. Treat as in 31 until four or five weeks old, then give dry mash before them all the time and get them from the fine chick food on to fine cracked corn and wheat, and get them to three feeds a day as soon as they go to the colony house, which is when about six weeks of age.

ROWLAND G. BUFFINTON, Somerset, Mass.

BREEDER OF BUFF, SILVER PENCILED AND COLUMBIAN WYANDOTTES; BUFF AND PARTRIDGE PLYMOUTH ROCKS; BUFF ORPINGTONS; RHODE ISLAND REDS; BUFF, BLACK, WHITE AND PARTRIDGE COCHIN BANTAMS

A. 29. We hatch all chicks with incubators.

A. 30. From 50 to 100 chicks.

A. 31. We have tried everything, chick manna being the best for first ten days; also give the grain chick food in litter.

A. 32. Five times a day at first.

ALBERT F. DIKEMAN, So. Peabody, Mass.

BREEDER OF WHITE WYANDOTTES AND WHITE PLYMOUTH ROCKS

A. 29. All chicks hatched by machine. The average year in and year out is one chick for every two eggs incubated.

A. 30. Fifty is the limit and we consider 40 better if they are to stay in brooder over four weeks.

A. 31. Chick food (dry), fine grit, charcoal, and good beef scrap before them at all times. Also pure fresh water and keep fountains clean.

A. 32. Sand (on floor) 2 inches deep, cut alfalfa on top of this 3 inches deep; in this chick food enough to be always found by scratching for it.

I. K. FELCH, Natick, Mass.

BREEDER OF LIGHT BRAHMAS, WHITE WYANDOTTES, BARRED AND WHITE PLYMOUTH ROCKS

A. 30. I would not keep over 25 chicks in one coop or brooder if I wanted nice chicks.

A. 32. Feed chicks four times a day until weaned, then keep food before them all the time when on dry grains, giving as much morning mash as they will eat up clean. They should have their liberty to secure grass and insect life.

G. W. BROWN, Camden, Arkansas

BREEDER OF WHITE WYANDOTTES, BARRED ROCKS, INDIAN GAMES, BUFF COCHINS, LIGHT BRAHMAS, LEGHORNS, PIT GAMES, WILD AND BRONZE TURKEYS

A. 29. Two-thirds of our chicks are hatched artificially, as we use many incubators.

A. 30. We place in the brooders just half the number of chicks as they claim for the brooder, in a 100-size brooder we place only 50 chicks, finding that we get far better results by giving them the extra room.

A. 31. We use the prepared chick food.

A. 32. We feed the young chicks the prepared chick food five to six times daily, all they will clean up, reducing the number of times as they grow older.

B. S. HUME, French Village, Ill.

WHITE WYANDOTTE SPECIALIST

A. 29. I figure on about 25 per cent infertile and about 25 per cent dying in the shell by artificial incubation, and in the natural way only 25 per cent all told.

A. 30. I never crowd my chicks. In a 100 chick size brooder 50 is plenty, they grow much faster and do much better every way.

A. 31. Prepared chick food.

A. 32. At first feed them on clean floor five or six times a day and as they grow older not so often.

N. V. FOGG, Mt. Sterling, Ky.

BREEDER OF SINGLE COMB WHITE LEGHORNS EXCLUSIVELY

A. 29. For hatching I use the very best incubators. Am using several of the 250-egg and 390-egg size. From 93

INCUBATION AND BROODING

to 98 per cent of all eggs set are fertile and from 85 to 90 per cent of fertile eggs are hatched. This is about the average of the season.

A. 30. For several years I used the outdoor brooders and found it did not pay to place over 50 or 75 chicks in one brooder.

A. 31. For the chicks I use chick food and beef scrap for the first few weeks. Have tried several ways of feeding and find the chick food the best feed I can get for raising chicks. I also use charcoal and green rye. Charcoal is kept before the chicks at all times and beef scrap is put before them after the fifth or sixth day. Green rye is fed every day.

A. 32. I do not feed my chicks at all for the first 48 hours, then they are fed a light feed of chick food on a little plank or pan. After they learn to eat I feed in a light litter at first and then as the birds grow older I feed them in a deeper litter so they will have to work more for it. I feed about five times a day until they are several weeks old but not much at a time.

GEO. A. BARROWS, Groton, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 29. I hatch all of my chicks with incubators.

A. 30. Usually 75 chicks, but 50 chicks would be better.

A. 31. I feed a little chick grit, chick food and oat-flake and beef scrap, also charcoal.

A. 32. I try to keep grit scattered in the litter for the little chicks all the time. I feed the chick food and oat-flake three times per day and keep a small dish of beef scraps before the chicks all the time.

H. H. FIKE, Libertyville, Ill.

WHITE WYANDOTTE SPECIALIST

A. 29. Hatch all by incubators.

A. 30. Never more than 35 chicks.

A. 31. Steel cut oats first ten days, then a good chick food after four weeks. Wheat, eight weeks, mash once a day. All skim milk they will drink.

A. 32. Three times a day.

J. L. JEFFERSON, Des Plaines, Ill.

WHITE PLYMOUTH ROCKS EXCLUSIVELY

A. 29. Have used nothing but incubators for the past four years.

A. 30. Not over 40.

A. 31. Steel cut oatmeal and bread soaked in milk until about three weeks old, then use wheat instead of the steel cut oats, after they are six weeks old use whole oats soaked in water; corn when nearly full developed.

A. 32. Feed dry feed in litter, and for the first three weeks I feed five times a day. After that three times if on range which they should be by all means.

D. F. PALMER & SON, Yorkville, Ill.

BARRED PLYMOUTH ROCKS

A. 29. We hatch about 50 per cent by incubator.

A. 30. About 70 to 80 chicks.

A. 31. Wheat, cracked corn and stale bread soaked in milk.

A. 32. About five times per day when small.

GUS. L. HAINLINE, Lamar, Missouri

BREEDER OF WHITE WYANDOTTES

A. 30. Not over 50.

A. 31. Corn bread made of corn meal, ground bone and mixed with milk; this with good water, good grass, and good care, makes good chicks.

G. MONROE WOOD, Woodville, N. Y.

WHITE LEGHORN SPECIALIST

A. 29. I use incubators—my chicks are all hatched artificially.

A. 30. About 100 chicks; I presume less would be better.

A. 31. We feed chick food, wheat and cracked corn, also beef scraps.

A. 32. About five times a day. We feed for the first six or seven weeks prepared chick food, also beef scraps. We keep the scraps before them all the time; after that we feed cracked corn and wheat, good milling wheat at that.

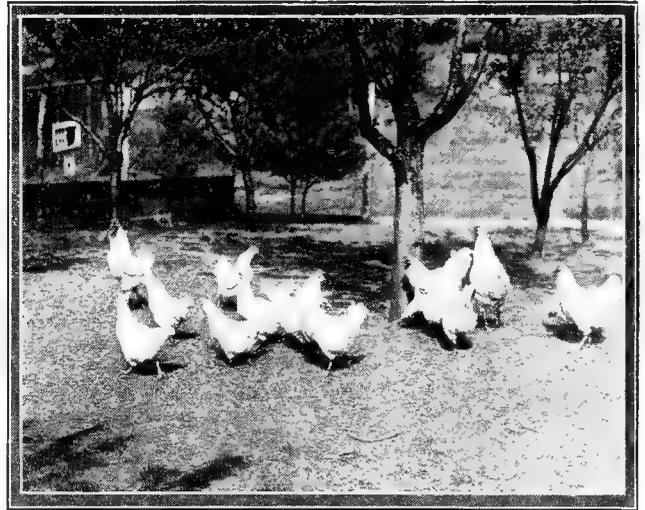
CHARLES G. PAPE, Fort Wayne, Indiana

S. C. BLACK MINORCA SPECIALIST

A. 29. Have used incubators to good advantage. This year used hens entirely.

A. 30. Fifty.

A. 31. First feed, yolks of eggs well peppered and bread.



WHITE WYANDOTTE PEN

Prepared chick food, plenty of grit and charcoal.

A. 32. Spread the feed on galvanized iron with a small amount of chaff or dry sand scattered or spread over the iron, five times daily.

WM. H. ROBINSON, La Fayette, Ind.

BREEDER OF BARRED PLYMOUTH ROCKS AND WHITE WYANDOTTES

A. 29. I use the natural method only in hatching and growing my chicks, and get at times almost 100 per cent.

A. 30. Do not use them.

SUCCESSFUL POULTRY KEEPING

A. 31. A mixture of small grains I often mix myself, with a dish of high grade beef scraps always before them. Small grains if possible are always best fed in litter to induce little chicks to exercise. I have used a great amount of prepared chick food for this purpose with the best results.

A. 32. By hopper feeding, that is a hopper of beefscraps and fine cracked corn and wheat. Fine hard grains or chickfood is fed in litter in large brood coops four times per day; good pure water at all times.

MRS. H. W. HAND, White Hall, Ill.

WHITE WYANDOTTES EXCLUSIVELY

A. 29. For early chicks we are almost compelled to use incubators, as it is difficult to get broody hens in cold weather. Later in the season we prefer the natural method as it is easier to prevent young stock from crowding. About half and half.

A. 30. Not over 50 and later not more than 35.

A. 31. I give little chicks dry bread crumbs or oat-flakes, or baked johnnycake at first, and very soon put them on a good chick food, alternating with johnnycake. Give them grit, charcoal, and plenty of fresh clean water from the very beginning, also green food in the shape of lettuce leaves or rape. They must have meat in some form, either as milk, eggs or meat scraps, or a little chopped lean beef.

A. 32. The grain is scattered for them to hunt for it; meat scraps, ground corn, bran, grit and charcoal are kept in vessels or hoppers where they can help themselves. Every two hours for the first ten days, every three hours after that.

MRS. CHAS. JONES, Paw Paw, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS, BUFF COCHINS, GOLDEN BRONZE TURKEYS

A. 29. Seventy-five per cent are incubator hatched; 25 per cent of later chicks hatched by the natural method.

A. 30. Fifty chicks.

A. 31. Chick food, later add cracked corn.

A. 32. Three times a day.

HARMON BRADSHAW, Lebanon, Ind.

S. C. WHITE LEGHORN SPECIALIST

A. 29. Ninety per cent with incubators and 10 per cent with hens. This year I hope to raise them all with incubators.

A. 30. Do not like to put over 50 together.

A. 31. Same as for breeding stock, except hard boiled eggs for first two or three meals.

A. 32. Same as for adult stock, about every two or three hours until about five weeks old. Never feed old stock or young chicks more than they will eat up clean.

C. L. PENCYL, Bloomsburg, Pa.

BREEDER OF BUFF PLYMOUTH ROCKS

A. 29. I usually hatch about 50 per cent with incubator and 50 per cent by hens. Use the incubator for real early hatches when hens won't sit; later on I use hens.

A. 30. About 50.

A. 31. I usually feed hard boiled eggs the first few days, also using some good prepared chick food, and then chick food altogether with plenty of grit, charcoal and greens.

A. 32. The first three or four days put feed on boards with which to start them; after that I have nice clean chaff that I put or scatter chick food in and let them work for all they get.

MRS. TILLA LEACH, Cheneyville, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS

A. 29. About 33½ per cent with incubators; 66½ per cent with hens.

A. 30. From 25 to 50 chicks. Seldom more than 50 and I prefer less.

A. 31. A prepared chick food at first, gradually adding wheat and cracked corn.

A. 32. Usually keep plenty of food by them in litter for brooder chicks, in feed boxes for those with hens. I find they do better when they have all they want.

GEO. H. BIE, Racine, Wis.

BREEDER OF BARRED PLYMOUTH ROCKS

A. 29. I hatch about 50 per cent of my chicks each season with incubators.

A. 30. I place about 50 chicks in each brooder.

A. 31. For the past three years I have been feeding prepared chick food in addition to ground feed that I mix and bake and crumble up dry.

A. 32. I do not feed newly hatched chicks until after they are 24 hours old. Then I feed a baked food crumbled up fine and dry; after the second day I commence feeding chick food three times and the baked food twice a day.

ROSEDALE POULTRY FARM CO., Greenwood, Mass.

WHITE WYANDOTTES EXCLUSIVELY

A. 29. Eighty-five per cent with incubators; 15 per cent with natural.

A. 30. Not over 30 in a 50-chick brooder, and generally 20 for best results.

A. 31. A commercial chick food, brown bread, chick weed, dandelions, lettuce, cabbage, swiss chard, when obtainable. Beef scraps, charcoal, grit, oyster shells and fresh water.

A. 32. Five times a day (regular) as stated, and chick food scattered in cut clover to scratch for at all times.

FRANK D. HAM, Livingstone, N. Y.

BARRED PLYMOUTH ROCK SPECIALIST

A. 29. I hatch about one-half artificially and about 60 per cent of the fertile eggs.

A. 30. One hundred chicks.

A. 31. Prepared chick food and stale bread.

A. 32. If in brooders I scatter chick food in fine cut clover and let them hunt for it, and give them all they want at all times.

W. S. HARRIS, Mansfield, Mass.

RHODE ISLAND RED SPECIALIST

A. 29. I hatch quarter of my chickens by hens. I shall use incubators more in the future as I get better results when so doing.

INCUBATION AND BROODING

- A. 30. Fifty chicks.
- A. 31. Prepared chick food.

O. E. SKINNER, Columbus, Kansas

BREEDER OF BARRED PLYMOUTH ROCKS, BUFF AND
PARTRIDGE COCHINS

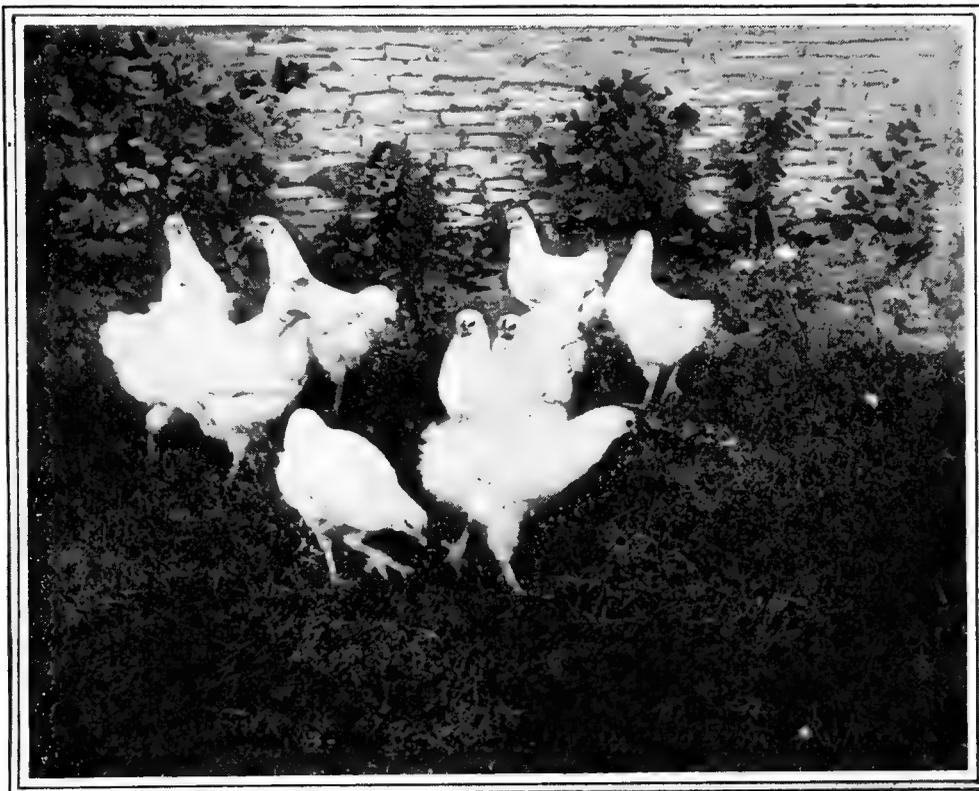
- A. 29. Ninety-eight per cent with incubators; 2 per cent with natural.
- A. 30. Not to exceed 75 chicks.
- A. 31. A commercial chick food the first three days. I then use some hard boiled eggs tested from incubator. In a week or ten days I commence feeding a mash from fine ground wheat and corn mixed with about one-third bran; this to be fed in clean troughs or dishes.
- A. 32. The mash in dishes or troughs. The chick food, cracked wheat and cracked corn (fine) in litter.

- A. 30. Can manage 75 chicks in a 100-chick size brooder in cold weather; later on 50 chicks seem too many.
- A. 31. Commercial chick food of cracked grains. Beef scrap and greens.
- A. 32. In litter the first few days; five times per day when strong enough to let down into exercising compartment in hoppers.

R. H. CRANDALL, Worth, Mich.

S. C. AND R. C. WHITE AND BROWN LEGHORNS, WHITE WYANDOTTES,
PEKIN DUCKS, TOULOUSE GEESE AND BRONZE TURKEYS

- A. 29. Hatch all chicks, ducks and turkeys artificially. Toulouse geese under our White Wyandottes, which make fine mothers for goslings.
- A. 30. About 50 chicks in a brooder.



WHITE WYANDOTTE YOUNG STOCK, ON FREE RANGE

J. M. WILLIAMS, No. Adams, Mich.

S. C. AND R. C. BUFF ORPINGTONS

- A. 29. We use incubators altogether, except what we farm out.
- A. 30. In the 100-chick size not over 50 chicks, less than that better.
- A. 31. Any standard make chick food.

OTTO O. WILD, Benton Harbor, Mich.

WHITE WYANDOTTES

- A. 29. Seventy-five per cent by incubators, 25 per cent by hens.

W. W. KULP, Pottstown, Pa.

BREEDER OF SINGLE AND ROSE-COMB WHITE AND BROWN LEG-
HORNS, WHITE WYANDOTTES, BUFF AND BARRED
ROCKS, AND PEKIN DUCKS

- A. 29. I hatch about two-thirds with the machines.
- A. 30. I place 45 in each brooder.
- A. 31. Feed them on commercial chick food to start them, adding cracked corn and meat after a few weeks. Feed plenty. Give them bits of meat the fifth day.
- A. 32. I feed the chicks four times a day; part of the feeds are mixed. Mash, about the same as for the old birds, not so much bran.

SUCCESSFUL POULTRY KEEPING

F. C. SHEPARD, Toledo, Ohio

SPECIALTY BREEDER OF BUFF PLYMOUTH ROCKS

- A. 29. About 50 per cent.
- A. 30. Thirty to 40 chicks.
- A. 31. Bread crumbs first two days, after which mostly prepared chick food until they are large enough to eat wheat and cracked corn, with a feeder of wheat bran where they can get all they want at any time.
- A. 32. Same as 31.

AUG. D. ARNOLD, Dillsburg, Pa.

COLUMBIAN WYANDOTTES EXCLUSIVELY

- A. 29. I hatch about 50 per cent with hens, the balance with incubators. Real early in the season when eggs are scarce I use hens. When eggs are plentiful then I use incubators.
- A. 30. About 50.
- A. 31. Prepared foods such as are on the market (without grit). Now prefer to feed grit by itself and not mixed with the feed.
- A. 32. Feed four times a day until a month or six weeks old, then three times a day. Use scraps, charcoal and grit. Do not feed until two days old, then very little at a time until a week old.

GARDNER & DUNNING, Auburn, N. Y.

BARRED PLYMOUTH ROCK SPECIALISTS

- A. 29. Twenty-five per cent by incubator, 75 per cent by hens.
- A. 30. Never more than 50.
- A. 31. Dry chick food and johnnycake made of corn meal and wheat middlings. They have free range with plenty of grass and bugs.
- A. 32. Five times per day first week, then three times.

A. OBERNDORF, Centralia, Kansas

BREEDER OF SINGLE-COMB WHITE LEGHORNS AND BARRED PLYMOUTH ROCKS

- A. 29. Two-thirds by incubators, one-third by natural method.
- A. 30. Not over 50.
- A. 31. First week hard boiled eggs, curd, grit and charcoal, then gradually corn bread mixed with ground wheat, some beef scraps and vegetables, and if in brooder house some cut clover.
- A. 32. Scattering the feed in the litter and also in troughs five times a day the first three weeks, and then twice a day.

E. B. THOMPSON, Amenia, N. Y.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 31. Bread crumbs or crackers first few days, then fine cracked corn and cracked wheat. After a week old give a mash once a day made of corn meal or hominy, wheat bran and white wheat middlings.
- A. 32. Cracked corn and wheat, with a mash made as above.

WM. BYWATERS, Camden Point, Mo.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 29. I put a large per cent of eggs in incubators and keep them there from ten days to two weeks, and then put them under hens owing to the close pedigree I keep of all chicks hatched.
- A. 32. I start little chicks on a commercial chick food but do not feed as much for ten days as many do. I raise them with hens and feed a small amount four times a day from the time they are two days until two weeks, and then twice a day.

J. C. MACOMBER, Reading, Mass.

BREEDER OF PARTRIDGE WYANDOTTES AND BARRED PLYMOUTH ROCKS

- A. 29. I should say I hatch about 90 per cent with incubators and about 10 per cent with hens.
- A. 30. I have used brooders, but in future shall use a brooder house. In using brooders, I put about 75 chicks in a 100-size brooder.
- A. 31. With little chicks I believe that attention and care is more essential than kinds of food. The trouble is that the majority of them will not eat at all unless they are taught to. I have used various kinds of feed, but I have the best results as follows: One part corn meal, one part sifted ground oats and two parts bran, mixed together perfectly dry, then put into an oven and baked. Understand that there is no water or nothing moist whatever put with it, simply baked dry. At feeding time, we take a little warm water and just moisten it, making it as dry as possible while having it moist. This we feed for at least three weeks. Of course, we mix in a little beef scraps, say about 5 per cent and a little charcoal.
- A. 32. As soon as they are large enough we commence giving them a dry feed together with the mash, as explained in 31 as follows: One part wheat, one part hulled oats and one part cracked corn. Gradually we leave off the mash. At first every two hours, later three times a day.

F. J. WEHRMEYER, Benton Harbor, Mich.

WHITE WYANDOTTE SPECIALIST

- A. 29. Ninety per cent with incubators, 10 per cent with natural method.
- A. 30. We sometimes crowd them the first few days only. After this we aim to never keep more than 25 in a bunch.
- A. 31. Dry feed exclusively, preferably chick foods as bought, always feeding liberally in fine cut litter. Also supply green food and beef scraps, etc., same as for adults, using chick grit. We start them by dipping their bills in water or milk (usually milk) and then literally cover the floor of brooder with chick food, good and plenty, so that every pick means a kernel. In a day or so this is cleaned up and then feeding begins liberally in the fine litter, cleaning often. This waste goes to the older birds and none lost. We like to feed finely cut cabbage upon clean boards, removing same when done.

DR. O. P. BENNETT, Mazon, Ill.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 29. About 50 per cent either way.
- A. 30. Not over 50 to 75 in the largest brooders made.

INCUBATION AND BROODING

A. 31. Cracked grains of various kinds, wheat principally, later a cooked mash once a day.

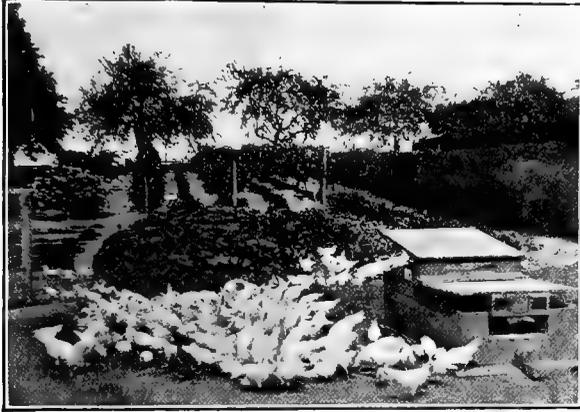
A. 32. Throw cracked grains in litter, mash in trough; about every two or three hours.

C. BRICAULT, M. D. V., Andover, Mass.

BREEDER OF WHITE WYANDOTTES

A. 29. All my hatching is done in the standard made incubators.

A. 31. A prepared chick food, beef scraps, grit, and a run on grass.



YOUNG LEGHORNS FEEDING

A. 32. Chick food in hoppers from the day they are put in brooders, beef scraps also. After they are six weeks old, cracked wheat and corn is added, then whole wheat and cracked corn.

ARTHUR G. DUSTON, So. Framingham, Mass.

WHITE WYANDOTTE SPECIALIST

A. 29. Fifty per cent artificially. I have not yet gotten accommodations for running all the incubators I want to run.

A. 30. Not over 50.

A. 31. I start them on rolled oats and prepared chick food at three weeks. Dry mash is added and next year I want to feed skim milk. I believe there is nothing to equal it. I feed every two hours.

ARTHUR G. BOUCK, Frankfort, N. Y.

BARRED PLYMOUTH ROCKS EXCLUSIVELY

A. 29. I hatch about 75 per cent of my chicks with incubators and about 25 per cent by the natural method.

A. 30. I place about 50 chicks in each brooder.

A. 31. When from thirty-six to forty-eight hours old I feed a small amount of chick grit. I then feed a good chick food with about 10 per cent chick grit mixed with it. I also give them an occasional feeding of hard boiled eggs, using the infertile eggs that are tested out of my incubators.

A. 32. I scatter the chick food in the litter of the brooders, making the chicks scratch for it. I believe one of the secrets of success is in keeping the chicks hustling for their living. I feed from three to five times daily when small.

C. H. WYCKOFF, Aurora, N. Y.

S. C. WHITE LEGHORNS

A. 29. Hatch all by incubators.

A. 30. Fifty to 100 chicks.

A. 31. About the same as adult fowls except that the grains are cracked or broken somewhat finer while they are small.

A. 32. Give all feed to chicks dry, scattered on wide boards. Feed four times a day and no more than they will clean up each time.

IRVING F. RICE, Courtland, N. Y.

S. C. WHITE LEGHORNS

A. 29. I use incubators to hatch every chick I raise.

A. 30. Not to exceed 60.

A. 31. Johnnycake and prepared chick food until old enough to eat cracked corn and wheat. One meal a day of pot cheese.

A. 32. The food is placed on clean boards until they are large enough to eat from a trough. We commence feeding five times a day. When they are larger and older, only three times. "Little and often" is our motto. Never overfeed them; this is the greatest cause of little chick mortality.

J. T. THOMPSON, Hope, Ind.

BREEDER OF WHITE PLYMOUTH ROCKS AND MAMMOTH
BRONZE TURKEYS

A. 31. For the first two days I feed them nothing but hard boiled eggs. After that time, and until they get old enough to eat cracked corn and wheat, I feed them on a prepared chick food, as I consider it about the best food that was ever compounded for little chicks. I always keep them well supplied with charcoal, grit, green foods, etc. I never feed any wet foods.



THE WORLD'S GREATEST POULTRY MARKET

A photograph reproduction of South Water Street, Chicago showing loads of live poultry being delivered to commission men and dealers.

A. 32. I always feed the grains in the straw so as to make them exercise as much as possible. When they are small I feed them three or four times per day. After they get to be a month or so old I feed them only twice per day, morning and evening.

SUCCESSFUL CHICK REARING—NATURAL AND ARTIFICIAL

SIMPLE, PRACTICAL ADVICE FOR THE BEGINNER—HOW TO HATCH AND
RAISE CHICKS UNDER HENS OR WITH INCUBATORS AND BROODERS

P. T. WOODS, M. D.



EVERY one who keeps poultry is interested in the best way to grow little chicks whether they are to be reared by natural or the artificial method. Unfortunately there is no "one and only" best way. Many methods of raising chicks which seem almost directly opposed to one another are equally successful in the hands of skillful men, and it is also true that chick rais-

ing like raising of all new-born animals is often largely a matter of experiment, that is, what will do for one brood may not do for another under what are apparently the same conditions and the poultryman must always be guided by his own good judgment, observing carefully each flock and endeavoring to give all good, sound, common sense treatment.

There are a number of good rations for feeding small chicks and in artificial rearing it frequently happens that some broods of chicks require more heat than do others. For this reason we frequently see in books on poultry raising a compilation of the advice of many different poultrymen, some of which seems conflicting and all of which is very confusing to the beginner who does not know what method to employ or how to use it.

This article is intended for beginners with poultry and will be confined to one plan of chick rearing and one which can be depended upon, with slight modifications, to fit almost every case. We believe that if the beginner will follow the advice here given he will meet with reasonably good success, and it is certain that he cannot stray far from the right path.

As there are still many who keep fowls only in a small way and do not use incubators and brooders, the natural hen method will be considered first.

SITTING HENS

A broody hen that will not sit where you want her to is probably one of the most exasperating creatures in existence, and no doubt has sorely tried the temper and patience of many who will read this article.

To begin with the mere fact that a hen is broody is not an indication that she is fit to set. You should use just as great care in selecting sitters as you would choose fowls to breed from. Take a hen that has a quiet mild disposition, that hugs the nest tightly and is not liable to fly off into a hysterical cackle at the least provocation. Pullets may often be set and give satisfactory results, but as a rule the most reliable sitters are yearlings or two-year-olds that have lived long enough to get over their flighty youthful dispositions. Select for sitters quiet, good-sized, healthy hens that show a disposition to hug tight to your hand or snuggle down on to the nest after you have removed and then replaced them. Let them stay for two or three days on a nest of their own selection before you attempt to move them to new quarters, and when you do move them to the new nest, move them at night.

Provide comfortable nest boxes with a reasonable amount of head room for the hens. Boxes 12 to 14 inches square with about 14 inches head room make very comfortable nests for sitters. Fill in a little moist earth or a sod turned upside down into the bottom of the box, dishing the earth slightly in the center so as to have it slightly concave with the corners elevated, thus preventing the eggs from rolling away from the hen and at the same time not having so great a depression that the eggs

will roll into a heap in the center of the nest. On top of the earth place a little soft straw or soft hay, only a very thin layer, and dust this well with a good insect powder.

Place three or four nest eggs or infertile eggs in the nest, give the hen a good thorough dusting with insect powder, and place her in her new quarters, shutting her on the nest by means of a burlap bran sack and leave her alone until late the following afternoon. At this time she may be let off for a feed of whole corn, water, grit, shell and given an opportunity to dust herself and clean out. While she is off the nest remove the nest eggs and place the eggs you intend to set carefully in the nest. Give the hen an opportunity to return to the nest of her own accord. If she will not return to her nest remove the sitting and replace the nest eggs, and put her on again for another 24 hours; then try her again.

As a rule if she is a good sitter she will get right down to business. Let her off at regular intervals once each day to feed and exercise. If the weather is cold cover the eggs with a piece of flannel blanket while the hen is off. Test the eggs on the seventh day and remove all infertile ones and dead germs. It is a good plan to set two or three hens at the same time and when the eggs are tested out give one or two hens a full complement of fertile eggs and reset the other one on a fresh lot. Number all your sitting hens and keep a careful record of them, seeing that they return each to her own nest. Never give a hen more eggs than she can cover comfortably. Some hens will take care of but eleven, others will well cover fifteen, but it is seldom wise to exceed this number.

The room in which the birds are set should not be too light but should be well ventilated and must be kept clean. Three days before the chicks are due give the hen another dusting with Persian insect powder and at hatching time let her alone. The little chicks will not require any food until 24 to 36 hours after they have hatched.

RAISING HEN-HATCHED CHICKS

When the hen is to leave the nest with her brood provide her with a comfortable brood-coop having a dry wood floor. Keep the little chicks confined close to the hen for the first day or two, then give them a little run outside the brood-coop, keeping the hen confined. It is well to always keep the hen confined and let the chicks run. Keep a plentiful supply of pure water, small grit, chick-size charcoal and good sweet pure beef scrap always before the hen, and feed her on cracked corn and small red wheat. Give the little chicks a good dry grain chick food scattered at first near the hen so that she can call them to it, after this scatter it just a little out of her reach. Give an occasional feeding of thoroughly boiled rice (so that each kernel is separate and almost dry). Good clean broken rice can usually be had cheaply. Change the hen and chicks to new ground frequently. Give an occasional apple or apple parings, potato parings and beets fed raw.

As soon as possible get the chicks where they can have a green run on good grass but be careful about letting them out on the grass until the sun is well up. Provide a good chick shelter where the chicks can run to it to get out of the storm, and see that they have plenty of shade.

In winter time the hens should have comfortable quarters in small colony houses having a board or cement floor, plenti-

INCUBATION AND BROODING

fully littered with chaff, mow sweepings, cut clover or other similar materials. Look the hen over occasionally for lice, and be sure that there are no lice on the little chicks. Examine a few of them once a week looking them over carefully, particularly their heads; however, if a first-class insect powder is used there will usually be very little trouble from lice. If the small chicks get very lousy it will be necessary to go over them carefully and pick off the lice. Pure Dalmatian or Persian insect powder, though expensive, is probably the best remedy for lice powder and cheapest in the end, and it is not injurious to either fowls or chicks.

The hen will usually attend to weaning the small chicks as soon as they are fairly well fledged, and will usually teach them to eat cracked corn and wheat by the time they are ten days to two weeks old so that the chick food can be fed less and less, and gradually replaced by cracked corn and wheat.

When the chicks are weaned give them a liberal range on grass land, place them in colony coops of comfortable size, twenty-five to fifty in a flock, and give them a hopper of cracked corn, beef scrap, charcoal, grit and see that they have plenty of pure water. They can then usually be trusted to take care of themselves, if provided with shelter from storm and sun and given liberal range.

HATCHING WITH INCUBATORS

One of the most important things for the beginner to learn in incubator operation is to carefully read and follow the manufacturer's directions. Probably the most satisfactory place to run an incubator is in a well ventilated cellar or half cellar where a fairly uniform temperature can be maintained. Incubators do their best in a place where the temperature seldom goes below 45 or 40 degrees or above 60 to 70 degrees. The room or cellar must be well ventilated since the lamp consumes a considerable amount of the oxygen and the incubator is absolutely dependent upon the air in the room in which it is operated for its supply of pure fresh air to the interior of the egg chamber.

Set the machine up carefully, see that it is running in good shape and the regulating device properly adjusted to hold the temperature at the desired degree, which is usually 102½ until the first test and 103 thereafter until the chicks begin to hatch, when it may run to 104 or even 105.

Select your eggs for hatching as carefully as if you were intending to place them under hens. Do not fill the incubator beyond its capacity. Never practice "doubling up" or piling the eggs one on top of the other. Place the eggs in the machine and let them alone until the morning of the third day when they should be taken out for their first turning; thereafter turn twice a day until the evening of the 18th day, when the machine should be closed and let alone until the eggs have hatched. As a rule it is not wise to supply too much ventilation, and generally it is best not to cool or air the eggs where the trays have to be taken from the machine for turning. Where the machines have mechanical devices by which the eggs are turned without removing them from the machine the eggs should be cooled for a few minutes each day, but much better results will be had if the trays are always removed from the machine and the eggs turned by hand, removing the eggs from the center of the tray rolling the others inward, and placing the eggs that were taken out in the places now left vacant at the ends of the tray. The reason for this is that no machine heated by lamp or hot water heats evenly in all parts, and by changing the position of the eggs at each turning all are given an equal chance and any inequalities in the temperature of the egg chamber are thus offset.

Learn to let the machine alone at hatching time as it is now too late to remedy any mistakes which you have made during the hatch, and the machine will do better if not inter-

fered with. Opening the incubator door while the hatch is going on allows moisture to escape and may injure the balance of the eggs.

On the 21st day when the chicks are all out remove the egg trays and all shells and dead eggs to give the chicks plenty of head room. Open all ventilators wide and leave the door of the egg chamber open a crack just the width of a match. Then darken the machine by hanging a piece of dark paper in front of the glass door, and let the chicks alone until the next day. For the first 24 hours after the little chicks have hatched they need rest and quiet, and should not be disturbed. If they are kept dark, have plenty of fresh air and are comfortably warm, they will be better off for this day's rest and there will be less difficulty in rearing them, as they will make much better progress in the absorption of the egg yolk which they have brought with them into the world. Rest, warmth and pure air are all that the little chicks need for the first 24 hours.

On the afternoon of the 22nd day they should be taken to the brooder for their first feed.

THE BROODER

I like best the so-called three-apartment brooder, one which has a front or exercise apartment and a rear or brooding apartment, which is again divided into the space under the hover and the space outside of it. In such a brooder either outdoor or indoor pattern, it is possible to raise chicks with comparatively little trouble. Have the brooder warmed up and waiting for the chicks. It is best to run it two or three days before the chicks are put into it to make sure that everything is in good working order. Scatter over the floor of the brooding chamber a good half-inch bed of thick clover or mow sweepings and sprinkle freely with chick-size grit, chick-size charcoal and a good dry chick food. Put small-sized galvanized drinking fount in one corner of the brooding chamber and have it filled with pure fresh water.

See that the hover space is at 95 degrees with the hover empty. When you place the chicks in the brooder remove the hover and give them all a chance to pick at the chick food in the litter. Sprinkle a little in front of them to attract their attention. If convenient when they are put in give each a little drink by dipping its bill in the water. In about five or ten minutes put on the hover and tuck the chicks carefully under it. Raise one of the hover tabs so that they will have a doorway in and out that they can see plainly. This hover tab of felt is to be lowered again after the chicks learn to go in and out.

Visit the chicks again in an hour or two to see that they are all right. Take off the hover and give them all another opportunity to feed for five or ten minutes, then put on the hover and tuck them in again and close the brooder for the night. Do not be alarmed if the temperature has run up to 100 degrees in warm weather or 105 or 110 degrees if the temperature outside the brooder is below freezing. You must be guided more by the comfort of the chicks than by the temperature as indicated by the thermometer. In cold weather, particularly when running a brooder outdoors, the chicks need more heat than they do in warm weather. Visit the brooder again just after dark and again at bedtime to be sure that the chicks are all right and that none of them are huddling outside the hover. If they appear comfortable and are ranged around the outside of the hover with heads peeping from beneath the felts they are all right, and no attempt should be made to lower the heat, as the brooder will in all probability cool off a little during the night.

Keep them confined to the brooding chamber for three days to make sure that they have learned that under the hover is the place to get warm. Keep charcoal, beef scrap, granulated bone grit and pure water always before them, and a little

SUCCESSFUL POULTRY KEEPING

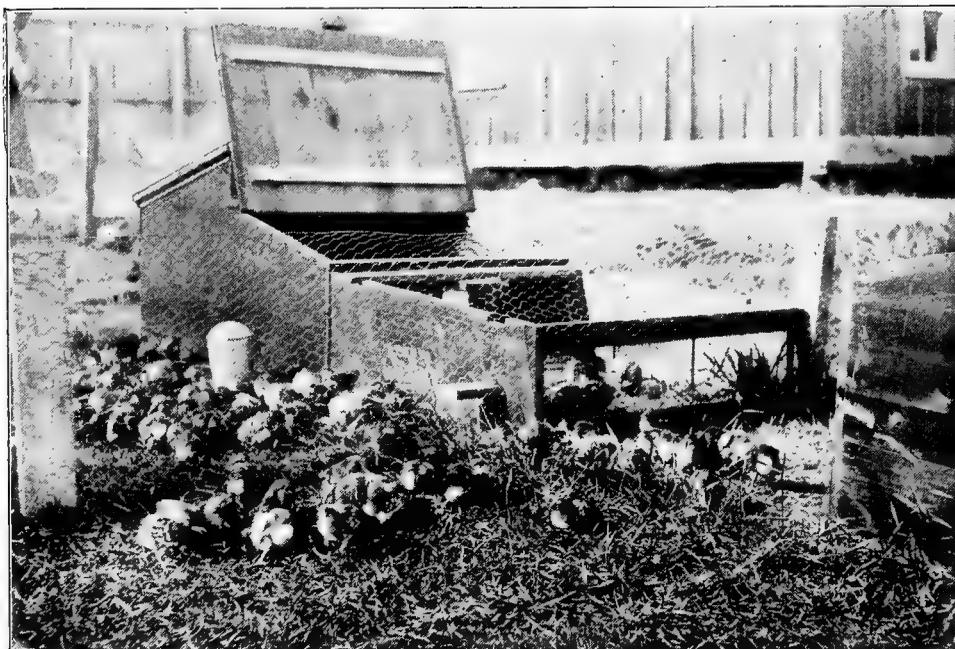
dish or trough filled with chick food. Visit them every two or three hours and scatter a little chick food in the litter of the brooding chamber, removing the hover for a few minutes at each visit to give all a chance to feed. Aim to keep the chicks comfortable and busy and see that they are well fed.

Beginning on the third day give a little thoroughly boiled rice and some stale bread crumbs moistened with scalded sweet milk. Give this food in addition to the regular chick food and feed it occasionally, say once a day or every other day, until they are two weeks old. Also supply them with raw apple parings, potato parings or a split raw beet.

Beginning on the third day let them down for a little run in the exercise apartment which has been well littered with cut clover, chaff or mow sweepings. After they have been down a few minutes drive them back and shut them in. Repeat this at each feeding time, (every two or three hours) until the afternoon of the fourth day, when they may be let down late in the

them to huddle or crowd in sunny spots, as if they once form the habit they are sure to become chilled. Keep the chicks on the move. It is of the utmost importance not to let them huddle and to keep them moving. Remember that you have to teach them all that they need to learn just as a mother hen would teach them how to take care of themselves. Put a little pile of sifted hard coal ashes in their run occasionally for them to pick over.

Usually it is a good plan after the first week to begin feeding a little small red wheat sifted, clean fine-cracked corn to take the place of a part of the chick food, gradually weaning from the chick food until they have only wheat and cracked corn as the grain ration. The chicks will remain in the brooder until they are fairly well fledged. The length of the time depends somewhat upon the chicks themselves and the season of the year. They are ready to be weaned when six weeks old and even in very usually cold weather are seldom ever kept in the brooder beyond the age of eight weeks.



YOUNG CHICKS, ENJOYING THE SUNSHINE AND EXERCISE AROUND BROODER

afternoon and allowed to run back and forth until bedtime. Be careful to teach them to run back into the brooding chamber and get underneath the hover to get warm. Remember that the chicks only know what they are taught. Thereafter feed the chicks only in the exercise apartment and keep their water fount there.

By the time the chicks have been in the brooder five or six days the runway into the exercise apartment can safely be left open at all times. As a rule it is a good plan at first if there is a partition of felt tabs between the brooding apartment and the exercise apartment to pin up one of the tabs to make a little open doorway until the chicks get used to running back and forth. After the chicks become accustomed to their new home these tabs can be allowed to hang down, as the chicks will readily find their way beneath them.

When the chicks are a week old in warm weather and when they are from ten days to two weeks old in colder weather they should be given a little run outside the brooder. Do not permit them to stay out long the first few times. Let them out for a little run then drive them back. Gradually increase the size of the run daily as they grow accustomed to it. Never permit

If there is any tendency to looseness of the bowels among little chicks see that they eat charcoal and are given a little scalded milk containing a small amount of grated nutmeg, allowing them to drink all that they will several times daily. This will usually bring them around all right. Boiled rice over which a little finely granulated charcoal has been sprinkled is excellent.

When the chicks are a week old accustom them to a very gradual temperature. Run the lamp a little lower every few days until you have them comfortable at a temperature of about 75 to 80 degrees by the time the chicks are a month old. Do not be in too great a hurry to reduce the temperature, and do not try to reduce it too rapidly. Be guided in this by the comfort of the chicks. Usually by the time they are a month old you

will find them on top of the hover at night, and as soon as they begin this it will be well to remove the hover altogether to give them more room in the brooder.

When the chicks are removed from the brooder place them in comfortable colony coops, twenty-five to fifty in a flock, and keep them confined near the coop for the first three or four days, enclosing them in a wire run so that they cannot stray away. Have the brood coop comfortably bedded with chaff, cut straw or a similar substance, keep beef scrap, cracked corn, charcoal, grit and pure water always by them, and as soon as they have become accustomed to their new quarters give them a liberal range. Clean all brooders, brood-coops and colony coops once a week. If the chicks are not allowed liberal range they must be supplied with plenty of green food, and should be given an occasional feeding of stale bread crumbs moistened with milk, or after they are weaned from the brooder table scraps or a mash containing table scraps, some meat food and lightly seasoned with salt. Poultry of all ages need food containing a little salt occasionally in order to keep them in good condition. Where the birds cannot have range to pick up what they need for themselves you must endeavor to supply it.

INCUBATION AND BROODING

INCUBATING AND REARING CHICKS

Detailed Instructions for Natural and Artificial
Incubation and the Operation of Brooders

A SATISFACTORY SYSTEM FOR FEEDING CHICKS

J. D. MASON, Gladys, Va.

[The following practical article is taken from Farmers' Bulletin No. 5, "Poultry Raising in Virginia" published in December, 1905 by the Board of Agriculture and Immigration of Virginia. Editor.]

ARTIFICIAL INCUBATION

Very clear and practical instructions come with all incubators of the best make, and if carefully followed even inexperienced persons can run them successfully.

Nearly all poultry writers favor a damp cellar as the best place for hatching chickens in an incubator, because of the moisture. We doubt the advisability of this. It is absolutely necessary that the embryos have pure air and everybody knows that the air is seldom pure where there is constant dampness. If a dugout cellar is used the floor should be cemented to keep it dry and the air pure. If the cellar is even with the ground it is not necessary to cement it, for such cellars are seldom damp. Sprinkle the floor well when the eggs begin to pip and keep this up all during the time the eggs are hatching and this will give all the moisture needed. Get all the pure air possible without a draft, and the best way to secure this condition is to have the windows open but sufficiently screened to prevent drafts.

TEST FOR PROPER VENTILATION

After placing the incubator so that it is perfectly level, open the door and ventilators, place a lighted candle inside, close door and carefully test the amount of air inside by gradually closing ventilators just sufficiently to keep the candle burning. If it begins to flicker, there is not enough air and the ventilators should be opened just a little more or just enough to keep the candle burning. Test this for about ten minutes before starting off hatch and remove before putting eggs in. Few manufacturers of incubators give this test in their instructions, but it is most important. Oxygen is necessary for the embryo after it begins to breathe. The lack of it causes poor hatches and weak chickens. Some poultrymen claim that it is the chief cause of poor hatches and weak chickens.

For profitable broilers, we start our hatches in February. We get our highest percentage of chickens from eggs hatched in April. In our brooders we raise them equally as well when hatched out early, although we do not get as good results in hatching. After the end of May in this climate, unless the weather is unusually cool, eggs do not hatch so well nor are the chicks as thrifty.

All eggs used for hatching should be carefully selected and all mis-shapen eggs rejected. Yearling and two-year-old hens furnish the best hatching eggs.

After seeing that the incubator is at the required temperature of one hundred and two and a half degrees, it will only require the attention of turning the eggs twice a day, morning and night, after the third day, the testing out of the fertile eggs, and the filling and trimming of lamps daily. In very sudden changes of weather, the temperature may require lowering or raising, as may be required, keeping the temperature at one hundred and two and a half degrees as nearly as possible, by raising or lowering the lamps.

TESTING THE EGGS

Excellent egg-testers, with instructions as to use, are furnished with most incubators. These testers can be placed

on an ordinary lamp, and the eggs are best tested at night when the room is dark. On the sixth day of incubation we consider them at their best for testing. A good strong germ has the appearance of a spider in the egg. A blood circle adhering to the shell denotes a dead germ; a perfectly clear as well as a cloudy egg is infertile and should be removed from the incubator. These rejected eggs can be re-tested and the clear ones taken out for use. In some markets they can be sold at a lower market rate per dozen to bakers, for they are perfectly good for cooking purposes, or they may be used at home, or hard-boiled, chopped up and given to young growing stock.

From the tenth to the eighteenth day cool eggs by leaving the door of the incubator open after the morning turning of eggs, letting the temperature drop to ninety degrees.

THE LAST TURNING OF THE EGGS

On the morning of the nineteenth day the eggs are turned for the last time, provided they are not already pipping. They should all be carefully spread out in the trays in order that the chicks may fall into the nursery of the machine, both from the back and the front and so prevent unnecessary tramping over the eggs that are hatching. At this time the ventilators are closed until the hatch is two-thirds over.

NATURAL INCUBATION

Hatching eggs under hens is a much simpler matter. In some experiments we made in hatching out White Leghorn eggs under mongrel hens, we got the best results from hens fed on corn while sitting, corn being the greatest heat producing food.

Hens should not have eggs put under them until they have remained on the nest for a day or so. If they do not leave the nest for the roost at night, it is safe to put eggs under them. Our hens, which were set in the hen houses, did not do so well as those set where they were undisturbed by the laying hens. If it is necessary to move the hen, they will generally accept the new nest provided the change is made at night. Dark nests give the best results, and they should be well filled with straw or dried grass.

From twelve to fifteen eggs are put under a hen, depending on the size of the hen. In cold weather it is best to put the fewer number of eggs, while late in the spring as many as seventeen can be put under them. It is just as necessary to select the eggs and use only well shaped eggs for putting under hens as for the artificial method of hatching. In warm weather when the chicks are liable to dry in the shell it is a great help to thoroughly sprinkle the eggs. There need be no fear of chilling for the heat of the hen will quickly bring them back to the proper temperature. If two or more hens are set at the same time, it is advisable to give one of the hens both lots of chickens to mother and reset the other.

Before starting our hatches, we thoroughly fumigate our houses by burning sulphur candles in them, and as an extra precaution, we sprinkle both hen and nest with lice powder. Lice will lower a hen's vitality, reducing her heat and causing in this way poor hatches.

Hens are inactive while sitting, and therefore require less food than otherwise. It is not necessary to feed them on the nest. Have food and water accessible, but let their appetite be the judge of when and how much to eat. As far as possible let them be undisturbed while sitting.

THE REARING OF YOUNG CHICKENS

We allow our chicks to remain in the incubator forty-eight hours. They will not require food nor water during this time.

When first put in the brooder a little "pearl grit" is given

SUCCESSFUL POULTRY KEEPING

them and they are also watered, care being taken to take the chill off the water. Very cold water is fatal to young chickens, causing diarrhoea, and it should always be tempered before it is given them.

The floor of the brooder should be covered with dry sand to the depth of about an inch, over which is scattered cut clover or chaff to make a scratching litter about an inch deep.

Two hours after they are put in the brooder they have their first meal, consisting of a prepared dry grain ration known as "chick feed." This can be purchased from any dealer in poultry supplies, or it can be made at home according to the following formula:

AN EASILY PREPARED CHICK FOOD

Six pounds cracked wheat; two pounds cracked corn (fine); one pound rolled oats, or pin-head oatmeal; one pound millet seed; half pound broken rice; two pounds fine granulated beef scrap; half pound granulated bone; six pounds pearl grit.

FEEDING THE CHICKENS

This should be fed every two hours during the first three days giving three handfuls scattered in the litter, to every hundred chicks. From the third to the 10th day the same amount should be fed from six a. m. to six p. m. every three hours. Fresh water and ground charcoal should be kept before them at all times. From ten days to four weeks the feed should be increased to four handfuls given four times a day. Begin at this time to keep scrap meat before them. After four weeks increase again, giving five handfuls three times daily. From six weeks up to eight weeks add about three handfuls of cracked corn and whole wheat to the ration. When feeding if these quantities do not seem sufficient, or if at the next meal it is found that the last meal was not entirely consumed, increase or decrease from these directions. The object is to give enough to make them thrive, yet at the same time regulating the amount so they will keep hungry enough to scratch. It is necessary that they get exercise if they are to make progress.

SITTING A HEN

SOME PRACTICAL SUGGESTIONS ON NATURAL INCUBATION

ALEX. CLEGG, East Amherst, N. S.

A fairly successful method of mine has been with a closed box divided into six nests. In the bottom of each nest is placed a thin clover or grass sod turned grass side down. This sod nicely hollowed out and with very little straw on the earth and the roots of the grass, makes an ideal nest and gives the right moisture required by the eggs. How often have we noticed that the hen that stole her nest away in the hedge row where she would get drenched by the rain, invariably brought off the full complement of chicks. There were no infertile eggs nor any chicks too weak to break the shell.

After the hen has sat two nights on the nest, she may be well sulphured and placed on the eggs (after dark invariably) and the lid closed down. About midday is a good time to feed. When the lid is opened, any hens not coming off are lifted from the nest and placed near the food. In from 15 minutes to an hour the hens that have not found their way back to their eggs are caught and placed on the nest and the lid is closed down until the same time the next day.

The first time or two off to feed the hen should be watched and quietly worked, if possible, toward the new nest. She will

rarely go astray after twice finding her way to her eggs though the nest may be quite strange to her.

By sitting three hens the same day the chicks may be given to two hens and the third reset.

MODERN INCUBATOR HOUSE

NOVEL AND PRACTICAL METHOD OF VENTILATION—DARK ROOM EQUIPMENT FOR EGG TESTING

While many illustrations of incubator cellars or houses have been published from time to time, we do not recall that many plans have been offered which showed a dark room for testing eggs. The incubator house, shown in accompanying plans, was designed by Dr. P. T. Woods, several houses of this pattern are now in successful operation.

On all plants where a considerable number of machines are run, the testing of eggs becomes an item of considerable labor and consumes a large amount of time. If this testing has to be done at night, it lengthens the hours for the poultryman so much that during the hatching season he loses a great deal of much needed rest, whereas if some means are provided for testing the eggs during the day, there are usually odd moments when the work can be done without interference with the regular routine of the plant. It was for this purpose in saving night work on the poultry farm that the incubator house with dark room was devised.

This house, or more properly, half-cellar, is a frame building built above a brick foundation, a slight excavation being made and a 2 feet 6 inch or 3 foot brick wall built, against which the earth is banked up on the outside and on which the sills of the frame building are laid. The sills are laid in cement to make a tight joint. The sides of the building are sheathed with rabbeted pine boards laid lengthwise on both sides of the studs. The lower board reaches below the sill and laps over brick work to avoid drafts. The roof is of rough boards laid on rafters which are placed 2 feet apart and is covered with a good quality of shingles. The rafters and frame are afforded additional support by tie beams, as indicated in plan.

The nine windows of the building are all double windows, the outer windows being hinged at the top, the inner ones hinged at the bottom, so that they may be opened as shown in the sectional view (Fig. 2). The space beneath the roof is not ceiled in, the portion between the rafters and tie-beams being left open so that the air from the windows may be deflected up against the roof. In such a building, the windows may be left open on both sides of the building, affording excellent ventilation and at the same time not permitting any direct draft to blow upon the machines. The large door in the end of the building is provided with double doors, the inner one having ventilating holes as shown in (Fig. 2). The house is 59 feet long by 21 feet wide and 7 feet 6 inches from floor to eaves, inside measurement. The floor is made of cement or hard packed gravel. This house will accommodate twenty-one 360-egg size machines, rights and lefts, as indicated in Fig. 1.

The dark room is 6 by 8 feet and is ceiled up with matched boards to the rafters. It is provided with a wide door, which for purposes of ventilation is best made of a stout frame covered with burlap or bran sacking. In one end of the room there should be two shelves, one just high enough to place the egg tester on, and have the egg come in direct line with the eye when the operator is seated on an ordinary high stool, and he will be able to pass the eggs before the light very rapidly. The second shelf should be beneath this and should be of sufficient size to accommodate two incubator trays, one full and one empty, and a basket having two compartments, one for infer-

INCUBATION AND BROODING

tile eggs and one for dead germs. It is very little trouble to furnish a dark room in an incubator cellar, in this manner and the expense is small. Such a room should be ventilated by a hinged window, the glass of which has been painted black or has a black cloth tacked over it. It is surprising what an amount of labor such a room, properly equipped, will save in course of a season in running a number of incubators. Pro-

Other useful furniture in the incubator cellar, which made it possible to handle the machines so easily was a plain, pine board table and a five-gallon oil can having a quick flow, easily controlled spigot. This table (shown in Fig. 1) was placed in the center of the incubator cellar, the machines were rights and lefts arranged along the sides of the room, which was a little over 50 feet in length. The lamps of the machines at one end

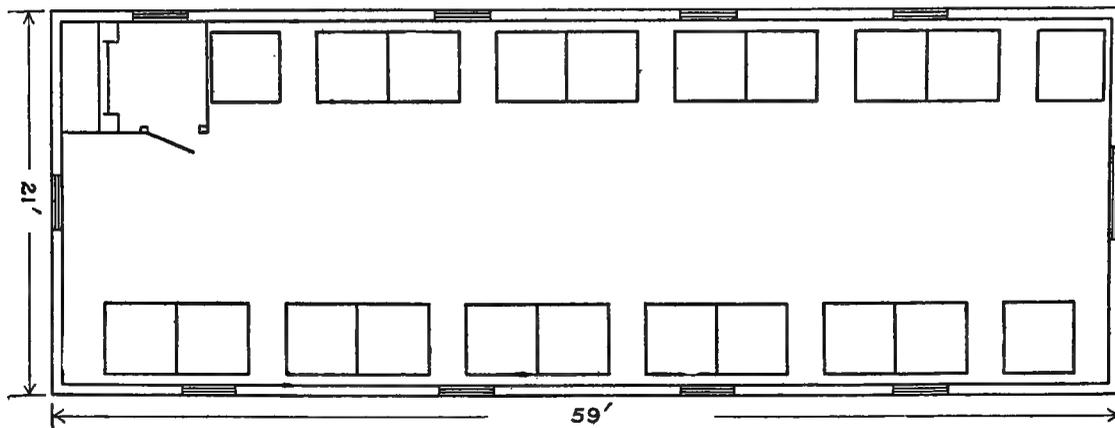


FIG. 1—GROUND PLAN FOR LARGE INCUBATOR CELLAR

visions can also be made for testing by aid of direct or reflected sunlight by having in the outer window a special pane fitted, with an opening like that in the egg tester and a mirror arranged outside the building to reflect the rays of the sun.

The writer ran twenty large machines in an incubator cellar equipped with a dark room as above described and by keeping a careful record of the time spent in the incubator

of the table, were quickly filled and trimmed by carrying them to the table one at a time, the oil-can resting on the end nearest the operator, then the can was transferred to the opposite end of the table and the lamps of the machines on that end were cared for. This is a small matter, yet it proved to be the means of saving a considerable amount of labor. The lamps being carried to the table to be filled could then be set on a firm surface for

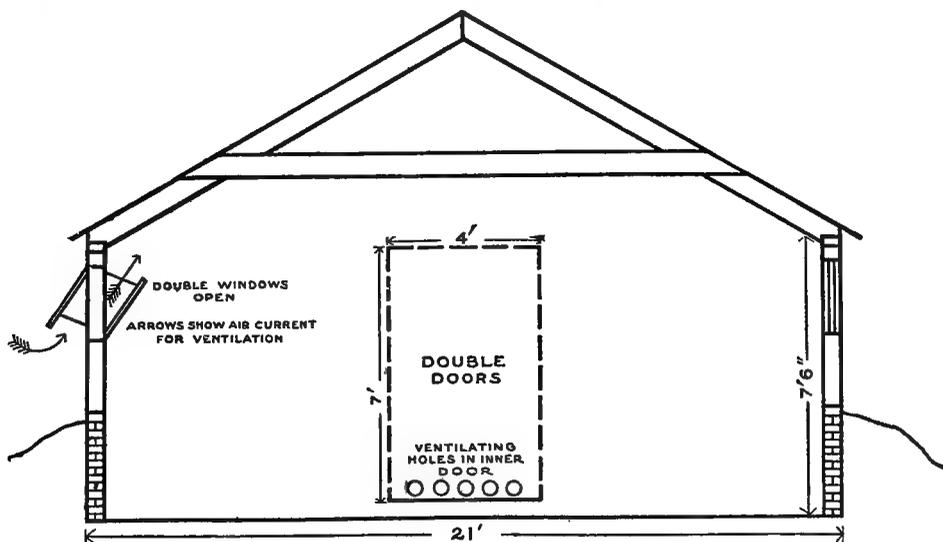


FIG. 2—SECTIONAL VIEW SHOWING VENTILATING SYSTEM

cellar he was surprised to find that, after doing all the work required, filling the lamps, trimming them, attending to the regulation of the machines, filling the machines, turning the eggs, testing them and everything necessary from starting the eggs until the chicks were ready to be taken to the brooders, the average time required per machine was not over ten minutes per day.

cleaning, which was quickly accomplished by means of a pocket knife and a soft cloth. With a cement floor and the table on rollers or small wheels it would be still more convenient.

Such an incubator house will be found a most satisfactory style to run, it being easy to have perfect ventilation at all times, and very little difficulty in keeping the heat at an even temperature even in warm weather.

MODEL BROODING HOUSE

PLANNED TO ACCOMMODATE CHICKS NEWLY HATCHED TO THOSE SIX WEEKS OLD—FORTY-TWO PENS WITH "PROGRESSIVE" RUNS INTO WHICH THE CHICKS ARE DAILY MOVED—INCUBATOR ROOM AND IMPORTANCE OF VENTILATION

C. H. PAYNE, C. E.

We have visited a number of poultry plants, both in Europe and America, and have been astonished to see the great disadvantages under which poultrymen are frequently struggling. The trouble is, so many plants have grown up bit by bit, without any definite object in view. Additions have been made to suit the convenience of the moment, and as a whole they are far from economic or satisfactory. In starting a poultry plant, no matter whether you have an acre or a hundred acres, make or have made for you, a plan of how you can best utilize the whole of your land so as to enable you to run a big business with the

bule and prevents a rush of cold air entering the room and so lowering the temperature.

One of the details that is frequently overlooked is the ventilation of the incubator room. It is simply absurd to install the room with machines, scientifically designed to supply the embryo chicks with pure air when the room is imperfectly constructed, and does not itself contain pure air. In civil engineering we have had considerable experience in the ventilation of public buildings, and therefore speak understandingly. We tell you plainly that it is not enough to have an inlet here and an outlet there, and trust to natural ventilation. The poultryman who would put perfect vitality into his chicks can only do so by the oxidation of the embryo by a constant supply of pure

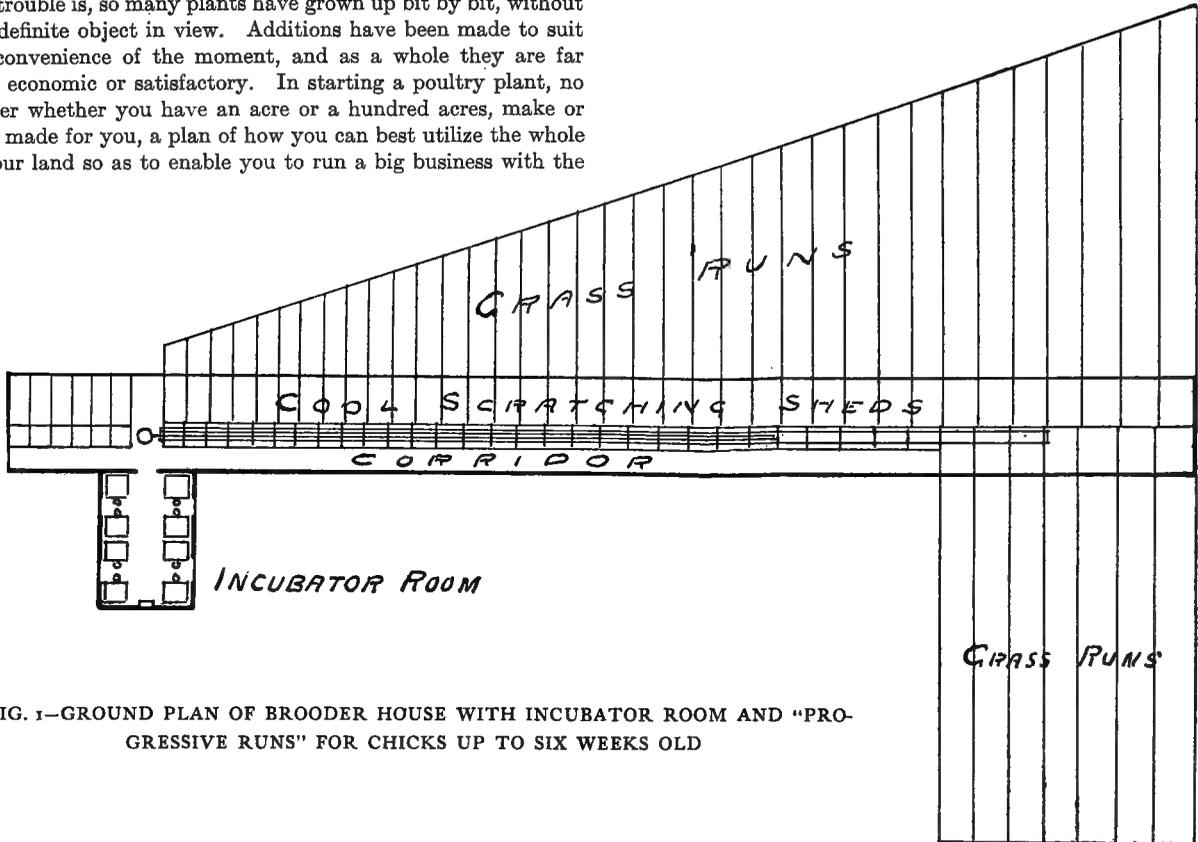


FIG. 1.—GROUND PLAN OF BROODER HOUSE WITH INCUBATOR ROOM AND "PROGRESSIVE RUNS" FOR CHICKS UP TO SIX WEEKS OLD

least possible labor. Then build as little or as much as you wish, but stick to your plan, and you will ultimately have a complete plant with every building in the right place.

As a guide to the beginner, or to the poultryman who finds himself all wrong and decides to start over again, as many successful poultrymen have had to do, we shall describe and illustrate some parts of the plan that we are working upon in building up the Utility Poultry Farm. There are of course many differences of opinion in the handling of chickens, and there are many methods. After thirty years' experience during which we have studied and investigated the best methods on both sides of the Atlantic, we have adopted these ideas, among others, as giving the best results for the money invested.

INCUBATOR ROOM AND ITS VENTILATION

The incubator room is of the usual character, sunk into the ground to a depth of three feet. This depth of excavation is ample in the northern states for up-to-date machines. The furnace room for the brooder house is also sunk three feet below the corridor floor and the entrance to the incubator room, being through this sunken part of the brooder house, acts as a vesti-

air into the incubator room. This air should contain in its bulk about twenty-one parts of oxygen to seventy-nine parts of nitrogen; which is essentially common pure air. If we introduce such air into the incubator, this oxygen of the air passes freely through the porous shells of the eggs, and in the more developed stages of the embryo, much of the oxygen is consumed as fuel in supplying the animal heat, and the volume of air that leaves the machine contains carbon dioxide in place of the oxygen that went in.

Then again, the lamps of the machines in the act of combustion consume a quantity of oxygen, which undergoes a similar chemical change, and so the atmosphere of the room becomes charged with noxious gases, which, to say nothing of the peculiar odor of the oil of the lamps, renders the air void of life-giving power. We must therefore adopt some definite method of circulating throughout the room, without drafts, a continuous and sufficient supply of fresh pure air.

TO PREVENT STAGNANT AIR

With a temperature of sixty degrees in the room and an external temperature of forty degrees, two ordinary flues open-

INCUBATION AND BROODING

A FRESH AIR BROODER

ing two or three feet above the floor level will, if of sufficient capacity, maintain a constant change of air; simply because there will be twenty degrees of difference in the specific gravity of the interior and the exterior. The lighter air, together with the diffused impure gases floating therein, would be forced out of the room by the pressure of the superior air of the external atmosphere. Obviously, then, there is no difficulty in keeping the incubator room right in cold weather. The trouble is when the external atmosphere registers seventy degrees and the room also seventy degrees, there is then no margin of difference in the specific gravity, hence the air becomes stagnant.

To increase the temperature of the room beyond seventy degrees would be wrong, because it would reduce the circulating power of the ventilating system of the incubators. One of the foremost incubator manufacturers puts eighty degrees as the maximum temperature in which his machine should work, giving the machine twenty-two degrees of working power. While an incubator will give fair results under such conditions, we know by actual test that it will do very much better when the room is kept down to seventy degrees. We therefore lay down what will, sooner or later, come to be observed as a general rule, namely, that a building erected especially for incubators, shall

Our brooder house, as will be seen by the illustration (Fig 1), is designed on the "progressive" plan with forty-two pens. The chicks are put in at one end, and pass from pen to pen daily, and come out at the other end when six weeks old. Let us point out wherein we believe many brooder houses are wrong: They do not provide sufficient space to enable the chicks to obtain proper exercise during bad weather, and they do not provide enough fresh air. The chicks are too often coddled and pampered as if they were exotics, and are kept in a hot house temperature. Such a system is not well calculated to produce a large percentage of healthy chicks.

We know that chickens have lungs for the purpose of breathing in the air to gain its oxygen. These lungs in their size, their coatings and their rapidity of respiration are adapted to an atmosphere of pure air. If we fail to supply this all our efforts in other directions are rendered futile. Fresh air is one of nature's most bountiful gifts, and yet untold numbers of chickens perish every year for the want of it. We have demonstrated with the large pipe brooder at South Dartmouth, Mass., that "infant mortality" is wholly preventable. Chicks

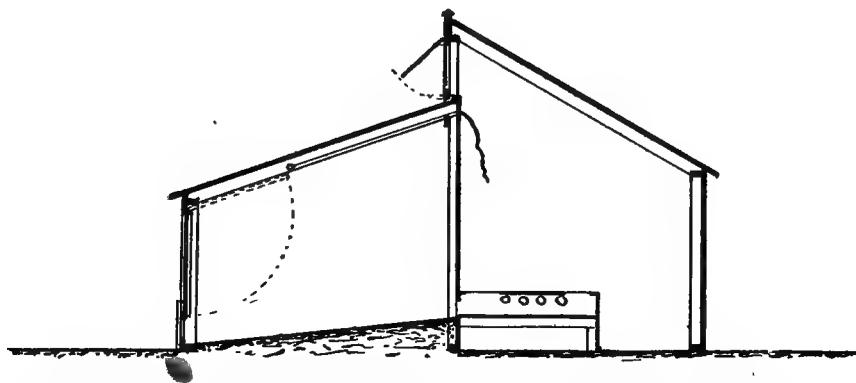


FIG. 2.—SECTION OF BROODER HOUSE SHOWING CANVAS SHELTER IN SOUTH FRONT AND WINDOW NEAR THE PEAK OF THE BROODING SECTION OF THE HOUSE

be so constructed and ventilated that its variations shall be restricted between fifty and seventy degrees. In such a room with machines well adjusted, all other conditions being about right, incubation will become a mathematical certainty.

How are we to keep the room down to seventy degrees and at the same time constantly change the air? That is the problem. There is only one way by which circulation of the air is carried out by the natural forces set in play by temperature changes without mechanical adjuncts of any sort, and that is, to apply artificial heat to the exhaust flue. Increase the temperature of the exhaust flue to ninety degrees and we have a working gravity margin of twenty degrees.

In our plan this is accomplished without cost and without labor. We construct the exhaust flue of metal and lead into, and carry up inside of it, the smoke stack of the brooder house heater, and so utilize heat that is usually wasted. During the first hatch of the season the heater will not be working. That, however, will be early in the season when the external atmosphere is low enough. The end of the hatching season is the time when this is needed, and then the brooder will be running full blast, and the air in that exhaust flue will have a velocity equal to the smoke inside of it. By reference to the plan of the incubator room, shown in the ground plan, the fresh air duct will be seen at the north end of the room, and the exhaust flue is over the doorway at the opposite end.

were taken direct from the incubator and put under hot water pipes, without fringed hovers, in broods of fifty. Those chicks reached the age of two months—long past the "mortality" period—and there was never a sick chick among them, much less a dead one. That, however, is an expensive plant, built for a perpetual output of broilers. Ordinarily the pipe system is a little risky for baby chicks during the first few days. A cheap heater naturally burns low during the night and the temperature in the brooders necessarily drops just enough to chill the youngsters, but not enough to be felt by them after they are a week old.

The brooder house we illustrate is intended only for breeding stock, to be used from about the middle of March. When chicks are not required earlier than the middle of March undoubtedly outdoor brooders produce the hardiest stock; that is to say, those that survive all the hardships and perils that chicken life is heir to are perfect specimens of hardiness. We want the hardiness of the outdoor brooder chick, but we do not want the accidental losses, and we do not want the trouble. We, therefore, planned our brooder house with this end in view, and we have so far demonstrated that we are on the right side. We have run a flock of sixty-six chicks and never had a day's sickness. Two came to a violent death by cats or rats, while all the others are perfect specimens of what six months' chickens should be, and the pullets have been laying for a month past.

SUCCESSFUL POULTRY KEEPING

To prevent possible disappointment to beginners, we must explain that such results are possible only when all the conditions of chickenhood are favorable. First the eggs must be from stock of sound hereditary constitution; stock must be grown on free range, and mated and housed for strong fertility. The eggs must be incubated under natural conditions. That is to say, in a machine constantly supplied with fresh, pure air, and supplied correctly, so that it does not dry up the life's blood of the embryo, and then vainly seek to correct the matter by pouring in water. We have operated most of the standard incubators in Europe and America, and we never were able to grow a large percentage of chicks until we secured the "no-moisture machines." All these conditions have a direct influence upon the vitality of the chick, and we want to impress upon the beginners that it is only when all the conditions are about correct that we are immune from disease and death.

Where our brooder house differs materially from others is that we depend entirely upon the internal heat of the brooders—of course, for winter brooding this would not do. It is a cheap

"PROGRESSIVE BROODING" FROM SIX DAYS TO SIX WEEKS

Method is the great labor-saver in all things, more especially in the care of chickens. We believe in a methodical arrangement of the brooder house, so that the chicks shall have as nearly as possible, the exact temperature suitable to their respective ages, the space most suited for them, and so forth. This cannot be done when the pens are all alike. Every thinking man knows that what are suitable accommodations for newly hatched chicks, cannot be adequate for fifty six-weeks chicks, and if the pen is large enough for the bigger chicks there must be a great waste of room for the smaller ones. This is one important fact poultrymen have ignored and continue to ignore. It is, however, well for beginners to look this straight in the face. We have to "fit the accommodation to the growth of the chicks"—if we do not another potent factor will step in and promptly "fit the chicks to the accommodation." When the incubator room and brooder house are apart chicks are often chilled at the start by exposure to the cold air while passing from one build-



A GASOLINE COLONY BROODER AND CHICKS

single boarded building (Fig. 2), wind-tight on the north, water-tight, open on the south, and fitted with canvas shutters to be used in bad weather to keep out snow and rain. The partition between the brooder pen and the sheds is of matched boards, with a door of similar boards, about two feet wide, leading into each shed. Over this partition, between the two roofs, are continuous glass sash, hinged at the top, to open outwards, where they are held by iron stays. If desired, a "green-house gear" could be used, by which all the sash would open or close simultaneously. These sash clap onto the outside of the upright scantlings, and the roofing material is turned up at the bottom inside of the sash, so the question of keeping the wet out is extremely simple. When the sash are all open they fit almost close together, like one long sash, and will turn the rain and keep the building dry whether open or closed.

Our chicks have the warmth and comfort of the old hen when in the brooder, and the freshness and purity of outdoor air whether in or out of the brooder. We know by experience that contact with fresh air quickens the circulation, invites to exercise, sharpens the appetite and promotes health.

ing to the other. Such a chill usually upsets the bowels and the chicks are quickly pasted up in the rear and never get a fair chance. We avoid the possibility of such a chill by having our buildings connect.

While the pipe system is a great labor saver, it is, we think, a little too variable for the small chicks. We therefore start off with six separate indoor brooders for the little chicks for the first six days of their life. During the first day the chicks are limited to a space of three by four feet. The second day they are permitted to run out to a cross board, giving them two feet of the cool shed; this board is extended each day until they have the whole of the eight-foot shed. These chicks have no mother to guide their baby steps. We must therefore prevent them straying too far from the warm brooder until we find they know their way back. The vitality of a flock is often destroyed at this point by allowing them to stay out in the cold too long.

Theoretically we start with a temperature of ninety-five degrees and gradually reduce, until at the end of six weeks we have dropped to seventy degrees. We say "theoretically" because a few degrees either way does not matter. For the first

INCUBATION AND BROODING

day or two we do not like to fall below ninety degrees, and we do not like at any time to exceed ninety five degrees. On the seventh day the chicks are passed on to the pipe system, the first pen of which is three feet six inches wide. Day by day they are passed forward, each pen increasing one inch in width, giving

the six-weeks chicks a space of six feet six inches—more than double the space they started with. Six days after the first hatch another hatch will be ready and the newly hatched chicks will be put into the lamp brooders, and so the house is kept running just as long as required.

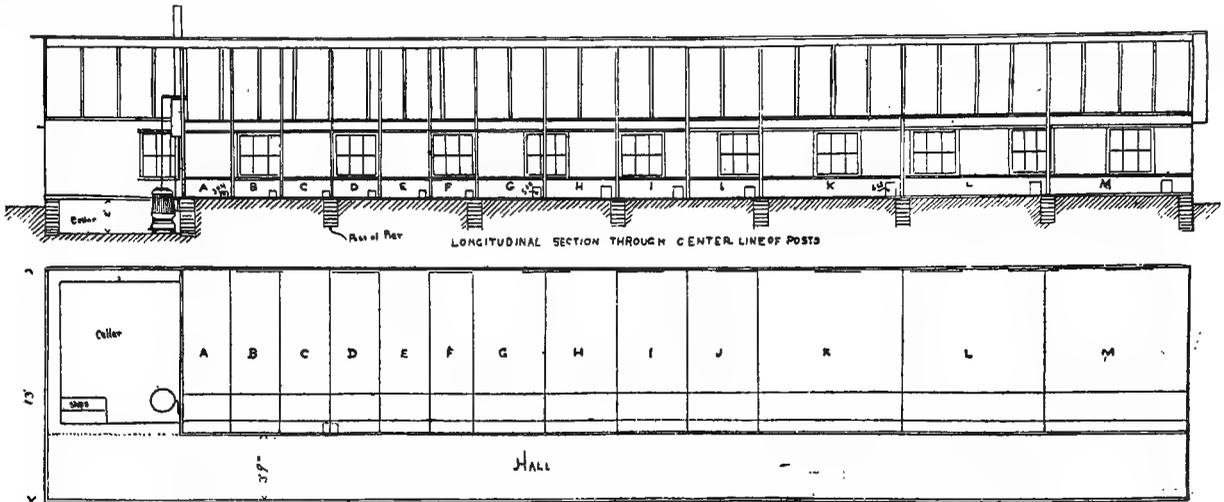


FIG. 1—GROUND PLAN AND SECTIONAL VIEW OF HAMMONTON BROODING HOUSE

HAMMONTON HOT-WATER PIPE SYSTEM BROODING HOUSE

The accompanying brooder house plans (Figs. 1 and 2), show the style of house in use at Hammonton, N. J., and elsewhere. In this style of house the hot-water piping system is used, and instead of decreasing the number of chickens in each pen as they increase in size, the size of the pen is increased.

The brooder, as may be seen in Fig. 2, consists of boards nailed together with cleats, which rest on four hot-water pipes. In the brooder house at Hammonton strips of carpet are suspended from each side of the "brooder," and also between the pipes, nailed to the under side, with the fringed edges of carpet (double or single), just high enough so the chick can feel it on its back, and here is where they like to hover.

It will be observed that the pens grow larger towards the end away from the heater. The first young chicks are placed in pens A to G, to be followed by the next new hatch, and these earlier chicks are removed to larger pens. This shifting from pen to pen goes on until the house is full. The chicks that have progressed by successive stages to pens K, L and M are fit for broilers, and are marketed as fast as they are ready. The chicks have grown and need the larger pens to accommodate them.

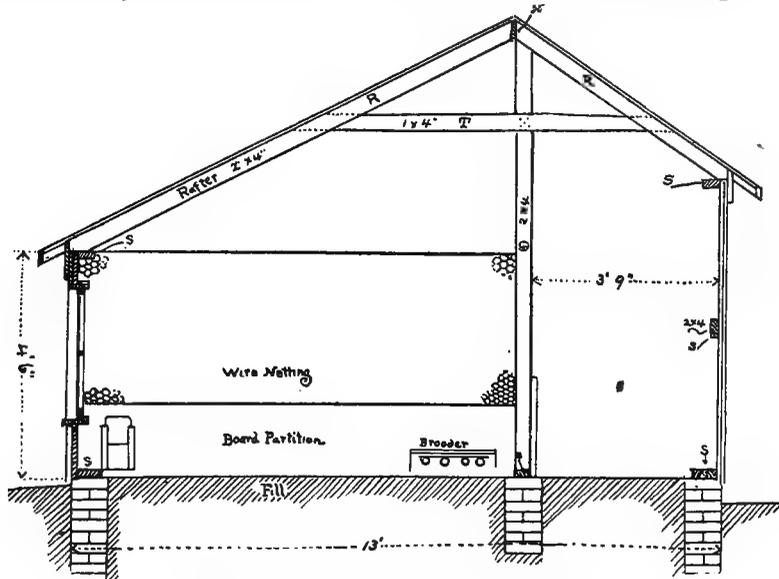


FIG. 2—HAMMONTON BROODING HOUSE

smallest chicks, and from five to seven inches from the floor for the largest, having a uniformly upward slant from pen A to pen M. The brooder tops are twenty inches wide, and should be lined with paper on the under side. They are movable, each brooder top extending the width of the pens only. It is customary to enclose a room of suitable size at the entrance of the

brooder house, where the incubators are kept. The chicks can thus be transferred to the brooder without inconvenience.

These pipes are fed with hot water from a stove or furnace located in an excavation at the A end of Fig. 1. The hot water circulates to and fro through a coil of pipes. The brick foundations are a protection against rats, mink, etc.

CHAPTER EIGHT

SUCCESSFUL CHICK GROWING

THE CARE OF GROWING CHICKS

NECESSITY OF PROPER WEANING OF NATURAL AND ARTIFICIALLY RAISED CHICKS—HOUSING AND FEEDING SUGGESTIONS—IMPORTANCE OF SUNSHINE AND FRESH AIR—ANOTHER SYMPOSIUM



WEANING time is a critical period in the life of small chicks, particularly those which are grown by artificial means. It is at this time and in the failure to properly lead up to it that many beginners make fatal mistakes in care and management.

When brooder chicks are from six to eight weeks old depending on the season, the weather, and the development of the chicks, they should be ready to leave the brooder for colony coops, except in the case of midwinter chickens which of necessity must be kept in buildings warmed by artificial heat. Unless chickens are properly handled at weaning time there is liable to be a cessation of growth which means loss of time and may mean that the chick will fail to develop properly. Stunted imperfect chicks and even increased mortality may result from errors at this time. If intended for breeders or profitable market stock, chicks must be kept growing all the time from the start, and there must be no setbacks like "standing still" with no apparent gain or temporary stops in growth. With a healthy normal chick you should be able to almost see it grow, so continuous and rapid is the development.

WEANING HEN-REARED CHICKS

The weaning of hen-reared chicks is a comparatively simple matter. Usually when the little birds are from a month to six weeks old the hen mother has already given evidence of her desire to leave them, and has been laying for some little time. As a rule it is best to let the chicks occupy the brood coop or house which they have become familiar with, and the hen mother may be returned to the laying pens. Keep a plentiful supply of dry grain food, grit, charcoal and pure water always before them, see that they are safely shut up at night so that they cannot be injured by prowling vermin, give them liberal range, shelters for protection from sunshine and from stormy weather, and they will usually thrive and prosper. If they grow too large for their small houses, remove them to a colony coop and thereafter handle in the same manner as you would brooder chicks.

GRADUALLY HARDEN THE CHICKS

Lead up to weaning naturally and gradually. Let the change be a constant and almost imperceptible one from the start and there will be no trouble at weaning time. Begin, when the chicks are a few days old, to air out the hover chamber at frequent intervals and expose the under side of the hover to direct sunlight. Reduce the heat under the hover very gradually, but keep it warm enough to make the chicks comfortable. When operating a brooder in cold weather, keep the hover space warm enough so the chicks can warm up quickly. If you do this and care for the chicks properly, you will seldom find them under the hover in the day time. They run in out of the cold

to warm up a bit and then run out again to scratch in the litter or play with their mates. Like all young things, healthy chick are playful and get a liberal amount of exercise in this manner. If you doubt this, watch a flock of brooder chicks running with a bit of wood or other non-edible substance, watch them jump about and flap their tiny wings, and race in and out of the brooder in the sheer joy of a happy existence. If you keep your eyes open you will cease to be a "doubting Thomas" and find small chicks quite as playful as young kittens or other frisky young creatures.

OUTDOOR RUN NECESSARY

Provide an outdoor run early, it will do them good even in winter to have a run outside on every fair day for a little while when the sun shines. On days when it is stormy, keep the chicks indoors, but supply an abundance of fresh air by opening the house windows and by keeping the brooder vents open. Never wholly close the ventilators of your brooders. Close, dead air will kill more chicks than any other one cause. Fresh air is a life giver and a life saver, don't forget this. On windy or stormy days it may be necessary to close the vent on the windward side, but keep the opposite or lee side vent open. Whatever you do, air out the whole brooder daily, if only for a few minutes. Don't use a brooder which has a fixed or immovable hover. Sunlight under the hover kills germs and prevents sickness. The only way to get sunlight under the hover is to remove the hover board or metal and expose its under side and the inner side of the felts to sunshine and fresh air. If this is done every time the chicks are fed it will benefit the chicks and there will be no danger of chilling them.

IMPORTANCE OF SUNSHINE AND FRESH AIR

As long ago as in 1889 the Rhode Island State Agricultural Experiment Station issued the statement in its Bulletin No. 61 on the "Mortality of Brooder Chicks," that: "Sunlight is the best and cheapest germicide for the tubercle bacillus. We found that the simple expedient of removing the hovers and setting them out of doors in the full sun all day reduced the evidence of tuberculosis in the post-mortem examinations from nearly 50 per cent to only 3 per cent."

If fresh air and sunlight will work this wonderful change in a fatal malady like tubercular disease, it certainly can be counted on to prevent diseases of a less malignant nature. When brooding in cold weather we cannot always keep the hovers out all day. We can remove them for a little sunning and airing while feeding the chicks several times a day, and gradually work up to keeping them out all day as the chicks become gradually hardened, older, stronger and better able to do without artificial heat. What ever else you may neglect, do not fail to supply

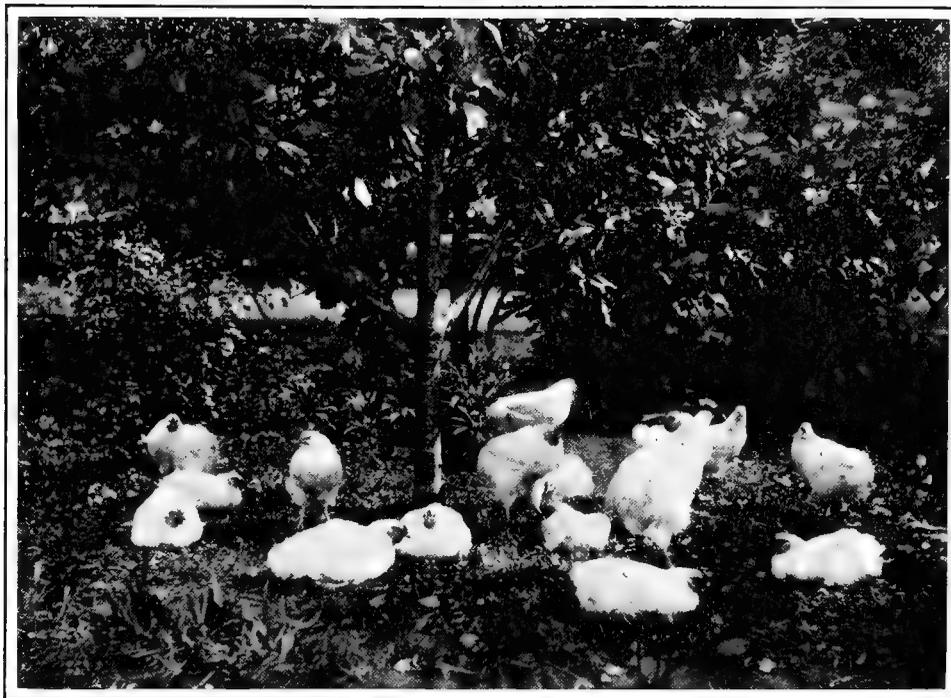
SUCCESSFUL CHICK GROWING

Nature's best tonic and disease preventives, fresh air and sunlight (when it is available), in all parts of the brooder.

We firmly believe that dry feeding is the most satisfactory and most successful method of feeding brooder chicks. Dry grain chick food of good quality, should be kept always before the birds. The brooders should be well littered with cut clover or chaff and some fine sand. Use sand and chaff half an inch deep on the floor beneath the hover. Keep pure beef scraps, good quality, green-cured, dry cut clover or alfalfa; granulated charcoal; chick-size grit and pure fresh water (with the chill off in cold weather) always before the chicks. They will not overeat, and fed in this manner there is no danger of their going without food when they need it. In addition to this, chick food should also be scattered in the litter. Fresh green food like grain sprouts, lettuce, split beets, or apples should be supplied frequently. Give them a grass run as soon as possible after they are a week or ten days old, and in any case provide an outdoor

half the height; the balance of the front should be wire netting and provided with a framed hood on which is stretched waterproof muslin or close-woven burlap. This hood should be hinged at the top to swing outward and held in position by wooden ratchets. The hood when closed should cover the whole wire front. Provide a large door in the center of the front and in the bottom of this make a small opening, for a chick door, provided with a slide to close it. The floor of this coop should be wood, kept off the ground by one inch cleats. In such a colony coop the chicks may be safely kept from weaning time until well grown and ready for the larger houses.

After the chicks have become accustomed to doing without artificial heat, place one of these portable colony houses in a sheltered position, preferably in an orchard beneath a good sized tree, and move the chicks to it in the morning of a pleasant day. Place a small wire enclosed run about 6 by 10 feet in front of the house and keep the chicks confined for a few days until



WHITE WYANDOTTES IN THE SHADE

run, giving them a chance to use it during the sunny part of every fair day.

Cared for in this manner the chicks will grow sturdy and thrive like hardy weeds; they will be always plump and in good condition.

WEANING TIME

Gradually reduce the temperature in the brooder until 75 to 65 degrees is reached; then on mild nights accustom the chicks to going without artificial heat until they are able to do without the lamp altogether. When the chicks are from six to eight weeks old they should be well feathered and well grown. At this time if they have been hardened properly, and gradually used to doing without artificial heat, they are ready to be transferred to the colony coops. These should be shed roofed box coops of about 3 by 6 feet floor capacity; 3 feet high in front and 2 feet high in the rear; the roof should be removable. The front should be boarded up at the bottom for a little more than

they become used to their home. Bed the floor of the house with a little sand and an inch or more of chaff, cut straw or similar litter. Run this house with the cloth hood closed at night at first; as the chicks grow and the weather becomes warmer the hood may be left up on mild nights and finally kept open all the time.

Do not put more than 50 chicks in one flock at weaning time, and when they are ten or twelve weeks old, thin the flocks down to 25 in a colony coop.

FEEDING GROWING CHICKS

When the brooder chicks are four weeks old begin feeding a little whole wheat and cracked corn for variety, in addition to the chick food. Gradually reduce the amount of chick food and increase the quantity of wheat and cracked corn. Hulled oats may also be fed if obtainable at a low figure, also kaffir corn, large millet, broom-corn or other small hard grains. If

SUCCESSFUL POULTRY KEEPING

possible give the chicks a grass run, if not, keep them well supplied with fresh green food, like lawn clippings, clover, green cut rye, beets, turnips, etc.

If the birds are to be marketed, feed cracked corn and beef scrap, keeping it constantly before them. In addition, keep in one compartment of the food hopper, the following dry ground grain mixture: Yellow corn, 50 pounds; heavy oats, 15 pounds; hard red wheat, 15 pounds; sound barley, 15 pounds; all ground together to flour fineness. Add to this 5 pounds of pure mealed clover or alfalfa and thoroughly mix. Feed dry from a food hopper. Keep market birds confined in moderate sized runs. Do not let them range.

If the chicks are to become breeders or layers, keep the beef scrap and the above meal mixture always before them, but allow free or liberal range. Supply a grass range if you can, but in any case allow plenty of fresh green food. Three times a day give a liberal feeding of mixed hard grains in about the following proportions: 40 pounds sifted cracked corn; 30 pounds hard red wheat; 20 pounds heavy oats; 10 pounds barley; 40 pounds cracked corn; 40 pounds clean wheat screenings; 10 pounds oats (hulled preferred); 10 pounds barley.

Grit, charcoal and pure water should of course be kept always before the birds.

KEEP QUARTERS CLEAN

Keep the chicks' quarters clean; if they are confined to small runs remove to new runs often, always plowing up and disinfecting the old ground from which the chicks were moved. Air-slaked lime (if thoroughly slaked) will answer for disinfection if a good top dressing of it is given before plowing under. It will be well to plant these old runs to rye or oats to sweeten the soil and afford green food for fresh crops of chicks.

The colony houses should be cleaned at least once a week and kept clean, renewing the sand and litter often. In these houses use a creolin disinfectant or a good lice paint at frequent intervals. Take the roofs off and sun and air the coops often. A little hot whitewash applied to the interior in the early morning of a bright sunny day, and a thorough drying out afterward, is an excellent means of sweetening the coops. Don't let the chicks get lousy. If lice appear use a lice paint on the woodwork and a good lice powder on the birds.

When the chicks are a little more than half grown put roosts into the coops for them. If they are healthy, well-fed and well-nourished you need not fear crooked breast bones. Provide shade and shelter for the birds to run to in hot or stormy weather, but don't neglect to make the proper use of Nature's best remedies, sunshine and fresh air.

In closing this chapter we present our final symposium of the experience of successful poultrymen. The following questions were asked of a large number of prominent breeders who are known to be men of experience and who have attained success in poultry keeping:

Q. 33. How many head of growing stock do you house and yard together?

Q. 34. At what age do you separate the sexes?

Q. 35. Do you find it advisable, later on, to separate the cockerels?

Q. 36. If so, what method do you follow?

Q. 37. What do you feed growing stock?

Q. 38. How do you feed growing stock, also how often?

As in previous symposiums we have numbered these questions and the answers, which follow beneath the name of each breeder from whom replies were received, each bear a number which corresponds with the question asked.

W. R. GRAVES, Springfield, Mass.

WHITE WYANDOTTES

- A. 33. From 25 to 50 according to size of place.
- A. 34. When they are easily distinguished.
- A. 35. Yes, I do for show birds.
- A. 36. When matured or nearly so have house with large coops, and place one bird in house with run and change birds every day, not allowing them in coop over three days at a time.

W. L. DAVIS, WILLOW BROOK FARM,
Berlin, Conn.

BREEDER OF S. C. BUFF, BLACK AND WHITE ORPINGTONS

A. 33. For young stock we house in a yard together at the present time about 40 or 50, and as they grow older we cull this number down to about 25.

A. 34. We separate the males from the females at the time we hear the young cockerels commence to crow, in fact, we allow them to remain together as long as conditions are satisfactory and they get along well together, but never wait for them to commence to try to run each other, but take the matter in hand and separate them.

A. 35. I think it advisable to separate the cockerels just as soon as they show any signs of trying to run the yard.

A. 37. Our growing stock is always fed enough, but we always try not to overfeed. We keep ground beef scraps in front of our growing stock all the time. They never can eat too much of this.

A. 38. The greatest success in the poultry business is to be obtained by prompt, regular feeding, and also giving them plenty of good fresh water. I think one of the finest foods in the market today is stale bread that has been dried out so that it will keep an indefinite time. Take this bread and soak the same in a pail of water for an hour, then put it into a small cider press, and squeeze out all the water, and you have feed as good as anything that I know of. If your baker will give you the wheat and graham bread mixed together you have something then that the chickens will like and do well upon. Buy good beef scraps, and keep it before your chickens all the time. They know how much to eat, I find, without telling them. If you do not believe this, come to our farm and we will show you the results.

WILBER BROS., Petros, Tennessee

S. C. WHITE LEGHORN SPECIALISTS

A. 33. Twenty-five to 50 according to size, but never any more.

A. 34. As soon as the cockerels begin paying attention to pullets, from two to three months of age.

A. 35. We do, as the older cockerels will run over and worry the younger ones and they will not mature into as good specimens. Birds of about the same age can be reared together but different aged cockerels, also pullets, should be separately yarded.

A. 36. Again, if when we note some cockerels or pullets at the age of nearing maturity showing up to be very fine we separate them, allowing only two to five in yard.

A. 37. After birds reach ten weeks they are colonized in lots of 25 to 50 and fed a variety of grain, vegetables a week finely cut up, often boiled and seasoned, ground beef scraps twice weekly, cabbage, sun-flower seed, butter milk once a week, the variety being our object in view to give birds growth in bone and flesh.

SUCCESSFUL CHICK GROWING

A. 38. After birds are ten weeks old and colonized on free range with abundance of shade, sunlight, grit, shell and water, their three meals are mixed grains well sown broadcast in litter and grass, morning, noon and a full feed at night, the latter being given them about four o'clock. They will put in a good time before roost time and their morning feed meets them when coming from night quarters.

J. H. DOANE, Gouverneur, N. Y.

BREEDER OF S. C. BLACK MINORCAS AND WHITE WYANDOTTES

A. 33. For me, as a fancier, 50 is enough. A market poultryman could put 100 together with good results, if well removed from neighboring colonies.

A. 34. Just as soon as the cockerels become troublesome.

A. 35. Yes, separate all that do not come up to a high standard as soon as possible and give the better ones a chance to develop finer.

A. 36. At this time, I separate the culls for the ax and retain only such as bid fair to develop good ones. Cull closely should be the watchword of the fancier, and better quality is attained in this way only.

A. 37. Whole grain exclusively with plenty of cracked or whole corn.

A. 38. Scattered in the grass three times daily.

J. W. PARKS, Altoona, Pa.

BARRED PLYMOUTH ROCK SPECIALIST

A. 34. When the cockerels get to nagging the pullets.

A. 35. We very seldom have much trouble with cockerels until winter comes when they must be kept in the houses, and even then they get along among themselves all right until a nice day comes and we have to let them out, and then the ones from different pens sometimes get to mixing things up a little.

A. 36. We generally take day about leaving them out, and in some cases we just run a little temporary fence around each coop, leaving the door on the outside. It isn't that they find things to eat that we like to leave them out when it is a nice day; it is because we like to see them outside where they can stretch themselves, as we like to do ourselves after being shut in a while.

A. 37. We feed our young growing stock on range all the oats they will eat for breakfast, a little wheat or cracked corn for dinner, and for supper all the corn they will eat up clean. We keep a hopper of dry mash where they can help themselves. We also allow them beef scraps at all times.

A. 38. We feed our growing stock in front of their coops in nice weather, and on bad days throw it in the coop in the litter. As we move our coops at least every two weeks and sometimes every week we have a clean place to feed them, and they do not tramp out the grass in front of coops. We feed our growing stock three times a day, and they always have access to the dry mash in hoppers. While there are plenty of insects in the summer for the growing chicks I very seldom feed any beef scraps, and when I do feed them scraps I generally make it about one-half wheat bran and place that in hoppers before them. For my part I do not care for the young stock to get all the scraps that they would eat, as it brings them to maturity too soon. We hear too much nowadays in favor of early maturity. It can be done and in some cases is all right, but it would not be the thing for a breeder like myself to follow, as I know a little about it from experience. I would much sooner have the pullet for a breeder that did not commence to lay until she was six and one-half or seven months old than the one that commenced to lay at five months. I have had them

lay at five months old, and that is something out of the ordinary for the Barred Rocks, but it was at a sacrifice of size and vitality. You take a pullet that is allowed to get her size, that is, fill out and get matured before she commences to lay, and when she gets down to it she is going to make the eggs come, as she has the constitution and strength back of it, and at the end of two years she will be ahead of her sister that commenced to lay six weeks earlier, and she will lay better sized eggs. There may be exceptions in this case, and I do not want to be considered one that is trying to stop the wheels of progress, but am opposed to anything that is detrimental to our favorite and profitable breed, the Barred Plymouth Rocks.

BRADLEY BROS., Lee, Mass.

BARRED PLYMOUTH ROCK SPECIALISTS

A. 33. Fifty to 100 according to convenience and range, etc.

A. 34. At about five months old.

A. 35. Too much trouble and don't do as well as a rule. If particularly fine show birds, we separate them in pens for the purpose and give a hen or two perhaps.

A. 37. Same as I feed little chicks. They get all the beef scraps and cracked corn they will eat, for they have farm range. Mixed grains also; corn one part, cracked corn two parts, wheat two parts, barley one part, buckwheat and shells.

A. 38. Twice a day, or as for fowls. Mash usually at noon what they will eat up clean.

C. H. WELLES, Stratford, Conn.

BARRED PLYMOUTH ROCK SPECIALIST

A. 33. This depends upon size of house. I don't like to have over 25, but most always do as I like about this number.

A. 34. When I put them in for the winter.

A. 35. I do not as a rule, except on my best specimens.

A. 36. What I cannot accommodate in small runs I coop.

A. 37. Same as I feed little chicks.

A. 38. I keep it by them all the time in dry food hoppers.

FRANK McGRANN, Lancaster, Pa.

BREEDER OF SINGLE-COMB BLACK MINORCAS, BARRED PLYMOUTH ROCKS, WHITE WYANDOTTES AND SINGLE-COMB WHITE LEGHORNS

A. 33. Not more than 50 in a flock.

A. 34. Just as soon as I am able to distinguish the cockerels from the pullets.

A. 35. Not unless I take out the best of them and fit them for exhibition purposes.

A. 36. Give the cockerels which I have selected for exhibition purposes plenty of house room and free range if possible, also feed them specially.

A. 37. Just the same as breeding stock, only I feed them a mash food three times a week.

A. 38. Scatter the grain food on the grass in the yards, and feed the mash in a low trough. I feed three times a day.

W. D. HOLTERMAN, Ft. Wayne, Ind.

BARRED PLYMOUTH ROCK SPECIALIST

A. 37. Growing stock get much oats and meat scraps in addition to the other grain foods. I prefer hulled or clipped oats. The young cockerels are watched carefully with regard

SUCCESSFUL POULTRY KEEPING

to meat scraps, as these are liable to make their combs large and beefy. The best thing these birds get is the range of the farm. Charcoal is left before them all the time.

A. 38. Growing stock also receive only dry food. I find a feed of three times a day is sufficient. Will try hopper feeding for these. They have fresh pure water always.

H. E. BENEDICT, Horseheads, N. Y.

BUFF PLYMOUTH ROCK SPECIALIST

A. 33. If yarded, 25 to 50 according to size of yard. If free range, let them run in larger flocks, the pullets and cockerels separate.

A. 34. As soon as they begin to worry the pullets.

A. 35. Not as a general thing until I put them in winter quarters. If they get to fighting put an old cock with them.

A. 36. According to my circumstances and the condition of things I may have to take out some of the smaller ones and give them a better chance. If any of them get too lordly, take them out. Kill off the culls as soon as you can.

A. 37. All kinds of dry grain.

A. 38. Scatter it on the ground (except cracked corn, feed that in a trough), if weather is dry; if wet, feed inside in litter. After two months three times a day will do.

A. B. TODD, Vermillion, Ohio

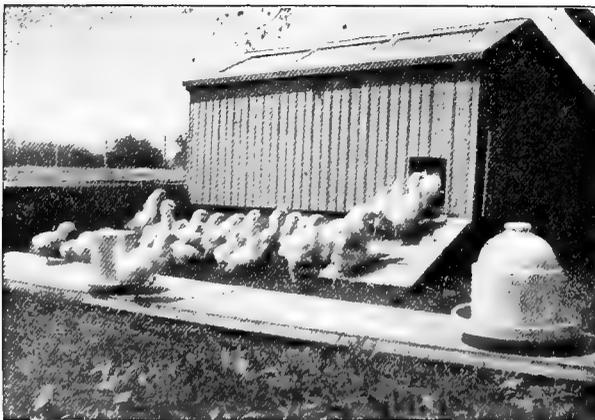
S. C. WHITE LEGHORN SPECIALIST

A. 33. From 40 to 60.

A. 34. About six to eight weeks, or as soon as they can be distinguished.

A. 35. Yes.

A. 36. Pick out those having perfect combs, good shape, style, etc., and have the others fattened for market.



A TYPE OF OUTDOOR BROODER WITHOUT RUNWAY OR CONFINING PEN

A. 37. Cracked grains same as fed growing chicks, also a dry mash, hopper fed, with beef scraps and plenty of fresh water and grit before them at all times.

A. 38. I hopper feed all of my growing stock, being careful to see that hoppers are kept filled at all times

EDW. KNAPP, OF KNAPP BROS., Fabius, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 33. One hundred to 150.

A. 34. We do not think it necessary to separate the sexes until the cockerels show their masculinity.

A. 35. We do; as they develop, we place the best ones by themselves.

A. 36. We watch best birds and if necessary take out the unruly ones.

A. 37. Our growing stock thrive well on same ration fed three times a day as we feed adult stock, just what they will pick up clean in a short time.

H. J. BLANCHARD, Groton, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 33. One hundred to 150, according to location, size of house, age of chicks and amount and character of range. I do not approve of yarding young stock when of suitable age to run at liberty.

A. 34. At about four months old.

A. 35. I do not.

A. 37. Wheat and cracked corn, two parts wheat and one part corn for whole grain, and a dry mash once a day composed of corn meal, wheat bran and alfalfa meal with about ten per cent high grade beef scrap, thoroughly mixed.

A. 38. Whole grains are fed scattered widely on the ground twice a day and the dry mash fed in shallow troughs once a day, usually in the morning.

A. & E. TARBOX, Yorkville, Ill.

SILVER LACED WYANDOTTE SPECIALISTS

A. 33. We house about 50 as a general rule and give free range.

A. 34. At five or six months, but think it would be better at three or four months.

A. 35. Yes.

A. 37. Coarse grains (balanced ration). Beef scraps.

A. 38. We feed the grain foods in litter; feed three times a day.

F. W. RICHARDSON, Hicksville, Ohio

BARRED PLYMOUTH ROCKS

A. 33. Fifty head is the limit.

A. 34. Four months old.

A. 35. I separate a few show specimens later. Never found it necessary to separate breeding cockerels.

A. 37. Feed soft food once a day mostly for morning feed, composed of corn, oats, barley, equal parts, and soaked oats at noon; whole corn at night.

A. 38. Wheat in morning, oats at noon, corn at night

CHAS. E. VASS, Washington, N. J.

BREEDER OF SINGLE AND ROSE-COMB BUEF ORPINGTONS AND SINGLE-COMB WHITE AND BLACK ORPINGTONS

A. 33. It's not profitable to allow over 50 or 60 head to roam together.

SUCCESSFUL CHICK GROWING

A. 34. Just as soon as the males interfere with the females.

A. 35. Not if they house peaceably.

A. 37. Cracked corn, wheat, barley and beef scraps.

A. C. HAWKINS, Lancaster, Mass.

BREEDER OF WHITE, BUFF AND BARRED PLYMOUTH ROCKS,
SILVER, BUFF AND WHITE WYANDOTTES

A. 33. I have about 40 in each colony coop and give all unlimited range.

A. 34. At five to six months.

A. 35. I run cockerels in flocks of 50 to 75 with good success. Exhibition specimens should be kept each in a separate pen.

A. 37. A mash for first morning feed and a mixed grain always before them. Free range. The mixture is cracked corn, wheat and oats, charcoal and coarse sand or grit always before them.

A. 38. The mash in long troughs, giving plenty of room without crowding. The mixed grain in hoppers protected from rain.

J. C. FISHEL & SON, Hope, Ind.

WHITE WYANDOTTE SPECIALISTS

A. 33. About 40 or 50.

A. 34. When about four months old.

A. 35. Yes, about five months old.

A. 37. Soaked food such as oats, wheat and a little cracked corn, but mostly oats and wheat.

A. 38. Hopper feed them with meat scraps added.

U. R. FISHEL, Hope, Ind.

WHITE PLYMOUTH ROCK SPECIALIST

A. 33. We do not yard growing stock; give them free range.

A. 34. Nine months.

A. 35. No.

A. 38. Make them work for all the food except mash. Feed twice a day.

THOMAS F. RIGG, Iowa Falls, Iowa

HOUDANS AND WHITE WYANDOTTES

A. 33. About 25. Each colony house has yard 132 by 132 feet in clover and fruit trees.

A. 34. Not until cockerels begin to get troublesome.

A. 35. Yes.

A. 36. Cockerels for sale as breeders and exhibition stock are placed in a grass run removed from the other stock. In the fall they are placed in the cockerel house, each one having a pen 3 by 6 feet.

A. 37. Same as I feed chicks.

A. 38. The mixture of grains as for chicks, kept constantly before stock in self-feeding hoppers. Mash fed at noon daily.

W. R. CURTISS & CO., Ransomville, N. Y.

BREEDERS OF WHITE WYANDOTTES, SINGLE-COMB WHITE LEGHORNS
AND MAMMOTH PEKIN DUCKS

A. 33. Put 75 to 100 together; take out cockerels and leave the pullets.

A. 34. As soon as they are fit to sell for broilers or to crate-fatten.

A. 35. Keep pullets and cockerels separate if possible.

A. 36. Cockerels which we keep to breed we house in colony houses on as large a range as possible.

A. 37. Grain three times a day, mash once a day. Alternate wheat, corn and oats.

J. H. JACKSON, Hudson, Mass.

WHITE WYANDOTTE SPECIALIST

A. 33. Young stock have free range, do not crowd. Feed plenty and often.

A. 34. Not until cockerels get sexual vigor. When raised for breeders like to give them free range for growth. Culls penned up and go to market as soon as possible.

W. B. CANDEE, De Witt, N. Y.

WHITE WYANDOTTE SPECIALIST

A. 33. Generally put out about 75 chicks about six weeks old in the 6 by 6 colony house. A small yard of netting is put around each house for a week, houses 5 or 6 rods apart, then this is taken away and as many as 800 or 1000 run on same range.

A. 34. When about twelve to fourteen weeks old.

A. 35. I have four pens in separate cockerel house and the cockerels are divided in those pens according to size as they are separated from the range, being careful about this to prevent as far as possible their fighting. If one shows fear in the pen he is put in a separate coop or with females for a short time to get him on his feet again.

A. 37. In colony houses put dish of grit and charcoal, also a hopper containing dry mash and another containing a mixture of cracked corn and wheat; about three parts corn to two parts wheat. Fill these every morning, and aim to have just a little left in them the following morning. Clean earthenware water fountains put in as cool a place as possible and large enough so they also will have some left on next morning.

ROWLAND G. BUFFINTON, Somerset, Mass.

BREEDER OF BUFF, SILVER PENCILED AND COLUMBIAN WYANDOTTES;
BUFF AND PARTRIDGE PLYMOUTH ROCKS; BUFF ORPINGTONS;
RHODE ISLAND REDS; BUFF, BLACK, WHITE
AND PARTRIDGE COCHIN BANTAMS

A. 33. From 40 to 60.

A. 34. We let them run together until October when the pullets are put in the breeding yards.

A. 35. Yes, we put about 20 in one flock as near one age as possible. We never put small males with large ones, they continue small.

A. 37. Dry mash same as we give the hens and cracked corn at noon.

SUCCESSFUL POULTRY KEEPING

ALBERT F. DIKEMAN, So. Peabody, Mass.

BREEDER OF WHITE WYANDOTTES AND WHITE PLYMOUTH ROCKS

A. 33. Depends entirely on size of yard,—at least 50 square feet to each bird. Not over 100 birds in any one flock.

A. 34. From eight to twelve weeks according to actions of cockerels.

A. 35. Yes, for show purposes, as some are sure to haze the others and this retards growth and breaks flight and tail feathers.

A. 36. Pen the troublesome ones separately, watch them closely; if they appear lonesome and do not eat readily, give them three or four old hens that are, later, intended for market.

A. 37. We use self-feeding hoppers containing a hard grain mixture of 50 per cent white wheat, 25 per cent cracked corn, and 25 per cent hulled oats. Grit, charcoal good beef scraps and fresh clean water. All these available for the stock at all times.

A. 38. Same as 37.

G. W. BROWN, Camden, Arkansas

WHITE WYANDOTTES, BARRED ROCKS, INDIAN GAMES, BUFF COCHINS,
LIGHT BRAHMAS, LEGHORNS, PIT GAMES, WILD
AND BRONZE TURKEYS

A. 33. Our breeding pens are 50 by 100 feet and houses 6 by 8 feet and to each breeding house and yard we run ten females and a male. In our colony houses, we have them 10 by 18 feet, there are 100 birds in each.

A. 34. At six to eight months old we separate all males and females, the males running in large fields to themselves and the females the same.

A. 35. We find it best to let the cockerels run together just as long as possible, but often have to put up, (special birds causing trouble) exhibition pens and yards for keeping all such, and for preparing for the shows.

A. 36. All birds causing trouble, as explained above, are cooped alone in special coops for this purpose.

A. 37. For growing stock, we use vegetables well cooked and seasoned, mixed with a good warm mash of shorts, bran and oats, with plenty of cooked meat or green bone.

A. 38. We feed three to four times daily.

B. S. HUME, French Village, Ill.

WHITE WYANDOTTE SPECIALIST

A. 33. Not over 30 or 40.

A. 34. At six months old.

A. 35. Not if they get along quietly.

A. 36. I farm them out when I can.

A. 37. Mostly soaked oats and wheat, some little corn. Oats give them bone and muscle and make young stock thrifty.

N. V. FOGG, Mt. Sterling, Ky.

BREEDER OF SINGLE COMB WHITE LEGHORNS EXCLUSIVELY

A. 33. Cockerels are separated from the pullets as soon as they can be easily picked out.

A. 37. My growing stock is fed three times per day with the mash at noon. They are fed a feed of mixed grains in the morning and at night, composed of wheat, oats and cracked corn. At noon their mash is fed and is composed of wheat bran, ground oats, beef scraps, corn meal and wheat middlings. I also feed green stuff unless my birds are on a nice grassy field.

EDW. E. LING, So. Portland, Me.

WHITE WYANDOTTES

A. 33. About 20.

A. 34. About seven to eight weeks old.

A. 35. Sometimes, if there should be birds that did not get their share of the feed.

A. 36. Put in a pen with smaller cockerels.

GEO. A. BARROWS, Groton, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 33. Each colony house will hold about 60 chicks. These are not yarded but are given unlimited free range.

A. 34. From five to six months.

A. 35. Only to remove any weak birds from among the strong ones.

A. 37. I feed the growing chicks after four weeks on equal parts cracked corn and wheat and keep grit before them all the time, and this season I have kept beef scraps before part of my chicks all the time with good results.



A WHITE WYANDOTTE MOTHER AND CHICKS

A. 38. It has been my custom to scatter the grain on the ground three times per day for my growing chicks, but this season I placed food hoppers in three of my colony houses and kept them filled with cracked corn, wheat and beef scraps and the result was such that I think that I shall use that method entirely next season.

H. H. FIKE, Libertyville, Ill.

WHITE WYANDOTTES

A. 33. Not over 100 in one colony with unlimited range (no yard).

A. 34. When twelve weeks old.

A. 35. Yes.

A. 36. About 25 to a lot.

A. 37. Same as for little chicks.

J. L. JEFFERSON, Des Plaines, Ill.

WHITE PLYMOUTH ROCKS

A. 33. Whatever is left in each brooder, generally about 35 are housed together. I use no yards to speak of.

A. 34. Between three and four months.

SUCCESSFUL CHICK GROWING

A. 35. March hatched cockerels should be separated about the first of November and the best placed each alone, that is, if you want to use them for showing, otherwise it would make no difference.

A. 36. Coop each of the best alone after they are taken in for the winter, or else coop say about three together in a pen, if they seem to agree well. Sometimes they do the best when crowded thick in a pen so they have no chance to fight, and this is the best way to handle late-hatched cockerels.

A. 37 and 38. Same as I feed little chicks.

- A. 34. When about three months old.
A. 35. We do.
A. 36. We separate them in the winter when they get uneasy by distributing among our hens.
A. 37. Wheat and cracked corn and oats, and be very sure not to feed any damaged grain.
A. 38. Three times per day

D. F. PALMER & SON, Yorkville, Ill.

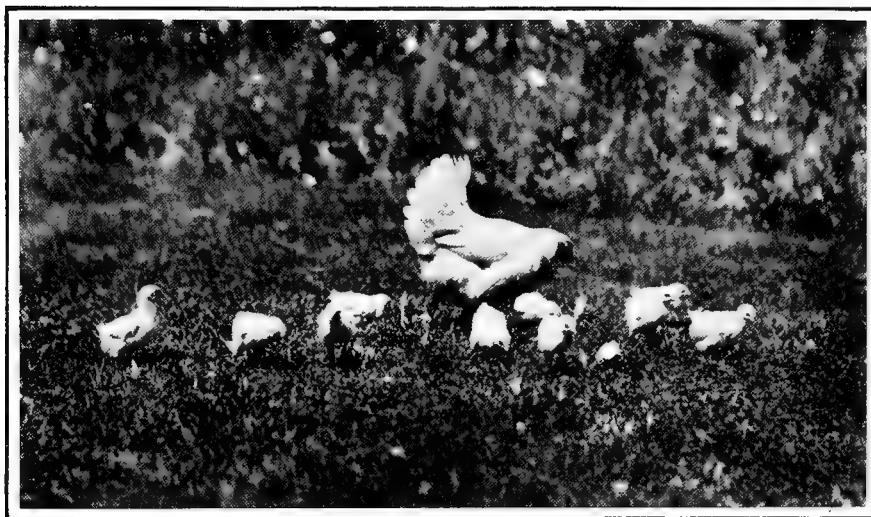
BARRED PLYMOUTH ROCK SPECIALISTS

- A. 33. We give the growing stock free range.
A. 34. We don't separate until we house them for the winter.
A. 35. Yes, if you have plenty of room.

CHARLES G. PAPE, Fort Wayne, Indiana.

S. C. BLACK MINORCA SPECIALIST

- A. 33. Twenty-five.
A. 34. At five or six months.
A. 35. It seems that they spread out in better shape (more plump). It certainly saves their plumage.



FORAGING—CLOSE TO NATURE

A. 37. Keep cracked corn and wheat in feeders where they can help themselves all the time, so arranged that the old ones can't get to it.

GUS. L. HAINLINE, Lamar, Missouri

WHITE WYANDOTTES

- A. 33. Not over 50, prefer 30.
A. 34. Five months.
A. 35. Have not done so.
A. 37. Ground bone or meat scraps occasionally; oats and kaffir corn; young stock scattered out over the farm; to illustrate, I counted seventeen head following my corn binder cutting kaffir corn, a quarter mile from their colony house.

G. MONROE WOOD, Woodville, N. Y.

WHITE LEGHORN SPECIALIST

A. 33. About 100 until nearly six weeks old and then we give them free range.

WM. H. ROBINSON, La Fayette, Ind.

BARRED PLYMOUTH ROCKS AND WHITE WYANDOTTES

- A. 33. In colony coops from 25 to 100 according to size of coop. Never crowd; a vital point and loss
A. 34. At whatever age they bother the other sex; if on large free range can be done quite late.
A. 35. Yes, in large grassy yards well cared for.
A. 36. Simply in large grass runs, plenty of the best of food and pure water. Good management and good judgment in housing and roosting.
A. 37. When reaching more mature age we gradually wean them from the small grain, place them in colony coops, not crowded, and feed cracked corn and wheat from the hopper, with beef scraps also before them. With this and large free farm or orchard range, young stock is bound to grow and mature early and strong, hardy and vigorous in every respect.
A. 38. Fed as above with hoppers constantly before them. they go and come as they choose. There is no crowding and jamming over one another at feeding time. The birds have been allowed to balance their own ration, and go and come from the fields at their own free will, where they may scratch and

SUCCESSFUL POULTRY KEEPING

hunt for bugs and insects among the berry bushes, orchards, etc., to return and take some food from the hopper and quietly go to their roost as nature intends they should.

MRS. H. W. HAND, White Hall, Ill.

WHITE WYANDOTTES

- A. 33. From 25 to 35.
A. 34. At about twelve or fifteen weeks of age.
A. 35. When they are about five months old I separate them into colonies, each colony as near the same age as possible.
A. 37. I feed my growing stock plenty of wheat, corn and oats, morning and night, and at noon steamed oats or a properly balanced mash, with range on a blue-grass field.
A. 38. The grain is scattered so that they will have to hunt for it, and the mash fed in troughs. Do not like to feed meat scraps in hoppers to growing stock. they get plethoric and have liver trouble.

MRS. CHARLES JONES, Paw Paw, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS, BUFF COCHINS, GOLDEN BRONZE TURKEYS

- A. 33. About 500.
A. 34. They all have the run of the farm.
A. 35. I separate cockerels when put into winter quarters
A. 37. Oats and corn, and they have the run of an orchard with all the apples they can eat.
A. 38. Twice a day.

HARMON BRADSHAW, Lebanon, Ind.

S. C. WHITE LEGHORNS

- A. 33. Let them run at large after they come from the brooder.
A. 34. At six to eight months.
A. 35. Yes.
A. 36. Have small pens 3 by 3 feet, 5 feet high, one cockerel to a pen.
A. 37. Same as for breeding stock.
A. 38. Same.

C. L. PENCYL, Bloomsburg, Pa.

BUFF PLYMOUTH ROCKS

- A. 34. As soon as the young cockerels begin to crow and bother the pullets.
A. 35. Yes, I do. I think it better for buff pullets and cockerels to be separated until breeding season.
A. 36. Keep them in runs by themselves until I find sale for them. Think they both do better than penning them up in exhibition coops separate, and the cockerels won't fight if raised up together.
A. 37. After they are large enough to eat wheat and cracked corn, etc., I feed them all they will clean up every time, and usually throw it amongst clean litter to keep them on the move all the time, and then let them out for green stuff, bugs, etc.
A. 38. I feed mostly all hard food or dry food, and feed three times per day.

MRS. TILLA LEACH, Cheneyville, Ill.

BREEDER OF BARRED PLYMOUTH ROCKS

- A. 34. When the cockerels become so troublesome that I am obliged to.
A. 35. Yes, advisable but not possible; am limited as to room.
A. 37. Wheat, cracked corn, etc., scattered and also in boxes. At night mash like the older fowls. As soon as new corn is ready they have it on the cob.
A. 38. A light feed of cooked mash at night; aim to keep plenty of grain by them during the day, also some beef scraps.

GEO. H. BIE, Racine, Wis.

BREEDER OF BARRED PLYMOUTH ROCKS

- A. 33. About 30.
A. 34. At about three months old.
A. 35. Yes, for all cockerels that I want for exhibition purposes or for fine breeders.
A. 36. I have a number of small pens, very often I place two cockerels in the same pen, that is, if I find out that they agree together.

ROSEDALE POULTRY FARM CO., Greenwood, Mass.

WHITE WYANDOTTES EXCLUSIVELY

- A. 33. Forty or 50, or less, determined by size and temperament. Free range during fine weather.
A. 34. At sixteen weeks.
A. 35. Always. Weed out the fighters and place them with birds with whom they agree.
A. 36. Mate or match up according to their likes and dislikes.
A. 37. Same as for breeding stock.
A. 38. Same as other stock. Four times a day, meals about equally divided.

BENJ. H. BAKER, Owensboro, Ky.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 34. I do not separate them until well near to maturity
A. 35. I find it quite advisable later on to separate the males. It often saves a good male from being ruined for showing and as a breeder, as they often would lose a great deal of energy from the loss of blood in fighting.
A. 36. I coop them in coops about 2½ feet by 2½ feet, sometimes putting two together if they get along well. I find that they develop better and quicker and less subject to accident than any other method I know of.

FRANK D. HAM, Livingstone, N. Y.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 33. Twelve females with one male.
A. 34. At five months old.
A. 35. Yes.
A. 36. Large yards for the cockerels; free range for the pullets.

SUCCESSFUL CHICK GROWING

- A. 37. Corn, wheat and scraps.
A. 38. Twice a day morning and night, all they will eat up clean.

W. S. HARRIS, Mansfield, Mass.

RHODE ISLAND RED SPECIALIST

A. 33. At times I have 1500. Have had over 5000, sometimes more. About 15 to each 100 square feet of yard space; all have free grass range.

A. 34. Three months of age.

A. 35. I prefer to keep them separate until about two or three weeks before breeding.

A. 36. I keep them all together until ready to breed. The off-colored or less desirable I market as broilers regardless of price, as I want the room for the pullets.

O. E. SKINNER, Columbus, Kansas

BREEDER OF BARRED PLYMOUTH ROCKS, BUFF AND
PARTRIDGE COCHINS

A. 33. Seventy-five in a house 8 by 16 until good frying size, and then after culling, 40 to 50, not exceeding 50.

A. 35. Yes, they worry the pullets all the time and do not do as well themselves.

A. 36. We have pens for cockerels entirely away from hens or pullets. They keep much more quiet and do much better.

OTTO O. WILD, Benton Harbor, Mich.

WHITE WYANDOTTE SPECIALIST

A. 33. Twenty to 30 in piano boxes on unlimited orchard range. Fifty in my breeding houses 10 by 18, unlimited range.

A. 34. When ever cockerels show full sexual development.

A. 35. Cockerels are yarded together in flocks of 15 to 20 when taken from general run. They are separated again when any evidence of quarreling starts. The fighters go first.

A. 36. I have a house in which coops 3 by 4 feet are ranged along the wall in tiers. Each cockerel gets one of these compartments if worthy of such care. Cheaper birds are yarded with a vigorous cock who keeps them well in hand.



A SUCCESSFUL HATCH

A. 34. I do not separate at all, as I sell breeding stock. My male birds are nice this way. Of course I do not get quite so many eggs, but the yards are cleaned up by March.

A. 35. If you separate the sexes you will of necessity have to separate the cockerels if you wish to keep their plumage nice, as they pull each other to pieces.

A. 36. When I separate the cockerels I have small pens 3 by 5 feet in a large building.

A. 37. Same as for adult stock, using fine ground beef meal in mash.

A. 38. Mash in troughs. Cracked grains in plenty of litter. Feed three times daily.

J. M. WILLIAMS, No. Adams, Mich.

SINGLE AND ROSE-COMB BUFF ORPINGTON SPECIALIST

A. 33. Twenty-five we find do much better than 50 together. The more we can divide them the better we like it.

A. 37. Cracked corn, wheat, barley and hulled or clipped oats, supplemented by mixed and ground grains. Beef scrap or cut bone also.

A. 38. Dry grains in hoppers. Ground grains and meat rations in mash at noon. Being on unlimited grass range no other green food is supplied during the growing season.

R. H. CRANDALL, Worth, Mich.

S. C. AND R. C. WHITE AND BROWN LEGHORNS, WHITE WYANDOTTES,
PEKIN DUCKS, TOULOUSE GESE AND BRONZE TURKEYS

A. 33. Place 50 birds in a house and set it on a grass range.

A. 34. As soon as the cockerels begin to crow or show signs of breeding.

A. 35. We separate the males from the females only in breeding season. females do better not to be annoyed by males.

SUCCESSFUL POULTRY KEEPING

W. W. KULP, Pottstown, Pa.

BREEDER OF SINGLE AND ROSE-COMB WHITE AND BROWN LEG-
HORNS, WHITE WYANDOTTES, BUFF AND BARRED
ROCKS, AND PEKIN DUCKS

- A. 33. Twenty-five.
A. 34. When well grown. I raise Leghorns and they cannot be separated unless they are put in a covered pen and this should not be done until they are grown.
A. 37. Same as the chicks, as they are both growing stock.

F. C. SHEPARD, Toledo, Ohio

SPECIALTY BREEDER OF BUFF PLYMOUTH ROCKS

- A. 33. I house from 15 to 30 together. They have the range of five acres.
A. 34. At about when the cockerels begin to crow.
A. 35. Sometimes late in the season I find it advisable to put the more vigorous ones by themselves
A. 36. Place them in small pens built for that purpose.
A. 37 and 38. Same as for breeding and adult stock.

AUG. D. ARNOLD, Dillsburg, Pa.

COLUMBIAN WYANDOTTES EXCLUSIVELY

- A. 33. From 50 to 150.
A. 34. When males begin to get active.
A. 35. As soon as they get to fighting I separate them; as long as they agree I keep them in lots of ten to fifteen.
A. 36. I have individual coops 3 feet wide and 4 feet long; here they stay until sold or used for breeding
A. 37. Coarse cracked corn and wheat mixed with hulled oats every few days. Also twice a week plenty of green bone.
A. 38. Expect to try dry hopper feeding the coming season.

GARDNER & DUNNING, Auburn, N. Y.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 33. About 25.
A. 34. At about four or five months.
A. 35. Only the most valuable ones. Others run in flocks of 20 or 25 till sold.
A. 36. Those intended for exhibition are put in small pens before they are old enough to fight and injure themselves or be injured by other cockerels.
A. 37. Cracked corn, wheat and beef scrap. They have free range with clover and insects. Also running water.
A. 38. All they will eat up clean three times per day dry.

A. OBERNDORF, Centralia, Kansas

BREEDER OF SINGLE-COMB WHITE LEGHORNS AND BARRED
PLYMOUTH ROCKS

- A. 33. Not over 30.
A. 34. From six to eight weeks old.
A. 35. Yes.

A. 36. Sort them and place the smaller ones in separate yards, as some always mature faster than others.

A. 37. Mixed rations of corn, wheat, millet, kaffir corn, ground oats, beef scraps, grit and charcoal.

A. 38. Scatter the feed on the ground and in troughs, twice daily.

E. B. THOMPSON, Amenia, N. Y.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 33. About 30 growing chicks to a house. They have unlimited range.
A. 34. Four to six months.
A. 35. Yes.
A. 37. Cracked corn and wheat, also a mash every day including ground oats. The ground oats is a great bone making food for growing stock.
A. 38. The dry food is fed from hoppers, the mash on boards.

WM. BYWATERS, Camden Point, Mo.

BARRED PLYMOUTH ROCK SPECIALIST

- A. 33. Free range mostly for young stock.
A. 34. Usually about 5 months or just as they begin to take on their adult plumage.
A. 35. Yes, if they are top-notch show birds, but usually quite a number will do well together if no pullets are close by.
A. 36. If I have very valuable show birds that I am preparing to show or send to customers for that purpose, I scatter them out in my breeding yards.
A. 38. On free range they do very well on two feeds daily.

J. C. MACOMBER, Reading, Mass.

BREEDER OF PARTRIDGE WYANDOTTES AND BARRED
PLYMOUTH ROCKS

- A. 33. About 75.
A. 34. From two to three months.
A. 35. I do.
A. 36. If there are a few that grow much faster and are larger than the others, I take them out and put them in with those of their size. If there are a few that are not growing so well as the others, I take them out, and put them with smaller ones or ones of their size.
A. 37. As soon as we get them off the mash and they will eat the grain nicely, we give them as explained for chicks, a feed of one part cracked corn, one part hulled oats and one part wheat. Beef scrap is fed in hoppers all they want, also charcoal and grit until they go into the colony houses.
A. 38. As they are now on range and in colony houses, we feed them the same grain rations as above, all they will eat twice a day, at sunrise in the morning and about six o'clock at night, or before sunset. Beef scrap is then taken away from them, as being on range they find all the bugs, etc., that are necessary and which takes the place of the beef scrap. We feed them in this manner until October, when we put them in the laying houses.

SUCCESSFUL CHICK GROWING

F. J. WEHRMEYER, Benton Harbor, Mich.

WHITE WYANDOTTE SPECIALIST

A. 33. We aim to never keep more than 25 in one yard, and when out in colonies never more than 25.

A. 34. At about three months. The reason being that the little cockerels gobble up too much feed and the little pullet chicks get the worst of it.

A. 35. Yes, for the same reason as above, also annoying pullets, and cockerels we notice ought to be fed more liberally. If, however, you mean separate cockerels (one to a pen) no. We allow them to run together, as many as possible, usually 25.

A. 37. Practically the same as breeding stock, making sure of plenty and variety.

A. 38. When indoors, in clean litter with occasional

A. 38. Make them scratch for all they get except the mash which is fed in troughs.

ARTHUR G. DUSTON, So. Framingham, Mass.

WHITE WYANDOTTE SPECIALIST

A. 33. Fifty.

A. 34. As cockerels mature and begin to notice the females.

A. 35. Yes, to make as small lots of them as possible. They will fight less and do better.

A. 36. I use the small colony coops that I grew the chicks in, as I find that they do better than in the big houses.

A. 37. Dry mash, corn, wheat, oats, barley, buckwheat and skimmed milk. Grain three times a day.



A SILVER WYANDOTTE MOTHER AND BROOD

mashes in pans. When outdoors, we aim to throw a handful of grain under and around most every tree (fruit trees), and they benefit the trees by their scratching, etc., having plenty range. Always feeding liberally, besides mashes in troughs. All feeding usually being but three times daily.

DR. O. P. BENNETT, Mazon, Ill.

BARRED PLYMOUTH ROCK SPECIALIST

A. 33. Not over 60 to 75.

A. 34. As soon as cockerels begin to bother pullets.

A. 35. When they commence to bother pullets.

A. 36. Place them in different runs.

A. 37. Principally wheat and ground mash.

C. BRICAULT, M. D. V., Andover, Mass.

WHITE WYANDOTTE SPECIALIST

A. 33. From 40 to 60.

A. 34. When three months old.

A. 35. No.

A. 37. Whole wheat, cracked corn, beef scraps in hoppers, then once a day a prepared growing food.

A. 38. Whole grain in hoppers and growing food once per day. Clean water, and always green grass in unlimited quantities.

ARTHUR G. BOUCK, Frankfort, N. Y.

BARRED PLYMOUTH ROCKS

A. 33. From 30 to 50 in each colony house, but give them free range, the colony houses being placed in orchard.

SUCCESSFUL POULTRY KEEPING

A. 35. I separate sexes when placing the young stock in winter quarters.

A. 36. I grade each sex as to size, etc., and place those of about the same size in each pen.

A. 37. I feed growing stock three times daily. Mash in the morning and cracked corn, oats and barley at noon and night, giving them all they will eat. Beef scraps, grit and charcoal are hopper fed.

S. J. McQUILLIANDE, Metuchen, N. J.

WHITE PLYMOUTH ROCK SPECIALIST

A. 37. Mostly corn, wheat and oats.

A. 38. I feed all growing stock with hoppers and use the best grain that money will buy.

C. H. WYCKOFF, Aurora, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 33. Seventy-five to 100.

A. 34. At about 12 weeks of age.

A. 35. No, if kept away from the females they are fairly peaceable.

A. 37 and 38. After chicks are removed to colony houses their feed contains less fine cracked and more whole grain; and those that have a wide range have the feed where they can go to it at any time.

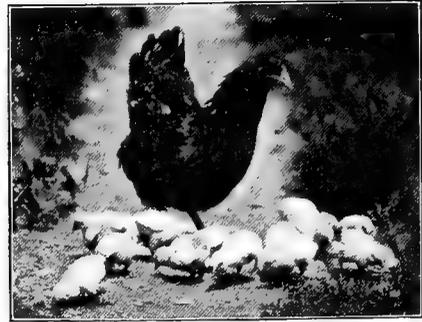
IRVING F. RICE, Courtland, N. Y.

S. C. WHITE LEGHORN SPECIALIST

A. 33. One hundred in each colony house.

A. 34. About three months old, or when the cockerels begin to annoy the pullets.

A. 35. The most promising exhibition cockerels are separated from large flock and are kept in small flocks.



A PRIZE WINNING BUCKEYE HEN AND CHICKS

A. 37. Wheat, corn and oats, and a dry mash where they can help themselves at all times; in this dry mash meat is mixed.

A. 38. Only three times a day, scattered in the litter except the dry mash which is placed in troughs.

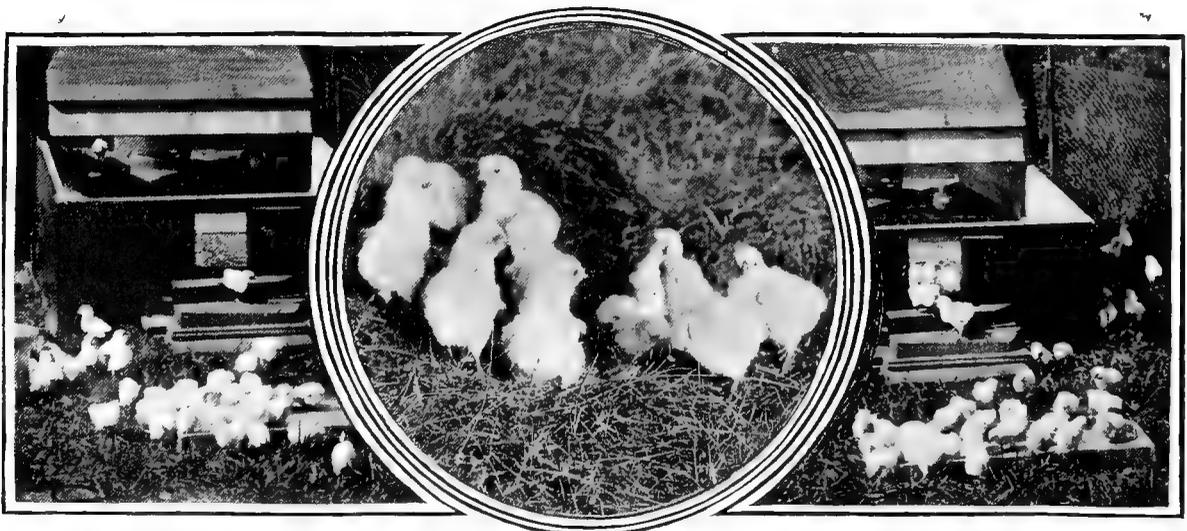
J. T. THOMPSON, Hope, Ind.

WHITE PLYMOUTH ROCKS AND MAMMOTH BRONZE TURKEYS

A. 33. I never house over 50 birds in one building.

A. 34. I separate the sexes when they are about three months old.

A. 37. I feed my growing stock, that is, after they get to be a couple of months old, the same that I feed my breeding stock, with the exception that I feed them more corn than my breeders, as I consider corn about the best food for growing stock.



SECRET OF SUCCESS IN POULTRY CULTURE

A VENERABLE POULTRYMAN GIVES RESULTS OF FIFTY YEARS' EXPERIENCE IN POULTRY CULTURE—BELIEVES SECRET LIES IN FEEDING—COMPARES POULTRY, MEAT AND EGGS WITH FOODS WHICH PRODUCE THEM—SELLING EGGS BY WEIGHT—ACCEPTS DR. DECHMANN'S THEORY

I. K. FELCH, Natick, Mass.

[A lecture delivered April, 1906 by the Sage of Natick before the poultry class at the Rhode Island State Experiment Station and reproduced here from copy furnished us by Mr. Felch].



ADMITTING that the feeding of hens is not all there is to poultry culture, yet you, my reader, can spend your lifetime studying the subject and still leave beneficial discoveries for others to make.

Fowls and eggs are a manufactured product—a pound of flesh or a pound of eggs will be found to cost practically the same, no matter what breed we use to produce them, when we have found under what conditions each separate breed does its best. The Brahma pullets at seven to eight pounds and the White Wyandottes at five to five and one-half pounds, fed and cared for under like circumstances, will cost the same per pound to produce and the same for care and food during the months of their usefulness. The breed that lays the greatest number of pounds in eggs will cost the most to feed. At the end of their usefulness, say at two years, they sell each at the same per pound. It matters not that it takes seven months to mature the Brahma and six months to mature the Wyandotte, at the grand windup we find things evened up.

SELLING EGGS BY WEIGHT

Today all eggs are sold by the dozen, but we find 150 Brahma eggs, 168 Plymouth Rock, 213 Wyandotte and Rhode Island Red eggs, as these breeds as flocks lay them, all will weigh the same. Now as all are sold at the same price per dozen we find that the Brahmas are suffering under a custom that is protecting the smaller breeds, and that the Rocks are receiving 11½ per cent and the Wyandottes 13 per cent per pound more than do the Brahmas.

The only advantage the Brahmas have is in the private trade they sometimes enjoy where they receive 50 cents per dozen from the wealthy, who often appreciate the difference in the size of eggs. Make 1½ pounds (24 ounces) a dozen of eggs and you would hear little about differences between the cost of keeping of the larger varieties. The present practice of selling by number instead of weight takes away all the desire or pride of the fancier to produce eggs that are strictly first-class.

CONSTITUENTS OF POULTRY PRODUCTS AND FOODS

But these conditions can be improved by man. In a single lecture we can give only the most generally used rules for feeding, which have thus far given satisfactory results. It is our object to feed that which in its composition is like the elements we find in the desired product, to-wit, poultry meat and eggs, so that it will produce them in abundance and besides give us a fresh, glossy plumage when we are preparing them for exhibition.

How to do this is the live question of the hour, and to present the subject so that the young and inexperienced may profit by our words is our endeavor at this time.

Our colleges are doing wonderful work in this direction and one does well to study the results of their experiments. But thousands do not do this, even those who are employed as

helpers and caretakers in poultry raising. Yet they will read and profit by an essay couched in simple language, and to give them this is our object today.

All analyses show that poultry meat and fresh-laid eggs are so nearly alike in their constituent parts that both are produced in their greatest abundance by the use of foods of the same character, this food being secured by the proper mixing of the different grains with vegetable and animal matter. The feeding of such a balanced food is wise.

Discarding small fractions, we find that a fowl is composed of water, 51 per cent; ash (bone forming), 3½ per cent; protein, 24 per cent; fat (or heat), 23 per cent.

In the new-laid eggs we find water, 66 per cent; ash (the shell), 12 per cent; protein, 11½ per cent; fat, 9 per cent.

To feed to produce these essentials is our work. We must so mix the grain and meat that we shall secure the exact proportion, and furnish carbohydrates for the warmth and comfort of our living factories—for such are our flocks.

In following out this theory we find by analysis that corn has water, 11 per cent; ash (or bone), 1½ per cent; protein, 8 per cent; carbohydrates, 67 per cent; fat, better than 4 per cent.

In peas we have water, 10 per cent; ash, 2½ per cent; protein, 17 per cent; carbohydrates and fat combined, 53 per cent.

Mangel wurzels have 87 per cent water; ash, 1¼ per cent; protein, 1¼ per cent; carbohydrates and fat, 6½ per cent. Clover and hay has 15 per cent water; ash, 6 per cent; protein, 7 per cent; carbohydrates and fat, 38 per cent.

Sunflowers have water, 8½ per cent; ash, 2½ per cent; protein, 12 per cent; carbohydrates, 21 per cent; fat, 29 per cent. (Too much carbohydrates and fat for an exclusive food).

Beef scraps have water, 11 per cent; ash, 6 per cent; protein, 66 per cent; less than ½ per cent of carbohydrates, but 14 per cent of fat.

In these we find all that we found in poultry meat and eggs, besides starch, sugar and gum in the carbohydrates, which with the fat gives the necessary heat.

The sunflower with its 21 per cent of carbohydrates and 29 per cent of fat, lacks albumen in proportion, which makes them desirable as a food for only a short time to secure gloss upon the plumage and to fill their skin with fat in our high colored specimens, for exhibition purposes.

Another list is expressed in a different manner: Corn, 11 per cent water; 11 per cent muscle growing properties; 1½ per cent bone forming properties; balance, heat and fat.

Oats, 22 per cent muscle growing; 3 per cent bone forming; balance, heat and fat.

Wheat, 17 per cent muscle growing; hardly one per cent bone forming; balance, heat and fat.

Barley, 20 per cent muscle growing; 2 per cent bone forming; balance, heat and fat.

Beans, 32 per cent muscle forming; hardly 1 per cent bone forming; balance, heat and fat.

When we combine 15 pounds of corn, 10 pounds of oats, 15 pounds of barley and 15 pounds of wheat bran we have a mixed meal that contains 17 per cent of muscle growing properties, 1½ per cent of bone forming properties and the balance is heat and fat. When we add to this composition meal, enough beef scrap and ground clover, so that the mash represents in bulk

SUCCESSFUL POULTRY KEEPING

15 per cent of meat, 25 per cent of vegetable matter and 60 per cent of this composition meal we have made a balanced ration, which will give the flock no excuse if it fails to produce flesh, eggs or a fine plumage. But here is an item worth knowing: While we can obtain protein from grain, protein derived from milk and meat is much more productive of muscle and early fecundity, and well repaid will be the feeder who is generous in the use of meat and fish bi-products, such as beef scraps, desiccated fish and beef blood. Of course fresh raw meat and bone must be considered best. Any bi-product that is not clean and wholesome is a questionable commodity. Clean feeding is as essential for fowls as for the human family.

ACCEPTS DR. DECHMANN'S THEORY

There is something besides the question of muscle growing and egg production which is of vital interest to us.

Recently it has been claimed that glass, granite, sea shells, charcoal and even gravel stones are all digestible and are really food as well as helps to digestion and that they complete the

fat is a foe to vital vigor, and this is why very fat hens lay eggs that hatch poorly. A long continued fat condition becomes a disease.

A healthy diet is one that has 17 to 20 per cent muscle growing power (such a diet is likewise egg productive) and $1\frac{1}{4}$ to 2 per cent of bone forming power so that the chick may be well boned and strong, and that the eggs may be covered in a firm, smooth shell. No one can hatch healthy chicks out of fat, thin-shelled eggs.

The foregoing is the result of my past 50 years' experience in poultry culture. While it has served me, it will not keep you, my reader, to the front in these days of extensive research, intense application and keen study of the business. Today in almost all businesses we are looking among the bi-products for a large portion of our profits. Thus must we be constant in the outlook for new forms of foods, new rations and methods of care (even to the saving of the feathers) that we may secure the very last cent of profit, getting the greatest growth at the lowest cost for food consumed.

The entire nation's increase in wealth is but 3 per cent each year where labor secures a fair living. This increase gets into so few hands we are slow to believe that it is true. But true enough it is, that careless management brings failure to any calling.

This warning means that we are to give our best efforts in ability, zeal and study, making our calling a second nature, so to speak. A competency comes only by a strenuous life among our fowls.

PURE AIR A NECESSITY

Pure air is just as much a food for our flocks as the grain we feed. A hundred times have I told you that a fowl's heart beats 150 times each minute of its life. Why? Because it never sweats. Respiration is the channel through which they expel the waste and impurities that perspiration accomplishes for the human family. They need seven times the air in proportion to weight that does the horse or man. Think of this: A ten pound hen demands the same amount that a child of seventy pounds does. Furnish this and the rations I have and will describe, with housing that will se-

ecure the temperature of May and September, and you will see a corresponding eggproduct.

It will be folly to furnish excessive heat and expect a product that is largely albumen. For one may as well overfeed the furnace that drives the looms and fail to furnish the wool or cotton out of which to weave the cloth.

The hens are as much a factory for the production of eggs as the cotton mills are for the production of cloth. Each day they must have their exact needs supplied if they are to give us the best product of their labor. Her food must be such that she can glean from it the 3 8-10 bone forming material, the $21\frac{1}{2}$ per cent of protein and sufficient carbohydrates to produce health.

How to do this is the question in poultry culture. Poultry culture is no longer a problem of thoroughbreds alone. Even those who reed primarily for exhibition purposes have to become poulterers for fully 50 per cent of their yearly product

TO PRODUCE DESIRABLE EGGS

Why do hens lay soft-shell eggs? Why do soft-shell eggs hatch poorly? You say the fowls are too fat. The fowls are



A BUNCH OF THRIFTY BARRED ROCKS

work of the food in perfecting the plumage and giving it a rich gloss. We see a healthy, brilliant plumage only upon a healthy body and prolific egg producer.

The fact that sea shells, charcoal and pounded glass are eagerly eaten led me to accept the theory that the grit and gravel likewise are digested and have a work to perform in producing a healthy condition in our flocks. Dr. Dechmann is right. If the feathers contain glass, do we not have a motive for the fowls eating the glass?

Here is a case in point: I had a flock of cockerels cooped for killing. They had everything to eat but charcoal and gravel. I commenced to feed these and was astonished at the amount they ate and the gain in flesh they made in ten days, after this addition to their rations. Fowls when molting should never be without food rich in protein (milk and meat), gravel, grit, charcoal and pounded glass.

A PROPERLY BALANCED RATION

You can see why corn and mangels are a failure in egg production as compared with cereals rich in protein. Excessive

SUCCESSFUL CHICK GROWING

all right enough. The fault is with you. You are feeding too fat-producing food. In factory language, you are feeding the furnace and neglecting to furnish material for the looms—in this case the necessary elements for an egg product. You are not feeding protein enough—meat, barley, oats and clover—if the birds are confined so that they cannot glean from the fields the insects, worms and vegetables they need to manufacture meat and plumage and eggs. A healthy plumage is as essential for perfect chicks as any part of the body. When those overfat hens have had a chance at green cut clover, meat, oats, wheat, sea gravel, shells and charcoal at their discretion and are made to exercise in open scratching sheds, then the eggs will come smooth and firm in shell and hatch you the strong, healthy chickens you desire.

WHAT AND WHEN TO FEED

Wheat is probably the most perfect food found in a single grain. As it is desirable to feed the meat in the mash, the by-product of wheat from our best flour mills is probably better and cheaper than whole wheat.

Damaged wheat or grain is poor stuff to buy; good sound heat screenings are far better. Only heavy, first-class oats are profitable. None other should be bought. They are perfect bone food, but no single grain can be fed constantly and satisfactory results be secured.

The old saying that a barrel of oats and barrel of buckwheat will make a barrel of eggs has, I fear, given a fictitious value to buckwheat as a food for fowls.

As the original saying came from a farmer whose flock had a pan of clabbered milk to which to repair at will, and the run of a barn stored with clover and millet, I am of the opinion that the buckwheat ran away with the reputation that should have been given to the milk and clover as the balancers of the ration that gave the barrel of eggs. The fowls surely had no excuse not to lay.

Few will advise the buying of buckwheat when the middlings and bran from good sound wheat can be procured. Corn and clover are all we can feed in winter to secure an egg whose yolk will produce for us a golden sponge cake and custard. And many families for this reason will pay 50 cents per dozen for Brahma eggs the year round when the fowls are thus fed. Oats, buckwheat and wheat, without clover, produce eggs that make this cake and custard white. It is even well to know the cause and effect of color in eggs.

The vegetables to be fed are cabbage, green clover (steamed when dry), mangels and lettuce. Those that are to be cooked for mashes are potatoes, beets, onions, turnips, squashes or pumpkins, steamed clover meal, beef scraps and corn meal—a good combination for high colored eggs in winter.

Corn meal and wheat should be mixed with boiled potatoes and turnips. These many mashes should only be fed in sufficient quantities so that they will be eaten up clean in the morning. If overdosed the flocks become cloyed and lazy. Give the mash as a light breakfast and it will send the fowls to nest where its stimulating influence hastens egg delivery. The last meal at night should be of mixed grains, and pure water must be given morning and evening, for to drink is the last thing a fowl does before going to roost. There is no saving in feeding what is called cob meal as the cob will not digest. Shell your corn before grinding.

When a breeder is constantly with his flocks, it is probably best to feed at four times during the day the quantity which one naturally would feed morning and evening. Fowls soon learn to come at your call to feed them. I had one feeder whose call was a regular war whoop, another used a dinner bell, another a small school bell; but each brought all of the flock within hearing. Fowls have brains and know how to use them.

I have no use for a small head, diminutive comb, ear lobes or wattles. These head embellishments when generously developed are sure signs of procreative vigor in a male.

FORMULA No. 1

To return to feeding, I present in Formula No. 1 a meal made up of 50 pounds of oats; 1 bushel of corn; 1 bushel of barley; 2 bushels of wheat bran; 1 bushel of charcoal.

These are to be well mixed and ground into a fine meal. For a light breakfast use as much of this as necessary, add 20 per cent as much ground beef scraps and scald thoroughly, leaving it stand over night.

If too moist in the morning add wheat bran to secure a crumbly mass. If in winter, or if the fowls be yarded away from green food, add clover meal to the mixture. Feed dry mixed grains at night.

FORMULA No. 2

When feeding potatoes or turnips mash them and add equal parts of corn meal, wheat bran and beef scraps until it is a crumbly mass, letting the scraps or desiccated fish, whichever you use, be 15 per cent of the bulk. Avoid all wet, soggy mashes. Feed dry grains in the scratching shed for balance of the day. If you have cabbage or mangels, make the morning mash without vegetables and give these raw vegetables for the flock to employ themselves with through the day, concluding the day's feeding with oats and barley.

FORMULA No. 3

In the morning mix hot steamed clover meal 20 per cent, meat scrap or desiccated fish, 20 per cent, composite meal (as in No. 1), 60 per cent, with sufficient skimmed milk or milk whey to make a crumbly mass. Feed mixed grains balance of the day in the litter of their shed.

FORMULA No. 4

You may live near a creamery, or run a butter farm, so that you can secure or have quantities of skimmed milk and butter-milk. Heat it to curds, using the whey to mix formula 3.

For the second day give a light breakfast of mixed grains. Then at noon take equal parts of beef scraps and cheese curds well mixed, using enough wheat middlings and corn meal to absorb the moisture. For vegetables use cabbage and mangel wurzels and feed oats and wheat at night.

FORMULA No. 5

Cow peas, oats and wheat bran, equal parts, are to be made into a meal. Mix equal parts of this compound with clover meal and meat meal. Scald into a hot mash for the morning feed.

Changing these mashes from day to day will supply every possible want for egg production. When beans can be purchased at one dollar per bushel, they are a cheap ingredient to mix with these mashes instead of barley. If you were to feed any one of these formulas every day and all day, good as they are, your fowls will reject them. Then change is the best policy.

There is a false idea that salt is injurious to fowls. On the other hand, these mashes should be reasonably seasoned with pepper and salt to make them palatable to yourself. Don't overdose them.

In all formulas we take it for granted none but first-class heavy oats or hulled oats are to be used.

It is folly to buy damaged or musty grain for fowls. I would not take such as a gift. With reference to oats for young chicks, I would use only hulled or crushed oats.

SUCCESSFUL POULTRY KEEPING

The advocates of feeding dry grain to chicks have much to commend them, provided the chicks have perfect liberty to roam and the numbers are limited to such a degree that they secure sufficient worms and insects for the meat supply and the fields furnish the new grass as their vegetable diet. When the chickens are raised in large numbers and in limited quarters it is folly to use only dry grain if we are to secure the best results.

CARE OF HENS AND CHICKS

Many persons tell you not to feed chicks for 24 to 48 hours after hatching. This may be good advice for those who hatch with incubators and rear the chicks in brooders, but with hens, especially the earlier broods, the chicks often are two days in hatching. It is well to place before them a saucer of crushed crackers and scalded milk over which pulverized shell is scattered, so that the hen and the early chicks may satisfy their hunger. This will cause the hen to remain 12 to 24 hours longer on the nest and may result in one or more doubtful eggs hatching, and a strong lot when she leaves the nest. The hen with her brood should be removed to a large box, the bottom of which has been overlaid with a gravel sand and fine ground grit covered with hay chaff, there to remain a couple of days before being taken to the lawn or a field.

The first meal in this large box should be a bread made from the meal mentioned in Formula No. 1. The bread should be prepared just as our wives make a corn cake, and baked thoroughly. Crumble it into scalded skimmed milk, squeeze the milk out well and give the milk as drink for the first day or two, after that in the forenoons for two weeks, giving them pure water in the afternoon.

This bread and milk is the forenoon feed. In the afternoon give them mixed dry feed like the standard, or prepare one for yourself of 20 pounds of corn, 15 pounds of hulled oats, 10 pounds of wheat and 2 quarts of charcoal. Crack all as fine as canary sand. Sift out the flour and add two quarts of canary and millet seed and you will have the best dry food for chicks you can possibly buy. Give the chicks a free run so they can secure worms and young grass blades. When the chicks are two weeks old they can be fed as we feed our general flocks. Let the little fellows scratch in the hay seed for this dry grain. If they are being reared in confined quarters they must have a meat ration. Do not forget that the protein from milk and meat hastens them to maturity quicker than if they have to depend on the protein from grain. Fine gravel grit, sea gravel and charcoal in boxes, to take at their option, must be provided. Early, before the grass blades have started, sow oats in frames and leave them for the chicks to harvest for grain food. This is essential to perfect development. If chicks have field liberty, I do not believe in meat rations for them till weaned, for it is apt to cause too great muscle development in proportion to the bone structure. The bone must be strong and well grown, then put on muscle and fat. If you look out for the bone structure, you will have no weak, tottering chicks.

I believe in getting the chicks upon the ground at the earliest moment after frost is out of the ground and before the brood is ten days old. Before the frost is out the floor of the quarters would better be covered three inches deep with a gravel loam, and furnish all flocks with outside runs that they may have a part of each day in open air. A damp, chilly atmosphere must be guarded against. Dry, cold quarters are far better than quarters that are damp and very much warmer.

A lack of bone-forming food with an excess of protein and fat-forming grains causes the tottering weakness we too often see in flocks and gives us the grown chicks with weak knock-knees and weak hips, which we see rising above the back as they crouch upon the ground. Hulled oats, wheat with nutritive salts and bone meal given when these symptoms appear, will

soon correct the matter. When green clover is not to be had, steam the dry clover and feed it until you can get them out on the ground.

DO NOT FORCE THE CHICKS

Men tell you they can raise good chickens on cracked corn alone. I tell you I can raise better ones on the mixed feed and I know these latter will lay earlier in life and produce more eggs during life and a larger number annually. It will take something more than a dam that has laid 200 eggs a year to make sure the second generation will make a like record. These fowls that are noted for their personal records have in most cases made them by extensive forcing processes. This forcing process should never be indulged in when their eggs are being used for incubation. They should be kept under normal conditions, and then the chances are that their chickens when forced may repeat or excel their ancestors. The hen in the best physical condition during the breeding season gives us the phenomenal chickens both in the exhibition and in the breeding pen. Of what we eat are we made. It is a well-known fact that when all else fails to agree with an invalid, a raw, fresh egg can be taken and assimilated as a food by the most sensitive stomach. The chronic invalid, the child and the hospital inmate are and should be large consumers of eggs.

If we can demonstrate that by feeding a special ration we can produce eggs highly charged with beneficial salts, it will give such eggs a great, vital value for the use of such persons and any price almost will be cheerfully paid, even 50 cents to one dollar a dozen. I believe if we can feed to our mated stock 10 grains of Dr. Dechmann's nutritive salt to each fowl, together with the feed that I have recommended, nearly or quite all the eggs will hatch and nearly all chicks can be raised into healthy, strong and very prolific stock.

If we can show this vital force in the egg, surely we should be led to follow up the theory in the feeding and rearing of the young stock up to mature age, thus giving to the purchaser a better, more prolific lot of fowls.

This is the course the thinking poultryman of the future will adopt. What matters it that it adds 10 cents per dozen to the cost of the eggs or 30 cents each to the chickens? The purchasing public will cheerfully pay a dollar more to secure its benefits.

I will not detain you longer. If I have aroused you so you will think of these things, and induced you to enter a strenuous life in poultry culture, my mission has been accomplished.

We often hear jibes at the expense of writers who try to tell the novice how to set a hen and how to manage the young brood. These critics were once novices themselves and needed like instructions. Old writers are too prone to forget that the world is ever new, that it is only they who are growing old. Too many of them think they have nothing to learn.

The young-old writer is the salvation of the rising generation—admitting there is little that is "new under the sun." We should remember that all things are new to the young poultrymen just starting in the business and they form the audiences that should listen attentively to the things that have carried the old fanciers successfully through life.

MAKING NESTS

So small (?) a thing as care in making a suitable nest many times saves a valuable sitting of eggs. It is the little cares that secure success. In the early season if a sod of earth six inches thick be fitted into a fifteen-inch square box and a place seven by ten inches be hollowed out but left flat at the bottom, and the whole warmed to 100 degrees, the eggs also warmed to the same degree before the hen has been taken to her new sitting coop, in nineteen cases out of twenty she will take kindly to the nest

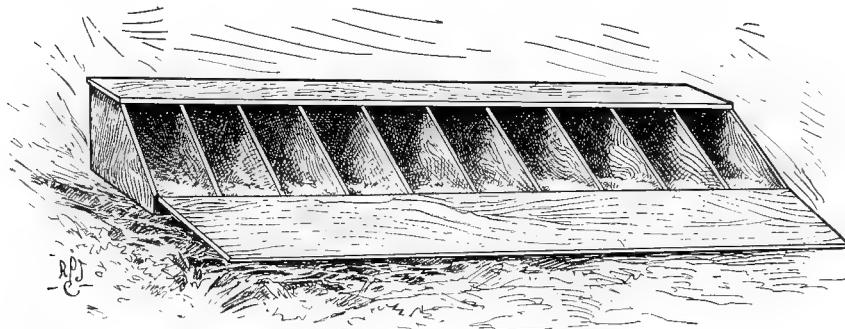
SUCCESSFUL CHICK GROWING

and eggs and not leave it for forty-eight hours. Nor should she be disturbed for that length of time, that the germs may get a good start, for during the first forty-eight hours more germs are killed than during any other period of incubation under hens.

After two days I should gently remove each hen each day for fifteen to twenty minutes, until she would come off by herself when her nest was opened for her each morning. If they are taught to come off daily they will stay off but a short time and if properly fed their bowels seldom become deranged. They even take on flesh while incubating. When it can be so arranged that the place or room where they are nesting can be at a temperature of 45 degrees, then we can hatch in winter as well as in spring—if the eggs are gathered before the germs are chilled. Oftentimes the eggs are declared infertile when the trouble is that they have not been gathered often enough through the wintry day to save the germs from chilling. The woman who had the best success raising chickens for me never allowed the hens to come off the nests by themselves. She took them off each day and returned them in fifteen minutes. Almost invariably all the eggs had chickens in them and nearly all the eggs hatched. She it was who raised for me twenty-two Brahmas, in two broods which weighed 53 10-16ths pounds in sixty-one days and at 100 days old weighed 107 pounds.

INDIVIDUAL COOPS

In any latitude after the middle of April, or at any time after the frost is out of the ground, the very best plan is to arrange a little coop and yard that is to be occupied by the



ARRANGEMENT OF NESTS FOR SITTING HENS

By the use of the arrangement of nests illustrated above one is enabled to readily care for ten sitting hens. Fully described by Mr. Felch.

brood when hatched, and form the nest upon the ground. Fill the ground with boiling water, make the nest of chaff and hay not over an inch deep and set your hen. The moisture in the earth will help to secure a good hatch. If during incubation the weather has been very dry, pour water around the nest the 17th or 18th day—it may save one or more chicks from sticking in the shell. In case you use this kind of nest, see that the hen comes off daily for two or three days after the second day and she will form the habit of coming off at a regular time—if you are regular in giving her fresh water and feed.

FOOD FOR SITTING HENS

Let her food while incubating be principally wheat, with a little corn and oats. If set inside a house furnish her a grass sod or have the coop so slatted that she can reach through and get the grass. I repeat, be sure she has vegetable growth, grit, wheat, oats and a little corn while incubating, and see to it that she leaves the nest daily for at least fifteen days.

TEMPERATURE OF BROODING HENS

The hen that hatches the eggs in twenty-one days will have a healthier, hardier brood than the one that hatches in nineteen

days or that continues the work to the twenty-third or twenty-fourth day, which often occurs with sitters of low temperature. It is folly to set a hen of low temperature in winter or one of high temperature in summer, for both will rot the eggs and give you no chicks. In selecting a hen in winter one used to it can tell by feeling the lower body if she should be set. If it feels bare and hot she is the one you want but put no more eggs under her than will touch her bare skin. If more eggs are set the chances are that in her turning them several will get beyond her body, a cold night will freeze the germs and before the three weeks are up half the germs will be killed. If care is not taken to secure a hen with this proper heat, bad results are often the case. How often we hear men say: "I set three hens on eggs from the same breeders; two gave me good broods, the other not a chick." It is often the case that a hen sticks to the nest and apparently bids fair to be a good hatcher, yet she has not heat enough even to start the germs. Now suppose you set her with several others in similar nests. During the three weeks she changes nests with one or more, thus spoiling not only the hatch of her own nestful of eggs, but one or more of the others. Or she retards the hatch to 24 or 25 days, and several cripples come out, with more or less chicks that do not grow up to be average specimens of the breed. All this one worthless hen and careless owner can accomplish and such poultry keepers are the ones loudest in favor of incubator raised chicks.

Now, my reader, you can save all this trouble by care and forethought, by attending to the little things. One may care for a dozen incubating hens as easily and in the same time as he can for one or two. He may give up a room to ten or twenty sitters and arrange a tier of nests like the accompanying cut.

TIER OF NESTS FOR SITTING HENS

These nests are fifteen inches square, fitted with sods the under sides of which are scooped out two inches deep for a space 9 by 7 inches near the center of the sod. The bottom of the scoop should be flat. Place the sod, grass side up in the nest and press down the portion above the excavation. Cover the bottom of the nest with tobacco dust and carbolic lime and build the nest not over one inch thick with soft hay and chaff. To do the work most satisfactorily, wait till you have ten hens that wish to sit. Warm a few

dozen china eggs and place the hens upon them. If they settle down you are safe to put the warm eggs under them. You can care for those hens in fifteen minutes each day by gently removing them, closing the door for fifteen minutes, then dropping the door which becomes an inclined plane for them to walk up into their nests. Those that do not, you can forcibly return, and then close the door until the next day. You can care for twenty hens in a few minutes. While the hens are off you have time to cleanse the nests that have been fouled and to remove any hens that have sickened from any cause, but when removed daily few will become sick. When these ten birds have hatched their eggs give to each eleven chicks until the number of chicks is exhausted and reset the hens thus relieved from raising a brood.

In the foregoing pages I have given the feeding formulas for feeding young chicks. As fast as you have eleven well dried chicks remove a hen with them to larger boxes that have ample hay and chaff in the bottom and feed her with cake made from our formula, No. 1. It must be baked hard and then crumbled into scalded milk, with the pulverized egg shells. She will settle down to her box for twelve hours or more.

SUCCESSFUL POULTRY KEEPING

By following this plan you will have gathered all the retarded eggs under the last hen to hatch, which is usually the one with the lowest temperature. Let her be one of the hens to take eleven of the chicks to raise for she will be the one least liable to set the second time. When the nests have been renovated and rebuilt, your quarters will be ready for another set of hens.

PLAN OF YARDING HENS AND CHICKS

If you have the land, take your horse and plow and upon a grass plot strike your parks or yards, 50 by 100 feet in size. Along the flat side of the furrow string eight inch wide boards and drive stakes (five feet or more in length) so they will come six inches above, four feet wide, inch-mesh, wire fencing. Tack the lower edge of the wire fencing to the board and the top edge to the stakes. When the boards are strung turn the furrows back. String a strong wire from the tops of the stakes to lace the fence to between the stakes; this will save half the number of stakes. You now have an enclosure proof against night prowling vermin that in many places decimate our flocks. On the north end it is a good plan to build an open shed facing the yards; the back two feet high and the shed roof five feet high in front, the roof being large enough to cover four feet of grass. Place your chicken coops, five in number, ten feet apart. The chick coops should be 30 by 30 inches with 12 inch sides and double roofs, and they should be slatted in front, the palings being 3 inches apart. I say full three inches apart just so the hen may be retained. It is a fact that nine-tenths of all crooked backs come from coops being too closely slatted. In squeezing through the chicks slip their hips—crooked backs and wry tails are the results. After the chicks are ten days old the doors can be fastened open and the hens have their liberty with the chicks in all fair weather.

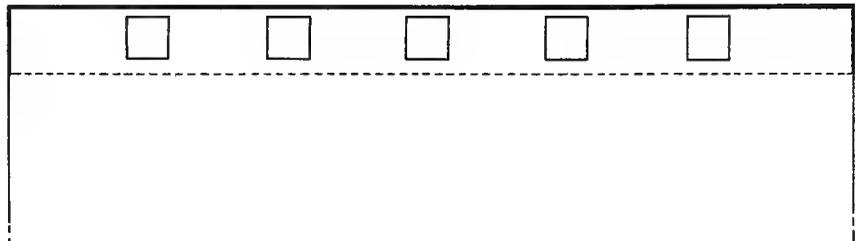
WHEN CHICKS GROW OLDER

When one of the five hens shows a disposition to wean her chicks, take all the hens away. When they are six weeks old remove all the small coops, leaving the chicks to go to roost upon the perch that should run along the rear wall of the shed, eighteen inches from the ground. This perch should be put in when the shed is made, for the chicks will form the habit of roosting there by perching upon it in the day time before they are forced to abandon their coops. It is not a bad plan to arrange poles along the open yards. Did you ever notice how

young chicks will appropriate a low board border to a walk. It teaches them to roost on an elevated perch, and such chicks learn to roost without setting their keel bone flat upon the perch. All this will prevent huddling and the vitiating effect that comes from it.

If these chicks are to be confined in these yards, at sixteen weeks take all males to new quarters, that is, all such as are to be retained for breeding stock and exhibition purposes, killing all that are to be sacrificed to the broiler market, leaving the twenty-five to thirty pullets to enjoy each yard alone. Now for the next two months feed these pullets heavily with formula No. 1, with a large proportion of meat. The yards will furnish ample growing grass as vegetable for them. As they approach fecundity or when the two year old hens have been marketed, remove these pullets to their winter quarters, made vacant by the killing of the hens. The males sold on the market will have paid the expenses of rearing the whole flock to the age when the pullets commence to lay.

Thoroughly rake these vacated yards and top them with horse manure after having sowed them down with clover and



QUARTERS FOR HENS AND CHICKS

Partial ground plan of out-door quarters for the accommodation of 20 hens and 220 chicks, as described in detail in the accompanying article by Mr. Felch.

red-top grass. In the early spring clean up the coarse manure. The young grass will come with the original sod and you are ready by the middle of April for another year's business.

During all the life of these chicks keep their boxes filled with finely cracked oyster shell and charcoal. Of course after eight weeks of age they can be fed without cracking the corn; the oats, wheat and barley can be fed whole and mixed in the proportion of an equal part of each. For this dry feed for chicks under six weeks old crack all grain to the size of canary seed, adding canary and millet seed to the compound as directed in the previous pages.

We have many breeds and are constantly adding new breeds and varieties to the list. The Almighty has given us brains to govern circumstances, and so we may make our flock most productive and profitable, adding alike to our pleasure and material welfare.



CHAPTER NINE

ROASTERS, BROILERS AND CAPONS

SOUTH SHORE SOFT ROASTERS

FAMOUS SOFT MEATED WINTER CHICKENS GROWN ALONG THE SOUTH SHORE OF MASSACHUSETTS BAY—FAVORITE VARIETIES—HOW BIRDS ARE GROWN—ONE DEALER MARKETS OVER 250 TONS A YEAR IN BOSTON—LIVE POULTRY AT 30 CENTS A POUND SOLD AT GROWERS DOOR—A PROFITABLE INDUSTRY



HERE is probably no more profitable branch of the poultry industry than that of growing "soft roasters" as practiced in the famous "South Shore" district but a few miles south of Boston, Mass. For the most part the chief producing section for this toothsome and expensive poultry product is confined mainly to the upper portion of Plymouth county, Massachusetts, and includes a radius of nearly twenty miles round about the quaint New England towns of Hingham, Norwell, Rockland and Hanover.

This business of soft roaster growing was a comparatively new thing less than ten years ago, and to-day is still largely confined to a rather limited area on the "South Shore" of Massachusetts bay, so that the product is known to marketmen as the "South Shore Soft Roaster."

Boston market is an exceptionally good one for all kinds of first quality poultry products and to this fact is due, in part, the extraordinary demand for South Shore chickens at prices that will seem most remarkable to those readers who are familiar with the selling prices of ordinary chickens in this and other sections of the country. Practically all of the entire output of the "soft roaster" section of the South Shore is sold in the Boston market and it is extremely doubtful if any of this exceedingly dainty and luxurious poultry meat finds its way outside the confines of the "Old Bay State."

The producers seldom sell direct to the marketmen, the majority of the soft roasters being bought alive by a dealer who makes a contract with the grower to raise birds to be sold to him when ready for market.

\$2.50 TO \$3.50 EACH FOR LIVE ROASTING CHICKENS AT WHOLESALE

These dealers make regular trips throughout the section covering twenty or more miles in a day, collecting such birds as are in marketable condition, paying the producers in cash for their product according to the live weight and the prevailing prices. The demand for South Shore chickens is so great that they are seldom quoted in the market reports, the marketmen usually engaging the product of the dealer well in advance of shipments and the goods have usually a customer waiting for them on arrival. High priced private trade, the leading swell clubs and the more prominent hotels take the bulk of the output.

The well grown soft roasters frequently net the producer \$2.50 to \$3.50 each at the door of his home when the season is at its height. The dealer takes all birds to his home place to be killed, dressed and shipped to Boston marketmen, apportioned according to the orders which he has received for immediate delivery. The dealer makes all arrangements with the

marketmen and the producer is saved all the bother and worry of killing, dressing, packing, marketing and collecting, and has the advantage of disposing of his birds alive for cash, at a handsome profit without even the trouble of catching the birds in their pens. It is scarcely any wonder that in the soft roaster district nearly every family having poultry is engaged in this profitable branch of the poultry business.

ONE DEALER MARKETS 250 TONS OF ROASTERS A YEAR

To give the reader some idea of the magnitude of the soft roaster business we cite the fact that one dealer alone ships to Boston upwards of 250 tons of this prime grade of dressed poultry annually. The writer had the pleasure of assuring himself of the truth of this statement by examination of the records of shipments, the precise items of which obviously are not for publication, since very few business men care to have their books opened wide in print for the benefit of the public.

The Light Brahma is the most popular variety with soft roaster growers and undoubtedly two-thirds of the roasting chickens produced along the South Shore are either Light Brahmas or Brahma crosses. The White Plymouth Rock is however becoming very popular and promises to be heard from later. To a limited extent the Barred Rocks are also used. The Rocks possess the advantage of rather quicker growth and can be made to develop into a finished market bird at top weight in a little less time than the Brahma. In hardness this American variety seems to be the equal of its Asiatic relative and the near future will unquestionably find greater numbers of the White Rocks on soft roaster farms. The Brahma has however proved its worth and will be likely to be, for many years to come, the leading soft roaster breed.

UP-TO-DATE INCUBATORS USED FOR HATCHING

Many roaster growers do not keep any breeding stock and buy all their eggs for hatching. Practically all eggs are hatched in modern, up-to-date incubators and the chicks are mainly reared under hot-water pipes, the "open hover" pipe brooder house system or some modification of it being the most popular.

Where breeding birds are kept the method of housing and caring for them varies with the owner, colony breeding houses and dry feeding are probably the most in favor, though on some plants long laying houses will be found and some feed moist mashes.

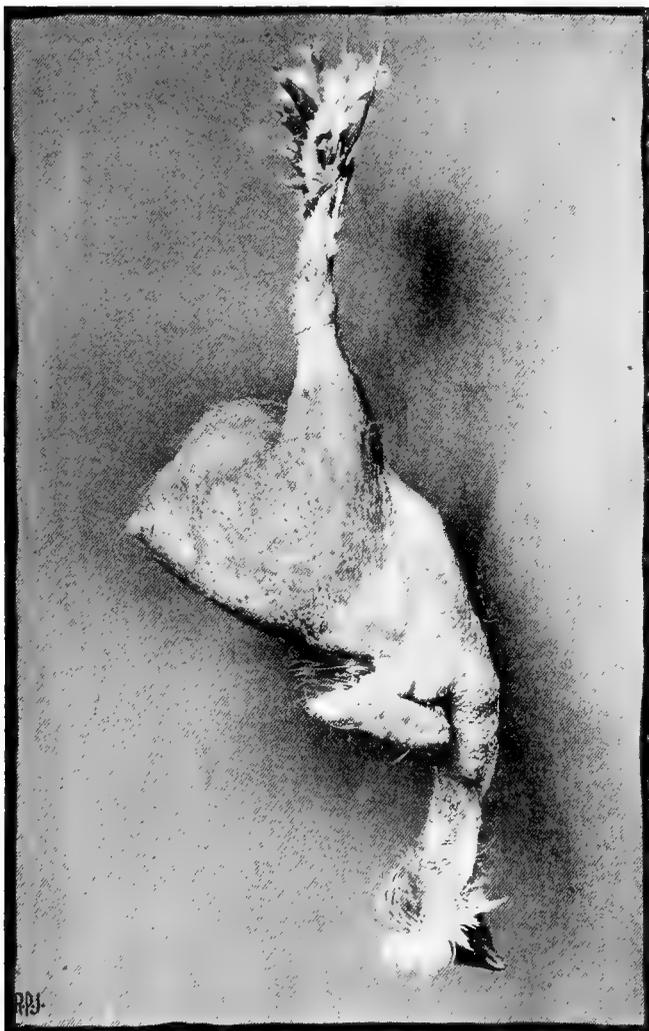
There are a number of breeders who make a regular business of producing hatching eggs to sell to roaster growers and this has developed into quite an extensive branch of the poultry business in this section. Such egg men regularly get 50 cents a dozen for hatching eggs the year round.

SUCCESSFUL POULTRY KEEPING

COLONY PLAN OF HOUSING BREEDERS—HOW THEY ARE FED

It will suffice to detail the colony plan of housing breeders. The fresh air house promises to become a popular colony house, but at present closed colony houses are the rule. In a house having about 90 to 100 square feet of floor space are kept from 30 to 35 females and usually three males.

These birds are fed a dry grain mixture consisting mainly of cracked corn, oats and wheat in varying proportions, but averaging about equal parts. Beef scrap, pure water and grit are kept before the birds all the time and green food is fed often in winter; chiefly turnips or beets split and nailed up for the fowls to pick at. Cabbages are also used as well as cut clover



SOUTH SHORE SOFT ROASTER

and cut alfalfa. In the warm weather the birds have liberal runs on grass land.

The houses are run practically wide open in mild weather and open by day in cold weather. The fresh air house is run wide open the year round. Good egg yields are obtained and the fertility is much better than the average. For hatching the eggs modern hot air incubators are chiefly used.

THE HATCHING SEASON

For the Christmas trade the grower of roasting chickens begins hatching in April and runs well into the summer. Many

growers hatch chicks the year round, disposing of some as broilers, but the quantity of broilers produced is not large in comparison to the roaster business.

Hatching for the regular soft roaster trade begins in earnest about the first of August and continues well into cold weather.

HANDSOME PRICES OBTAINABLE

The period of best prices for soft roasting chickens is from June 1st to July 15th, at which time the "top notch" roaster will bring the producer 30 cents, and sometimes more, per pound live weight. And consider just one moment that at this price the dealer goes to the home of the producer, in most cases goes into the coops, catches the birds, weighs them and pays cash. The producer's only trouble is to raise the birds and put them in market condition.

The lowest prices prevail between October 1st and November 1st, when the dealer usually pays from 14 to 17 cents per pound live weight. At this time much of the product is "farmer raised," so that the prices for roasters that are not of first quality will sometimes fall to 12 to 13 cents per pound alive. A good deal of western poultry reaches the Boston market at this season and helps keep the prices down.

TIME OF HEAVY SHIPMENTS

The time of heaviest shipments of soft roasters to Boston market is usually between March 1st and August 15th, and begins again September 1st. During June and July, when soft roasters are netting the producers 30 cents per pound alive, the consumer has to pay from 45 to 50 cents per pound at retail. Out of the difference the dealer and the marketmen have to take their profits.

METHODS OF FEEDING GROWING ROASTERS

There are nearly as many methods of feeding the growing chicks as there are soft roaster growers. Some use moist mashes, some combine moist mashes and dry grain food and many feed dry grain food exclusively. Almost every grower you meet thinks he alone has the only food ration that will grow chicks successfully (and perhaps he has—for him). It is the same old story we find everywhere in other branches of the poultry business,—there are many good rations which may all be adapted to suit the needs of the one who uses them; the chief essentials being wholesome food, fed in reasonable variety. In every case, whether the grower feeds as does his neighbor or not, the objective point is the same; all are seeking to produce a large, plump, soft meated, yellow fleshed chicken grown in the quickest possible time.

Some of the most successful roaster growers start their chicks on dry grain chick food, obtaining the best, ready-mixed food of this kind that the market affords. The chick food is fed freely and kept always before the chicks. Incentive to exercise is supplied by scattering a part of the food in a litter of cut clover, mow sweepings or cut alfalfa. Pure water is kept always before the chicks. The brooders are kept comfortably warm and well aired. Beef scrap or other meat food is fed as early as the fourth day and is usually kept before the chicks from then on to the time when they are ready for the dealer to take to market. Hopper feeding of dry grain is extensively practiced.

NEWLY HATCHED CHICKS ARE CAREFULLY WATCHED

The first few days the chicks are in the brooders they are kept moving by the attendant and prevented from "bunching" or huddling in little groups. This is to prevent them from finding out that they can get warm by so bunching, and to teach

ROASTERS, BROILERS AND CAPONS

them that they can only get warm underneath the hovers. This plan means a little extra work when the brood is first taken from the incubator, but it pays, as the chicks are much less likely to huddle outside the hover and become chilled.

CRACKED YELLOW CORN AND BEEF SCRAPS THE COMMON GROWING FOOD

When the little chicks are three or four weeks old it is common practice to begin to wean them from the chick food by gradually adding a little cracked yellow corn and small wheat to their food, or feeding a mash of yellow corn meal, wheat bran, middlings and beef scrap. This is increased gradually and the proportion of chick food fed reduced until the chick food is stopped altogether. In the same manner less and less wheat is fed until the birds get very little but cracked corn and beef scrap. Some flocks are grown altogether on cracked yellow corn and beef scrap fed from a hopper.

The amount of freedom given the birds differs with the individual breeders. Some allow practically free range, while others grow their birds in very cramped and limited quarters. It is no uncommon sight to see from 50 to 80 half-grown to full-grown birds occupying a yard not over forty feet square with a small house about 6 by 9 feet. In such crowded quarters the birds apparently do well, but undoubtedly require more attention and more careful feeding than those allowed more liberal accommodations.

ALL COCKERELS ARE CAPONIZED

Both the pullets and cockerels are sold as soft roasters. It is customary to caponize all the cockerels as soon as they are big enough. Plymouth Rocks are usually ready to caponize when they reach from two to three pounds live weight, while from three to four pounds is about the right weight for Brahmas.

Like all fancy market poultry, soft roasters must be grown quickly and should be sold as soon as they are "ripe." They should be plump and soft meated, with breasts well rounded. Slips and pullets are sold off first since they are the first to go by the ripe age. This is usually when the pullets are from four to six months old. Much depends on the birds themselves and any evidences of maturity are considered indications for marketing. If pullets are permitted to come to laying or otherwise "go by" they make a less desirable dressed product and lose much of the "soft meatedness" desired. An experienced dealer or marketman can tell birds which have "gone by" almost at a glance. For capons the best selling age is usually from six to nine months.

The best selling weights are from eight to ten pounds per bird when prices are highest, while at moderate prices the larger the roaster the better it will sell, as a rule.

OVER \$4,000 FOR ONE MAN'S OUTPUT ONE SEASON

As an example of the prices paid to growers by the dealers who collect the birds, the following will prove interesting, although the names are withheld by request. A certain dealer has been regularly drawing on a carpenter who lives near the town of Rockland, Mass., and who makes a business of growing soft roasters. For several weeks in 1905 this dealer paid him over \$200 a week in cash at the door of his home for live soft roasting chickens, and one day in May the dealer took on a load of about 150 roasters, for which the carpenter received \$375 in cold cash. Allowing that the birds averaged ten pounds each, and that the live weight price was 25 cents per pound,

this was an average of \$2.50 per bird. Many fanciers who advertise extensively would be glad to sell as large an order for the same money, particularly as in such a sale there are no culls for off color eyes, faulty markings or other fancy points. The only essential points are a prime, plump, well rounded, yellow skinned carcass; quickly grown, soft meated and of good market weight.

The dealer assured us that this man had at that time over \$1500 worth of stock visible that was nearly ready to market, and said further that by the close of the season beginning February 1st and ending July 1st, he would have paid this grower between \$4,000 and \$4,500 for live chickens. How much of this was profit to the grower he could not say, but believed that it would be fair to say one-half could be considered profit to pay the grower for his labor. This is only one of many cases, too numerous to mention in this article.

HOW THEY ARE DRESSED

All soft roasters are dry picked. The method of killing is to bleed the bird by severing the blood vessels in the throat and then sticking it in the brain to paralyze the bird and thus loosen the feathers. As shown in the illustration, the picker sits while working. All feathers except the stiff quills are saved and sorted by the picker while at work dressing the birds. The picker has two tubs close at hand and places the white feathers in one and the colored ones in another. The feathers are sold to bedding manufacturers in the city and net the dealer several hundred dollars annually.

All South Shore soft roasters, whether slips, capons or pullets, are dressed clean; all the feathers except the small ones on the tips of the wings are removed. Where the birds are to be marketed as capons the Philadelphia style of dressing is sometimes practiced as shown in the illustration showing South Shore capons dressed Philadelphia style. These three pairs of capons were most attractive specimens of the Plymouth Rock-Brahma cross. The center pair weighed 18½ pounds, the pair on the right 16 pounds and that on the left 16 pounds. After the roasters have been stripped of their feathers, which is quickly done, they are thrown into a tank of cold water to cool them thoroughly and get rid of all animal heat. At the close of the day the pickers take the chickens from the tank and hang them in carefully sorted pairs from wooden racks, where they are left to dry over night.

In the morning before the expressman arrives for the day's shipment the birds are packed in boxes having lids which fasten on strong bolts. Clean burlap is the only packing used. The weights are carefully ascertained and a record kept of the gross, net and tare weights. A copy of this record with a bill for the goods accompanies each shipment inside of the box.

Certainly this branch of the poultry business pays and is worthy of careful development in other sections of the country. Boston surely has no monopoly on the buyer who will pay high prices for fancy chicken meat. There must be others in our many large cities who are simply waiting to be educated up to what the prime soft roaster really is as a table delicacy so that the clamor of their palates will result in a loosening of purse strings.

Something has been done to develop this trade in the neighborhood of our large cities other than Boston, but up to date there are plenty of opportunities for building up a business in new territory and creating a demand.

Enterprising poultrymen are sure to recognize a good thing and help to push it along, and it is to be hoped that there soon will be many more soft roaster centers that will rival the famous "South Shore" in the production of this desirable table delicacy.

SUCCESSFUL BROILER RAISING

CHOOSING THE BREED—HOW TO FEED AND FORCE BROILERS FOR MARKET—EXPERT ADVICE GIVEN IN DETAIL—TWO POUND BROILERS AT EIGHT WEEKS OLD—PRACTICAL ADVICE FROM THE SCHOOL OF EXPERIENCE

ARTHUR G. DUSTON, South Framingham, Mass.

I believe that many lose courage in raising broilers by not obtaining the right stock at the start. At the request of the editor I am going to present to the readers some hints on broiler-raising as exemplified by me on my farm.

Many try Brahmas. They might do far worse. Let us take the Brahma from the egg and follow it. Mr. Felch says Brahmas are superior for this purpose. Yet, in an argument with an incubator manufacturer his first and best-proved claim is, that they do not hatch as well artificially as eggs from the American or Mediterranean classes. Does it pay to put eggs in machines that will make the chick cost, on coming into the brooder house, 25 to 50 per cent more than others? Once in the brooder, Brahmas prove very strong as little chicks, but look out for leg-weaknesses, their heavy bodies proving too much for small legs. Again, anyone watching chicks raised artificially knows that they will attain their height earlier than those raised with hens. So a Brahma chick has that against it as a broiler, for long legs with feathers on them hurt a broiler in the market. But properly taken care of, Light Brahmas will prove fairly satisfactory as broilers. As roasters, which subject cannot be even touched on in this article, they are choice.

While the Brahma is under consideration it seems well to take up two of the more popular crosses made with them, viz: Leghorn on Brahma and Wyandotte on Brahma. Leghorn on Brahma have some very good points which are: Yellow skin and legs, fairly plump bodies, and they also feather early, but a large proportion of the early cockerels will be so near full blood Leghorn that they would easily be taken for them by a casual observer, and to force them, giving a liberal quantity of meat or ground bone, together with the heat, will develop extremely large combs, which gives the appearance in a dressed bird of its being old—a point against us. Furthermore, the nervous temperament of this cross (taken from the Leghorn) keeps them from making flesh, where other varieties would take on fat. I have run this cross where at fifteen weeks I could not force at least twenty-five per cent of them to weigh more than from one and one-half to one and three-quarters pounds.

The Wyandotte-Brahma cross is almost ideal, being hardy, low-combed and not getting "stagy" at an early age, as with the Leghorn cross; but there is something to the feathered leg that is not inviting to the buyer. To see a neat, yellow breasted broiler with feathers on the legs and feet will detract from its appearance more than one would think unless he has had the very fastidious market of Boston to cater to. The carcass of this cross is plump and yellow, only a small proportion coming so dark as to have black pin-feathers enough to injure the looks.

To leave the Asiatics, we will touch on the Barred and White Plymouth Rocks. The rich yellow legs and bodies of these justly popular fowls, the quick growth, with not enough comb to hurt, gives us a broiler hard to beat—one of the worst faults being dark pin-feathers in the Barred, which are always somewhat objectionable in a broiler, for the reason that they are put on the market at an age when it is impossible to get them all out.

I can not go through all the breeds, but will only take up

those I have honestly tried. This brings me to the last, the White Wyandottes. To be frank, I will state that I once thought of discarding this breed as not fitted for my business purposes, but after "summering and wintering" them I now feel that I would drop all other breeds before I would the reliable White Wyandottes.

Let us note their faults. The first is that in some birds, more especially those bred for extreme whiteness, you will find they are not yellow-meated. At the same time I have seen the whitest plumage birds have rich, yellow skin, beak and legs. In buying stock look for yellow beak, and as yellow a leg as you could naturally expect at the time of year you are buying; that is, make allowance for a bird hived up in a yard, with sand to dust in, as it will surely bleach the legs to a flesh color.

Another trouble you may have with the Wyandotte, as perhaps you would have with no other breed, is, when confining a large number in a small pen they easily take up feather-pulling. I think this is due to the peculiar way in which they feather. Some will grow to weigh one and one-half pounds before they have any but neck and wing feathers. Then the pin-feathers start all at once, making the habit easily formed by the "chicken act" of striking one another, or picking off any soft food that may adhere to the feathers. But plenty of green food will obviate that to a great extent, especially should that food be freshly cut clover. Of course it can not be obtained in winter, but well-cured clover rowen can. With care after this warning you need have no trouble in this direction.

Regarding white skin, I will tell you how to overcome that by the use of the right kind of food, making it yellow enough to suit anyone. Now that we have seen the faults of the White Wyandottes in their worst light, let me extol their virtues as broilers, for they have many.

The eggs being reasonably thin shelled hatch as well as any you can get. They mature as laying pullets a full month earlier than Plymouth Rocks, thus giving you eggs for early hatching. Their clean, yellow legs, low combs, white pin-feathers, and quick growing qualities, render them the best broilers I can put out.

I have sold hundreds to dress eight ounces (one-half pound) and they were as round as a "butter ball," this being one of their most important merits, that when properly fed they are at all times ready for market.

They will stand all the forcing any chick can. If you try to raise Rocks and Wyandottes in the same pen, the experiment will prove to you this fact. Your Rocks will go "off their legs," while the deep-breasted, plump-bodied, smooth-skinned, active little Wyandottes will take their medicine five times a day and stand as straight as matches. Remember, it is generally the bird that can stand the greatest amount of food that makes the quickest grown broiler, and must be the bird you should adopt, as every additional day means additional cost from labor, coal and feed.

I have written this article from the market point of view, that is, the sales-counter, as that is where our returns for broilers come from. Now, for one moment let us look at the matter as epicures. Take any one of the varieties mentioned above, and the Wyandotte, besides having the extra flesh on breast, as I stated before, caused by the great depth of breast-bone, is as juicy and delicious as any, and, in the opinion of "our folks," more so, a dish luscious enough for a king.

This is just my experience briefly set before you. If I have written anything that will in any way aid my brother poultrymen, I am satisfied. Do not be in hurry to cross your stock, as no one can make me believe again that there is anything gained by crossing, for there is no place that a thoroughbred of some variety will not fill the bill, and once you start to cross where can you stop? The labor and skill of years come to naught when you destroy the integrity of a breed or strain by crossing

ROASTERS, BROILERS AND CAPONS

STARTING THE CHICKS

We will say that we have decided on the variety that we will run; our eggs are as fresh as possible and of uniform size; we have put them into a well made incubator and with proper care have gotten out a good hatch, which came along promptly, so that the morning of the twenty-second day we find the chicks nicely dried off. We now get our warmed, cloth-lined basket, with a heavy cover or shawl to prevent them getting chilled.

Right here I want to say, I believe more chicks "pass out," to the land whence no wanderer returns, from getting chilled in moving them from a warm, moist incubator on a cold day into the brooder than most folks are aware of, and those little fellows you had such fond hopes of, but lost last winter with what you called bowel trouble or diarrhoea, were really chilled in being changed from their birthplace to their temporary home.

Well, we have got them safely, we hope, into the brooder, which has been brought up to the temperature of the incubator. Of course we have placed our board in slides about a foot away from and in front of the hover, so that the babies can not get out in the long pen and not be able to find the way back and thus get chilled. Just bear in mind for the first week that to keep them warm is more essential than the kind of food.

The first day of their lives in a brooder has almost passed and they have not eaten anything. Night has begun to come on and it is time to feed the hens, but let us first scatter down for the chicks a liberal supply of rolled oats, the white flakes of which will instantly attract them, and they are left to themselves. In the evening, as we fix the fire preparatory to locking up for the night, we look at them and are pleased to find them scattered all over the hover bottom, and their contented little "peep" is the last sound to fill our ears as we go out, and our mind is already filled with visions of juicy broilers and big breasted roasters and the perquisites thereunto attached.

The next morning as we turn out at daylight to see our orphans we find them calling for breakfast. We touch up the fire and then a feed of rolled oats is given them with a dish of warmed skimmed milk. We use an old fruit can for this purpose with a notch cut in the edge. Partially filled with the milk and inverted into a saucer, this makes an elegant fountain for small chicks. A saucer not much larger than the can is best, then the chicks will not get "stuck up." The milk on the down will stick them together as bad as paste would. Some of the little fellows that would not eat will drink, so you save them along until they will eat. That you will save more chicks by giving them warmed skimmed milk than by any system of feeding grain, is my way of thinking.

We next powder some charcoal in a dry bone or shell mill, and this is put into a dish and set in for the chicks to eat. We have found this an excellent regulator for very young chicks, as well as older birds. We are now going to feed every two hours until our young charges are turned over to the butcher. Let it be done by the clock; you will then be more regular and can more easily even up the day.

THE FIRST WEEK

For the first week you are limited to rolled oats, millet seed (which is a semi-green food) and cracked corn, run through a mill to make it fine enough, then sifted to save the meal, which, of course, is wasted by throwing it on the ground. We have kept our milk before them all the time, and have carefully washed the dishes twice a day, noon and night, as nothing gets any more filthy than do these dishes if left uncleaned, the fat of the milk, dirt and droppings all adding their mite to make it so, more especially as the chicks get older. Some think skimmed milk expensive to feed, but after trying it you will be convinced that the increased growth that comes from feeding it gives you a

good profit on it, and this is what we should always think of when weighing the cost of food. The real question is, can I get enough quicker growth by using it and give me a profit on it? For feeding choice "fancy" chicks I have heard it contended that whole milk was cheap to feed. I have been able to buy all the skimmed milk I want for five cents a can, eight and one-half quarts to a can, and have used as high as twenty-six cans a day for broilers and roasters.

As we have put into each hover not over fifty chicks, we must see that the sand is carefully scraped off the top as often as necessary, probably twice the first week, which will be increased each week until about the third, then we begin to clean them regularly every morning. We run the wheelbarrow into the walk and lift the hover, which is hinged against the partition so it is easy to get at. We take a small dust pan, or, if you prefer, make a scraper, by driving nails through a stick, something like a rake only closer together. Then scrape or rake the top off, going quickly from one to another.

THE SECOND WEEK

For the first week we keep the board in the slides just forward of the hover, as stated before. Now the second week we will remove it and keep an eye on the chicks to see that they do not get lost or get chilled by staying away from the heat too long. For this week we will feed about the same, only perhaps it will be well to try them on a little mash made up of one-third corn meal and two-thirds wheat bran, seasoned with salt and pepper, just the same as though we were to eat it ourselves. Mix well and add boiling water. Don't put in enough to make it sloppy. Allow it to stand a short time, then feed. Not much will be eaten, but they will get so before the end of the week they will look for it, as you feed your soft and hard grains alternately.

During the second week we have cracked some wheat in our mill, so have had that for an extra dish and a change, giving corn as a last feed generally. A good many feed cut or pinhead oat meal to little chicks. This we have found to be a trifle pasty or gummy, and have dropped it, as more will get stuck up around the vent when this is fed than when not.

There is one thing that is absolutely imperative—that is, to get your chicks out on the ground. If it is bright and warm put them out for a few minutes when a week old. Do not let them stand "humped" up and shiver, but make them hustle around, by driving or by feeding a handful of millet seed. After the second week they must go out every day unless it storms, no matter if it is zero weather. After you have tried it you will see how essential it is, for you can not keep them on their legs under such high feed in any other way.

THE THIRD WEEK

The third week we always settle down to our regular routine, to be continued until about ready to market. As we enter upon the duties of the third week we will now get our routine started and will see the chicks push along for the next five weeks, at which time we hope to see two-pound birds ready for the market, and get sight of the returns for our labor. The first thing in the morning is a feed of hard grain; then comes a feed of chopped raw potatoes. As the chopping knife and tray were too slow, we got a mince meat chopper, had a new disc made with larger holes, about three-eighths of an inch in diameter, and ran the potatoes through that, catching in a pan the first and last to come out as it is nothing but water. The other is the pulp. Now take their feed dish and give each pen all they will eat. A little later we throw in a little cabbage, cut in strips, which they will seize and chase each other around for until it is all eaten.

SUCCESSFUL POULTRY KEEPING

This constitutes all the green food they have, except once in a while we may substitute onions in place of cabbage. We have gotten our mash made for the day, and as 9 o'clock has come we will feed our first feed of it for the day, only feeding what they will eat quickly. We feed on tin plates, about fourteen inches in diameter and a quarter of an inch deep with a wide fold at the top. These can be readily cleaned preparatory to another feed by scraping with the feeding shovel, which is a small shovel about four inches across, made of heavy sheet iron and a white iron handle. We have a pan to put the leavings in, if any. They go into the swill for the pigs. At 11 o'clock another mash, then the dishes are picked up, taken into the kitchen or cook room and washed.

Again at 1 and 3 o'clock we feed the mash and if we have used good judgment we have had a hungry mob each feeding. If we have been liberal, we find they have left something each time and are not ready for their feed. When this is so just scant them until they clean up each time and do it quickly, taking care you have enough for all. You will find the number of plates will have to be increased, as the chicks increase in size, in order that each may have a chance. At 5 o'clock or before dark throw down a liberal feed of cracked corn.

We follow this bill of fare for about four weeks. As we have crowded the chicks pretty well, by putting one hundred in a pen we must take extra precautions against filth. At about four weeks of age a day's droppings is considerable on the floor of the pen so the floor is now raked over each day and the collections wheeled out. For this we must use a loop toothed rake.

We have by this time found our fountains small and easily tipped over by the chicks, so we have adopted new ones holding nearly two quarts, made of galvanized iron and cone shaped on top, to keep the youngsters from roosting on them, and instead of the saucer we use a small deep agate pan, only a trifle larger than the fount. This we find to be very satisfactory as the chicks can not put their feet in it.

FINISHING OFF THE CHICKS

To come back to the six to eight weeks old chicks. We must now think of finishing them off. We examine them, weigh a few, calculate how much flesh can be made on them in about ten days, for as broilers Boston has no use for anything over four pounds to a pair. We have fed so much bran that as we lay back the feathers on the breast we say, "They ought to have more color." How can we get it? We cast about for a way to get this. We know corn will do it, but we lose time if we drop off from soft feed to hard. The chicks won't grow as fast and we must turn them off as soon as possible to get the most profit from them. So we put into the mash all the cotton seed meal we can stir in and not make it "salvy" or "puddingy," as we call it. With a little treacle added we have accomplished the result.

We now have a fine yellow skin if we have not foolishly chosen a blue blooded carcass, but any yellow-legged variety will respond to the treatment. I would caution you against trying to feed this for too long a time, say more than two weeks, as the chicks will get cloyed by it, and you cannot hold their flesh, to say nothing of making any unless you keep their appetites "up to the clip." This being such a high feed, it seems to become nauseous to them. One would find it difficult to keep them on their legs if it were fed from the first. We have now "forced" the birds for eight weeks and have obtained what we set out for, viz: Two-pound broilers at eight weeks.

This has been successfully accomplished on our farm with White Wyandottes. We have not done quite as well with any other variety. They will stand on their legs where Plymouth Rocks would be rolling on their sides with the same feed.

We put up two pens of 110 each, and at eight weeks they

weighed two pounds each, and a portion two and one-quarter pounds each under this system of feeding and almost the same treatment. By continuing the regular feed we have made five and five-eighths pound roasters at fifteen weeks old.

SHIPPING LIVE CHICKS TO MARKET

One thing more before closing: If you ship poultry to market alive, and it travels twenty to thirty miles on the railroad, feed the night before, not too heavy but some, as the birds will empty themselves in the night and on the journey. Give them all the water they will drink before they start on their funeral ride. You will thus save a portion of your shrinkage to nobody's injury, but to their gain, I believe, as you help retain the juiciness of the flesh.

Some of these hints have been gained in the expensive school of experience, but if any earnest, honest poultryman can get anything of assistance from them he is welcome. As one word of caution, do not attempt to raise your breeding females under such hot-house methods, because you will sacrifice your size through early maturity, as after a period of forcing as given above it is no uncommon thing for pullets to lay at sixteen weeks, and we all know that is enough to stop growth. You may start your breeders in the brooder, holding off forcing foods, but get them out as quickly as possible.

The summing up of the discussion is, breed, feed and care. Let us not disdain to use the breed because it may be bred to "fancy points," as the fancy has given us our best and most practical varieties, and the nearer a typical bird he have, of almost any breed, the better carcass we have.

THE ECONOMY OF CAPONS

AN ENGLISH POULTRY FARM WITHOUT FENCES
WHERE ALL THE COCKERELS ARE CAPONIZED—THE CAPONS BEING A GOOD PROFIT
WITH THE SMALLEST AMOUNT OF OUTLAY

FRANKLANE L. SEWELL, Artist

Aside from the small runs connected with the long brooding house and a few yards for the favorite breeding birds, fences were quite needless, as all the cockerels for market stock were caponized, thus doing away with the need of separating the sexes. This is immediately recognized as a great economy. The farm was a large one mostly worked for hay and grain. The land not the richest, would hardly pay the 80 pounds (nearly \$400) per year rent from the product of its hay and grain. The poultry added considerably to the income of the tenant who had made poultry quite a study in America as well as in England, having been a student at Kingston, Rhode Island.

THE MOVABLE BREEDING PENS

The farm being devoted to hay and grain gave ample room for portable houses. Our visit was in haying time and the long swaths stretched out over the wide meadows on which quite a number of movable breeding pens were arranged. Those in the picture at the lower left hand are the shape favored on the place. They are of five-eighth inch tongued-and-grooved boards. Three by 6 feet on ground measurement and 4 feet high to the peak; three feet at sides with sliding door at center of long side. They are very simple but answer the purpose well. A small door at the end assists in gathering the eggs and the handles at each corner makes frequent moving about quite a simple

ROASTERS, BROILERS AND CAPONS

matter. The yard 6 by 12 feet and 3 feet high is a light wooden frame. On top of each yard we noticed a large fork full of hay had been spread for shade and to the north side was attached burlap to shelter the fowls from the wind, which we were told is quite severe in cold seasons. As soon as the hay lands are raked clean of their crop, these houses will be used for young stock in the autumn and moved every day or two. The constant changing to new ground and forage benefits the birds and greatly adds to the productiveness of the ground, and we can safely assert from our own and others' experience, that with

good as should be, but it was found that when chalk was placed in the water fountains, the water was sweetend, and they were sure the fowls kept in better condition. We have seen a small proportion of slaked lime also used with beneficial results, especially in the summer weather when the fowls are apt to have bowel trouble.

The poultry kept here was chiefly for market, and the White Plymouth Rocks and White Wyandottes used as breeding stock. An experimental cross that was expected to prove quite satisfactory, was that from a white Old English White



AN ENGLISH FARM WHICH MAKES A SPECIALTY OF CAPONS

The position of the fowl on the caponizing easel

A few of the flock of 200 ducks

The operation of caponizing

The small movable breeding pens that are "favored on the place"

The long brooder house

extensive poultry growing over these fields, they would double their yield of hay.

One ton of hay to the acre was considered a fair crop a few years ago at this farm, upon Goring Heath over the chalk-hills, but we were assured that the land had been much improved by allowing the poultry to range on it. This is the same experience that a New England Poultry Farm reported, only their hay crops have more than doubled in the last ten years of extensive poultry keeping on the land.

The wells on this farm were not as deep, nor the water as

Legged Game cock with White Wyandotte females. They will make medium sized birds—the kind wanted on the London market—that will bring what will amount to about one shilling per pound, and they will have white skin, white feathers, and white flesh. In the early season the higgler, (or butchers) will give about the same price for a bird of three or four pounds weight as for one larger that would take longer and more expense to rear, so of course the one cheapest to rear to that size is the best for the grower. In this neighborhood they tell the tenderness of young fowls by the suppleness of their wings.

SUCCESSFUL POULTRY KEEPING

The breast bone test is considered the best. In Leadenhall you will hear the poultryman say "its breast bone is as soft as glue."

During the summer the young stock is being sold principally to the butcher in the nearby town and he is giving quite as much or more than could be obtained by sending them to London.

We were surprised at the thin walls of the incubator houses, but were assured that the modern American type of incubators used were giving satisfactory results in these simple structures.

The 300 feet long brooder house was furnished with sectional brooders. These were fairly satisfactory, but a change in the piping was in prospect to make the circulation more perfect. After using the continuous house system a sentiment was expressed in favor of the separate outdoor brooder plan with brooders placed under cover of a small house in the early season when the weather is bleak or the ground apt to be slushy—then the small house would be ready for the well-grown chicks after they no longer require its protection, and it can be removed and used for younger broods. The chicks were kept in this long brooder house until some of them were old enough to market. They will do better now since the hay fields are swept of their product, and the young stock can occupy a greater part of the movable houses—can range over new ground, filling up on insects and tender grass, for the frequent rains keep the hay fields green here.

We noticed in the long brooder house an American made bucket spray pump which we were told was used for spraying the houses and small coops with coal oil. A box for destroying gapes was shown us in which the fowls sat upon slats above the fumes of carbolic acid heated to steam by two lamps. The upper story of the box could be made quite tight or opened at the side and the birds were watched through a couple of glass-lights at the sides to see that all was going well. It was claimed to be effective in destroying the gapes. We would want to experiment with this fumigator cautiously, however, at first.

THE CAPONIZING TABLE OR EASEL

We illustrate the style of caponizing table used on this place. It is really an "easel." It holds the bird on the operating board in the most convenient position of any we have seen, and the operator's claim for it is that in this position the intestines of the bird fall away so that the parts worked upon are easily exposed when operating.

The wings are held together above the bird's back by a bent iron rod or hook, and the legs placed together through a loop in a strap as seen in the illustration, and both the iron rod and strap each have a separate weight sufficient to hold the bird securely without bruising it. This easel has somewhat the appearance of the table used at the South Shore Roaster Plant described in the RELIABLE POULTRY JOURNAL, its chief difference being in the more upright tilt, which this expert operator claims he has found to facilitate his work.

The illustration to the left shows quite plainly the position in which the bird is placed on the "easel." The feathers have just been plucked from the side of the bird through which the operator intended to work. The second photograph with the operator just starting to work, shows the convenience with which the work is done—a box or a table at the right of the operator holding the few simple instruments used (which were of American make). The bowl was used to hold water with carbolic acid added to it. In this carbolized water the instruments were frequently washed and the knife dipped before each incision was made. The time spent upon caponizing was considered a very small item compared to the labor of making and keeping up fences. The young males handled as capons are quiet and require less feed to bring them to the marketable size. The capons do not fight and worry each other and no fences

being required to separate them from the pullets, they bring a good profit with the smallest amount of outlay.

The young bird on the caponizing easel is one of the crosses from the White Old English Game Cock and a White Wyandotte female; the reversion resulting in this case showed some red plumage on the shoulders of the wings.

THE FEEDS USED

The principal foods we found at this place were, for soft feeds, barley meal and middlings with 12 per cent of meat meal or blood and bone, with some small grit mixed in. This was being fed to the growing stock, and in the evening, wheat and dari to the younger chicks and considerable maize to the older chickens. Maize (corn) was being also fed freely as an evening feed to the old stock at the time of our visit, as they explained—"We are glad to get them into good flesh, or even quite fat before molting—after they commence to drop their feathers well we will hold up on the fattening foods and feed a better diet for laying condition. This would consist mostly of good sound oats."

CAPONIZING—HOW TO DO IT

FULL AND EXPLICIT DIRECTIONS FOR CAPONIZING

Every poultry raiser has each year a large number of surplus cockerels. These he finds it hard to dispose of at a profit. In the market he can seldom get for them (in their natural state) more than one-half or two-thirds of what he can readily obtain for pullets and hens. It is a fact, however, that when properly caponized and brought to a marketable size, he can obtain for these same cockerels, now developed into capons, twice as much as he can get for his pullets and hens.

A Chicago commission merchant, with whom the writer had a talk in June, reported capons selling at twelve to eighteen cents per pound in that city during the season, and the demand strong. He was then handling capons bought from Illinois, Ohio and Indiana that weighed ten, eleven and twelve pounds. They were killed when from ten months to a year old.

DIRECTIONS FOR CAPONIZING

From twenty-four to thirty hours before performing the operation, select such cockerels as you intend to caponize (these should be from two to four months old), confining them in a clean and airy coop or room without either food or water. The best time to confine them is at early morning, as their long fast will then end about noon of the following day, at which time the operation is best performed. Should the day be cloudy or wet do not caponize them, but let the operation go until you have a bright and fair day. It is necessary that you have all the light possible in the matter. If it be a cloudy day and you decide not to caponize, the birds may be given a little water and food if necessary, but it is much better to avoid this if possible, as it is very desirable to have their intestines quite empty, thus allowing their testicles to be more readily seen, besides giving the operator much more room in which to perform his work. Lay the bird on the operating table (this table is fully described elsewhere in this article) on its left side. Wrap the cord (Fig. 1) twice around the birds legs, above the knees. In making one wrap only, there is danger of the birds kicking themselves out of the loop.



Fig. 1—Cord for Holding Fowl

ROASTERS, BROILERS AND CAPONS

Hook the other cord once around both his wings close to the body. To the opposite end of these cords attach a half brick, or some other weight, letting them hang over the sides of the table. This holds the bird securely. Have all your instru-



FIG. 2—KNIFE FOR MAKING CUT

ments in readiness, that you may work quickly. Thread the canula (Fig. 5) with a strong and long horse-hair or fine steel wire (we think wire the better), letting the wire form a loop at the curved end, and extend well out at the other end. Now, after slightly wetting the spot, proceed to pluck the feathers from the upper part of the last two ribs and just in front of the thigh joint. Pull the flesh on the side down toward the hip, and when the operation is finished the cut between the ribs will be entirely closed by the skin going back to its place. While holding the flesh back with the left hand, with the right hand take the knife (Fig. 2) and insert it (cutting edge away from you) between the last two ribs, cutting first down, and then up a little way, following the direction of the ribs, making the cut not over one inch long. Cut deep enough to go through skin and flesh, being very careful not to go so deep as to cut the intestines. There is little danger of

doing this, however, if they are empty, as they will be from the bird's long fast. The danger of cutting the intestines is when they are full, as in this state they press against the ribs. Should the cut bleed, stop a moment, let the blood clot on the thin skin covering the bowels, and then remove it with the spoon forceps. Next take the Spring Spreader (Fig. 3), press it between the thumb and finger until the ends come together, insert-



Fig. 3—Spring Spreader

ing the ends in the incision, with the spring end toward the bird's feet (see operating table). Upon looking into the cut a thin tissue-like skin will be seen just under the ribs and enclosing the bowels. Take a sharp hook (Fig. 4) and pick the tissue open, so that you may get into the bird with the instruments. The breaking of this skin does not cause the least pain to the bird. One of the testicles will now be brought plainly to view, lying close up to the back of the fowl. Sometimes both testicles are in sight, but this is not generally the case, as the other one lies beyond and more on the other side of the bird, the intestines preventing it from being seen from this opening. The testicle brought to view is enveloped in a film. This should be brought away with the testicle. Some people, in caponizing, tear the skin open and then take the testicle out. The danger in so doing is, that if this skin is left, there is danger of causing a "slip."

Now comes the only dangerous part of the whole operation, getting hold of and removing the testicles; but with a steady hand and plenty of light not one bird in fifty should be lost.



FIG. 4—SHARP HOOK TO OPEN FILM-LIKE SKIN

Attached to the testicle and lying back of it is one of the principal arteries of the fowl, and this, if ruptured, is sure to cause

death. It is here that the canula (Fig. 5) proves of great advantage. The hair (or wire) being small and very fine, is easily slipped between the testicle and artery without injury to either, and a clear, clean cut made. Take the canula in the right hand and adjust the hair (or wire) in it so that a loop about one-half inch long will extend from small end of tube, leaving the two ends of wire extending far enough out of the open end to secure a good hold. Insert the end of the tube that has the loop on it very carefully and slip the loop over both ends of the testicle and entirely around it, hold end of tube close down to the testicle. When the testicle is entirely encircled by the loop, take both ends of the wire (or horsehair) which comes out of the other end of the tube with thumb and first finger, holding it



FIG. 5—CAPONIZING CANULA

tight, and draw up on it carefully but firmly, being particularly careful to have the loop around testicle. Keep the end of the tube very close to testicle all the time. If drawing up on the wire does not at once cut testicle, slightly turn from one side to the other (but not entirely around), then the testicle will come off. After removing it, carefully examine inside of bird to see that no piece is left in, and also to see that no foreign substance, such as feathers, etc., has gotten in. If any have, it is necessary to remove them, for if allowed to remain, they are liable to cause inflammation. Sometimes a feather or part of the testicle may drop among the bowels; if this occurs move bowels around with probe (Fig. 6) until the object is found, then remove with spoon forceps. When the operation is performed, remove the spreader at once and the skin will very soon slip back over the cut and heal in a short time. Never sew the cut as it will heal just the same as any other small flesh wound.

The bird can now be turned over on its right side, cut made and testicle removed in exactly the same manner as just described for the left side. Both testicles may be taken out with the one incision, but to the learner we would say this is attended with more difficulty than the two incisions. The other testicle being situated so far over on the other side, there is more difficulty in reaching it, besides danger in piercing artery running back of first testicle. To an experienced person there is no danger in removing both testicles from one incision, but to those



FIG. 6—CAPONIZING PROBE

who have not that degree of confidence given by practice we would recommend the two cuts. The bird recovers just as quickly as though one cut were made, and the operation is performed equally as quick, if not quicker. If both testicles are removed from one cut, the lower must always be taken out first, for if the top is first removed, the small amount of blood that may follow will cover the lower one, keeping it from view.

A "slip" is neither capon nor cockerel. He is much inferior to the former and a great deal worse than the latter. The "slip" is caused by not entirely removing the testicles. The smallest fraction left in the bird will grow again with no benefit to the fowl.

SUCCESSFUL POULTRY KEEPING

THE BEST TIME TO CAPONIZE

Fowls hatched early in the spring make the finest capons. They can be cut before hot weather comes, which is a great advantage although no ill results follow the operation at any time in the year. The bird should be from two to three months old (not over six months,) and weigh not less than a pound to a

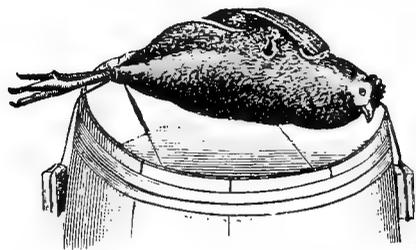


Fig. 7—The above Photograph was Engraved from Life, Illustrates the Method of Holding Fowl Ready for Caponizing.

pound and a half. The size is equally as important as the age. June, July, August, September and October are the months generally taken for caponizing, for the reason that spring chickens arrive at proper age and weight for market during the months of January, February, March, April and May, at which times there is the greatest demand for them in the cities, and the highest prices secured. That capons are in our markets at certain seasons only, is because the demand is far in excess of the supply. The time will be when capons may be obtained the year around.

OPERATING TABLE

The top of an ordinary barrel (see illustration) meets all requirements of a table, admits of the birds being easily secured, brings the birds to the proper height with the operator; in brief, makes as good a table as can be desired. It costs nothing, as there is always an empty barrel lying around, or one that can be easily emptied.

Our first advice would be, "Keep cool and make haste slowly." If you are rather tender-hearted, read the directions over carefully and then try your hand on a dead fowl. All surgeons do this in the first place, and probably it would be as well for you to follow their example. Have plenty of light. It is impossible to perform the operation unless you have this. After your first performance of caponizing you will be surprised at its simplicity. Always keep your instruments in perfect order. Before using the knife see that the edge is sharp, and that the other tools are as they should be. After beginning the operation of caponizing there should be nothing to hinder you from going right ahead.

FEEDING CAPONS

The question is often asked "How are capons to be fed?" After caponizing give the bird all he will eat of soft food, and let him have plenty of water. Caponized fowls begin to eat almost immediately after the operation is performed, and no one would think for a moment that a radical change had been made in their nature. Now leave the bird to himself, as for the time being he is his own doctor. It is well to look him over two or three days after the operation, as in breathing, the air sometimes gets under the skin causing "wind puff" or a slight swelling, in other words. Simply prick through the skin at the sides with a sharp needle, gently pressing at the same time, when the air will be expelled and the capon relieved. Within ten days from the operation the wounds will be healed over. A day or so after caponizing the bird should be allowed to run at large, treating him just the same as any growing poultry would be treated.

KILLING AND DRESSING CAPONS FOR MARKET

The capons should be allowed to grow at least one year old. By this time they will have attained an imposing size. Some keep them even longer than a year. While this is optional with the raiser, yet we should not advocate killing them under one year old if they are being raised for market.

There is a great difference between the dressing of capons and an ordinary fowl.

When the capons are ready for market, select such as you propose killing, and confine them. Keep them without food or water for about twenty-four hours before killing, that their crops may be entirely emptied. Now get ready your place for killing and dressing the fowls (if you have conveniences in the chicken house this will do quite well, or the woodshed, or any cool outhouse), and drive two heavy nails or wooden pins about one foot or less apart in an overhead beam. Make two nooses of strong string, each noose long enough to hold one each of the legs, and have the capons hang low enough to pluck with ease. Have a weight of two or two and one-half pounds attached to a hook, and when the bird is killed, fasten this hook in his lower bill after you hang him up for plucking. The weight holds the bird in position while picking and renders the operation much easier.

Next procure a table to dress the fowl upon, and make a frame on the same principle as a small box without the ends and cover. In this you lay the capon, back down, to remove the intestines.

When everything is in readiness take your capon and suspend him by the two legs from the nooses. Catch hold of his head, and with your poultry killing knife cut vein at back of throat, through the mouth.



FIG. 8—POULTRY KILLING KNIFE

Never cut this from the outside. Immediately upon cutting vein, run point of knife through roof of the mouth clear into the brain. This operation causes what is termed "dropping the feathers," making them come off more easily. As soon as the knife enters the brain the bird loses all sense of feeling. Begin plucking at once.

As to the style of dressing, the feathers are left on the wings up to second joint, the head and hackle feathers, also on legs half way up to the drumsticks, all the tail feathers, including those a little way up the back and the long feathers on hips close to tail. These feathers add greatly to appearance of the bird when dressed, and are also a ready marker from other fowls in markets. Never cut the head off, as this is a distinguishing feature of the bird. A capon may readily be identified among a thousand cockerels, as the comb and wattles cease to grow immediately after caponizing is performed. Wash head and mouth well with cold water, being careful to remove all blood. A capon should not be torn in plucking. There is no danger of this happening if proper care is taken. Place the plucked fowl back downwards in the box frame already described. Cut carefully around the vent and pull out the intestines. These will be found covered with fat, which, as they are pulled out, should be pushed back. When the end of the intestines is reached, insert your finger and break this off, leaving everything else in. As may be expected the fat will be found very heavy around the opening, and if slightly turned outward will soon become hard, which will give a rich appearance in this portion of the bird. Let the birds hang in a clean, cool place until thoroughly cold. For packing use a new box of the required size, lined with white paper (any good, clean paper will do). Pack the birds in solid, back up, being careful not to bruise them. Your birds are then ready for market. With a bird not torn and the feathers left on, you have a fowl which for inviting and "taking" appearance it is impossible to equal.

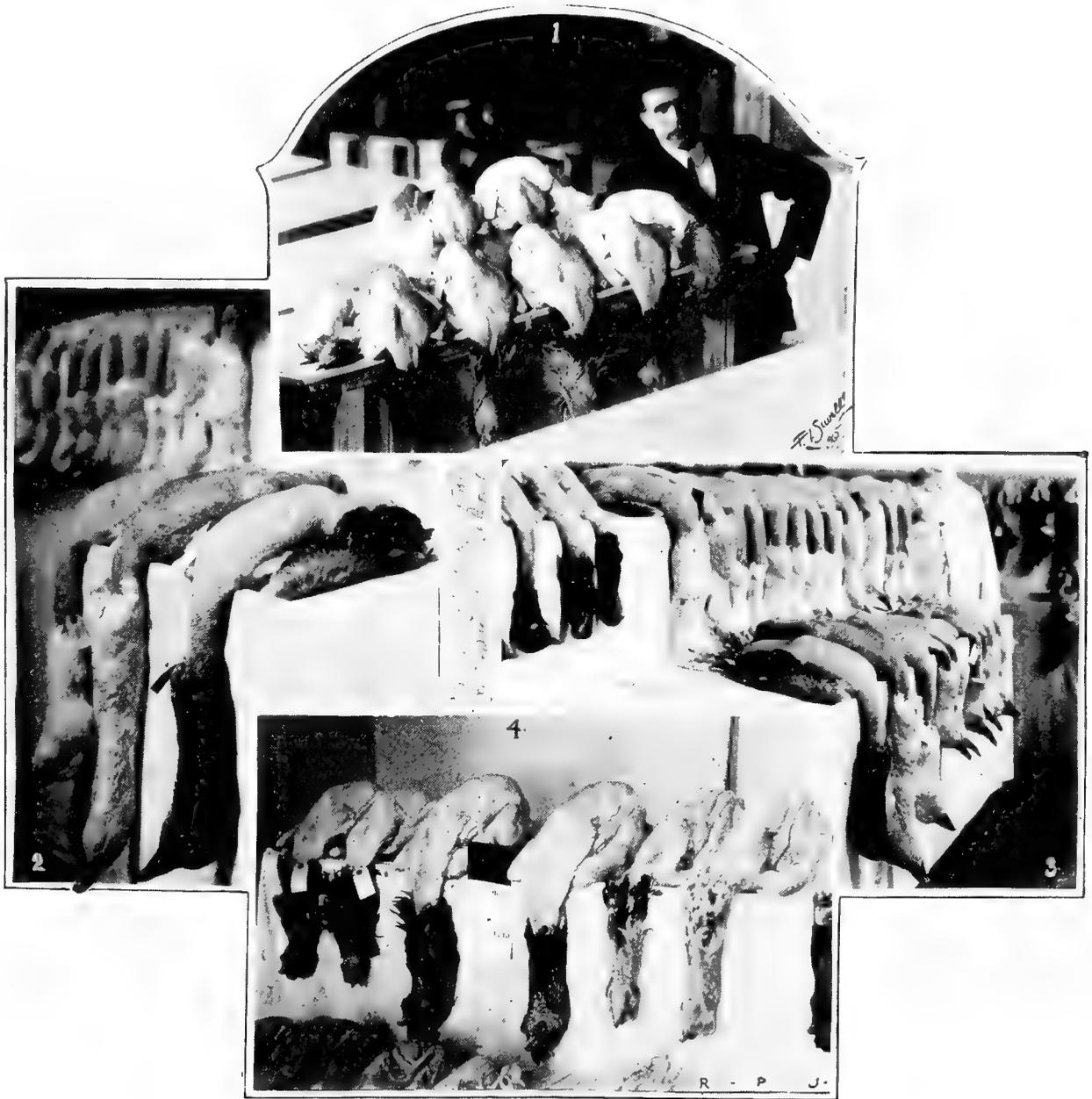


TABLE POULTRY AT THE DAIRY SHOW, LONDON, ENGLAND

- 1—The successful fitter of five pairs of First Prize Table Fowls at the Dairy Show (114 pairs competing) and his first prize specimens.
- 2—Right, First Prize Winning Goose.
- 3—Table Ducks and Geese. The nearest pair of Ducks winners of First Prize.
- 4—The central pair winners of Special for Best Pair of Table Fowls and winners of the Gold and Silver Medal.

CHAPTER TEN

MARKET POULTRY AND EGGS

HOW TO PREPARE POULTRY FOR MARKET

SELLING STOCK ALIVE AND DRESSED—METHODS OF DRESSING—SHIPPING CRATES AND BOXES—HIGH PRICES OBTAINABLE FOR FANCY HIGH GRADE POULTRY AND EGGS—FEATHERS ARE VALUABLE

FRED HAXTON

HE sure road to success in raising poultry for market purposes is quality. It is immensely more profitable to produce a small number of birds and sell them at high prices than it would be to raise a large number and sell them at the ordinary market rate. From five to fifteen cents a pound premium is paid for strictly fancy dressed poultry—in fact, the best goods command almost their own price, and are seldom to be found in the open market, generally being sold by the poultryman to fine hotels and clubs and markets in exclusive neighborhoods, without allowing a middleman a share in the profits. To illustrate the adage that “fancy goods bring fancy prices,” it may be stated that a club in Chicago pays 50 cents a dozen the year around for its eggs, and takes all the capons a large poultryman can raise at 40 cents a pound.

After making his name on a box of poultry a synonym for quality, the market poultryman will find no difficulty in disposing of all the stock he can raise at a good premium. Private trade pays best, if a regular supply can be given. In nearly all markets, however, the best dealers will agree to pay a certain bonus on every pound of fancy poultry. The requirements of practically all the markets for poultry are similar.

SHIPPING LIVE POULTRY

A standard poultry crate is used in all the large markets, and to secure highest prices the birds should be shipped only in these. The fowls look much better in crates of uniform size, and are more easily packed in freight or express cars and handled in the markets. These coops may be bought at a low price in any large poultry market, or may be easily constructed by the shipper. The crates should be 4 feet long, 30 inches wide, 12 inches high for chickens and ducks, and 18 inches high for turkeys and geese. The corner posts are of 2 by 2 inch stuff and two of these also are used in the middle of the coop. Six pieces of 2 inch stuff 12 inches long and six pieces 30 inches long are cut and nailed into three rectangles, one for each end and one for the middle of the crate. Ten-penny nails are used. Half-inch boards are nailed on the bottom, which is made tight. Strips $\frac{1}{2}$ inch thick and 2 inches wide are nailed on the sides and top, about $1\frac{1}{2}$ inches apart. Two strips are left loose on the top for putting in or removing poultry, or a hinged door is applied. Laths are nailed around the coops at the ends and in the middle to keep the strips from coming off. The coop for broilers should be 10 inches high and 2 feet wide. These crates are both light and strong and being open prevent the smothering of the birds if they are not crowded too tightly in the crates.

Care should be taken to ship birds of about the same size and color together. A crate of fowls of uniform color and size will bring two or three cents a pound more than would a case of

black, white, speckled and large and small chickens mixed indiscriminately. Young fowls should not be shipped with old ones, for then the chances are that the whole shipment will be sold as old stock.

Most of the loss in shipping live poultry is due to suffocation, some crates arriving on the hottest days containing three to a half dozen dead birds. In hot weather do not put more than 100 pounds of adult birds in a coop, but in cold weather 120 pounds may be shipped. Of spring chickens when small, 50 to 60 pounds may be sent in the regulation coop and when large, 70 to 90 pounds. It is best to ship the hens, pullets, cockerels and cocks in separate crates, but when a shipper has not sufficient birds, mixed lots may be sent. It is seldom profitable to send to market live spring chickens weighing less than a pound, as the supply is immense and the market is often glutted. It is better to send these dressed as broilers. Chickens weighing a pound and a half to two pounds sell best early in the season; late in the spring two-pound weights are preferred. In the early spring when young birds first come in, some small ones will sell well, but as soon as the stock begins to be plentiful the small chickens are not wanted. Along in June and July, when chickens are bought to place in cold storage, two pounders are preferred. As a general thing, two-pound stock sells best the year around.

Live poultry should be shipped so as to reach the market from Tuesday to Friday. As receipts increase toward the end of the week, enough stock is left over to supply the trade on Monday, and late in the week dealers prefer to sell the fowls at a sacrifice rather than carry them over Sunday and have the trouble and expense of feeding them. Monday, is usually a poor day to sell poultry.

Just before shipping, the birds should be fed and watered liberally, whole corn and wheat being the most sustaining foods. If the trip is to be a long one it is a good plan to provide a few handfuls of grain in a corner of the crate. Some shippers tack half a cabbage to the top of the coop.

The large dealers have special cars for shipping live poultry. The coops are built right into the coaches, the sides of which are covered with wire netting. A car will hold 5,000 birds, and an attendant travels with the shipment, sometimes as far as from California to New York, to feed and water the stock. These cars are rented to the dealers who pay a certain rate in advance of the regular freight charges for the use of them. The rental for a thousand mile trip is \$42, and at the end of the journey the birds weigh more than they did when they started. Five hundred of these cars are in use on the leading railroads and more are being constructed.

Express and freight rates on live poultry are low. The coop weighs about forty pounds, and is returned when empty for 10 cents, nearly all the railroads making this special rate. Shipments of around 400 miles generally cost about \$1.25 a

MARKET POULTRY AND EGGS

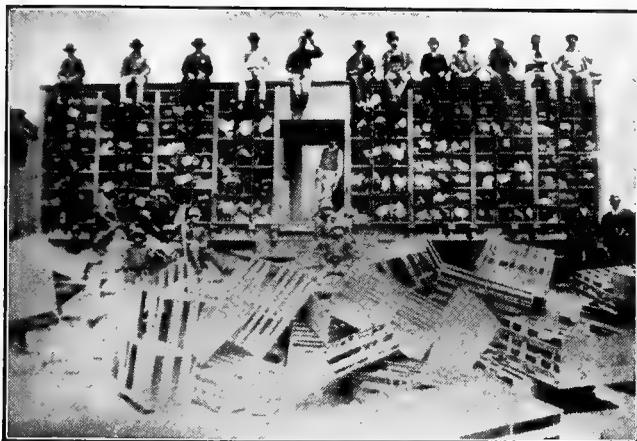
hundred pounds, by express, and considerably less by fast freight.

Tags with the name of the consignee and the shipper should be attached to both ends of each coop so that if one is torn off the other will remain. It is also advisable for the shipper to stencil his name and address on each crate, to insure its return.

Most of the live poultry is shipped from April to November, the bulk of the supply in the winter months being sent dressed. This is because of the fact that during hot weather poultry will spoil unless carefully packed in ice, and many shippers find it difficult to obtain clean ice at reasonable prices. In fact, the poultry market generally is comparatively dull in the summer months, the first touch of cold weather adding several cents a pound to the prices.

DRESSING CHICKENS

Dealers everywhere give notice that all poultry should be well fed and watered and then kept from 18 to 24 hours without food before killing. Stock dresses out better when it is well watered and appears much brighter. Full crops injure the appearance of the bird and the contents are liable to sour. When this happens only low prices will be paid.



CAR LOADED WITH POULTRY

One of the special poultry cars loaded with live fowls destined for the large city markets.

Kill chickens by bleeding in the mouth or opening the veins of the neck, and hang by the feet until properly bled. Leave head and feet on and do not remove the intestines or crop. For scalding chickens the water should be near the boiling point but not boiling (160 to 175 degrees Fahrenheit). Pick the legs dry before scalding; hold by the head and legs and immerse and lift up and down five or six times; if the head is immersed it turns the color of the comb and gives the eyes a shrunken appearance, which leads buyers to think the fowl has been sick. The feathers and pin feathers should then be removed immediately while the body is warm, very cleanly and without breaking the skin. Next "plump" by dipping ten seconds in water nearly or quite boiling hot, and then immediately into cold water. Hang in a cool place (or better place on shelves in the shape you wish them to appear when cooled—hanging draws the breast muscles and makes them look thinner when cool and harder to pack) until the animal heat is entirely out of the body.

To dry pick chickens properly, the work should be done while the chickens are bleeding; do not wait and let the bodies get cold. Dry picking is much more easily done while the bodies are warm. Be careful and do not break and tear the skin. The plumping is very essential. Do not singe the bodies for

the purpose of removing any hair or down, as the heat from the flame will give an oily and unsightly appearance. Remove pin feathers thoroughly, but if it is impossible to take them out without tearing the skin cut them off with a sharp knife. Dry picked poultry generally commands a higher price than scalded stock, and is safer for shipment in warm or doubtful weather. Scalded birds are less attractive than those dry picked, because unless the scalding is done with great care and by an expert the skin usually is discolored in places and becomes puffy after a day or two. Chicago accepts both scalded and dry picked stock, generally, however, paying a premium for the latter. Boston insists on dry picked, and the better trade in New York and other large cities will have nothing else.

"Shaping" the birds is an essential to securing fancy prices. This is done by placing them in a trough 10 inches wide, with an angle of the opening about 70 degrees. The chickens are put in the trough back down, and the flesh is forced forward onto the breast and the whole body made compact. This will make even a scrawny bird look plump and a fine one will undergo a great transformation. On top of the trough a thin board is placed and on this a weight. After the fowls have been in the shaper a few hours and all the animal heat has disappeared they are ready for packing. It is important that the bird be thoroughly cooled before shipment, and if ice is placed on the chickens in cooling them—which is inadvisable but sometimes necessary in hot weather,—all the moisture should disappear before they are removed for shipment, unless the birds are to be shipped in ice. Do not cool the fowls too rapidly.

DRESSING TURKEYS

Kill in the same manner as chickens, but drypick while the turkey is bleeding. Do not wait until the body gets cold. Be careful not to break the skin and do not remove the head. Markets differ as to whether the neck and wing feathers should be left on, but most require that they be untouched. The tail feathers come off with a twist; a straight pull will "set" them. All old and heavy gobblers should be marketed before January 1st, the demand after the holidays being for small, fat hen turkeys. From the middle of October to the first of the year is the best period for selling turkeys, although early in the season there is a great demand for "baby turkeys," as they are called, which weigh about five pounds apiece and bring high prices—sometimes as great as a full grown turkey would fetch later in the fall.

DUCKS AND GEESE

When not dry picked, scald in the same manner as chickens, but remember that more time is required for the water to penetrate and loosen the feathers. Do not try to pluck the plumage just before killing for the sake of securing a higher price for the feathers, as this gives the skin an inflamed appearance and causes injury to the sale. Leave the feet on and do not pick the feathers off the head; also leave the plumage on the neck for 2 or 3 inches. Do not singe the bodies, as this spoils their appearance. After they are picked clean the fowls should be held in scalding water ten seconds, for plumping, and then rinsed off in clean, cold water. Fat, heavy ducks always bring by far the best prices, and it does not pay to ship thin birds as they can be fattened in two or three weeks and bring several cents a pound more.

CAPONS

Only large, heavy fat capons are wanted. A thin capon will bring no better price than an old roaster, but prime, fat capons command the best of prices the year around and dealers in every city complain that they cannot secure enough to supply

SUCCESSFUL POULTRY KEEPING

the demand. Capons always are dry picked. The feathers should be left on the neck from the head two-thirds of the way down to the shoulders and likewise on the first two joints of the wing. The feathers also should be left on the tail and half way up the back, and on the legs from the knee joint two-thirds up the hips. In fact, only the feathers around the body itself are removed, and there is less shrinkage in dressing capons than in any other class of poultry, the only loss being the blood and the body feathers. Care should be taken to keep the capon

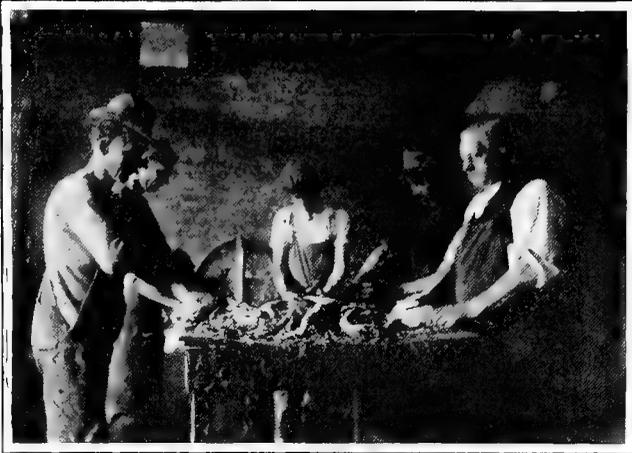
the middle of the summer, and again from September on to Thanksgiving. These command prices almost as high per pound as broilers, and are simply young birds, generally from six to nine months old—put through a special fattening process to make them plump and tender. They are dressed, dry-picked, wrapped in parchment paper and packed a dozen or a half dozen in a box. The supply of these usually is contracted for, and comparatively few are found in the open market. From 20 to 35 cents a pound is paid throughout the season.

SHIPPING DRESSED POULTRY

Even though a bird is properly dressed, it will reach market in bad shape unless care is taken in packing it. Fancy stock always sells better when shipped in neat boxes holding one or two dozen birds each.

The dealers have agreed on certain sizes of boxes for different grades of stock, and these only should be used. Basswood or any other material except cedar may be used for the boxes; cedar taints the flesh. Each bird should be wrapped in parchment paper, which makes it keep longer; ordinary butchers or wrapping paper, on the other hand, hastens deterioration. Two layers of fowls are put in a box, six facing one end and six the other. The regulation box for broilers is made of $\frac{3}{4}$ inch lumber, and is 16 by 16 by 4 inches, inside measure. This will hold a dozen birds. Care should be taken to assort each lot so that the broilers put into each individual box are nearly uniform in size, color and weight. Lots should range from 15 to 18 pounds per dozen, or 19 to 22 pounds, or 23 to 26 pounds. These average ranges of weights follow naturally as the season advances. The largest broiler dealer in the West says: "Boxes should be paper lined, at least, and each broiler should be wrapped in paper if the shipper wants appearance to count in the disposition of his stock. Buyers like to see broilers packed breast up. All culls and off stock should be packed separately and so marked.

For roasting chickens the inside measurements of the box is 18 by 8 by 30 inches. This will hold twenty-four roasters, in



DRESSING ROASTING FOWLS

Feathers fall to the floor, and are swept up constantly, dried, and sold, being a source of considerable revenue. The five men shown at the table have dressed 700 fowls in one day.

clean, and paper should be wrapped around the head to prevent it from soiling the plumage of other birds when they are packed in boxes.

BROILERS

Nearly all the broilers are shipped dressed, as the trade is conducted only in cold weather, and is at its height from March to June. Those who make the largest profits, however, endeavor to place the birds on the market as soon after the first of January as possible. From the latter part of November until after New Year's the bulk of the demand is for large fowls for roasting and frying, but after the holidays broilers come to the front. Some of the largest growers find a steady demand every week in the year, by contracting to furnish a stated supply to large hotels or restaurants, or to dealers who handle the best class of stock. For the live poultry trade, chickens averaging a pound each are in greatest demand early in the year. These never sell for less than \$3 a dozen, and often bring nearly a dollar apiece. The prices decline gradually after the first of March, but remain high until well along in the summer. Ten dollars a dozen often has been paid for live one pound birds in February.

After April 30th, most of the chicks are sold by weight, and hundreds of thousands of broilers are reaching the dealers by that time. The advice of the largest commission men is: Hatch broilers early. November is not too soon to begin, and the first shipped bring the fancy prices. In May it is best to send broilers weighing one and one-half to one and three-quarter pounds, which are worth \$6 to \$7 a dozen.

Broilers should be dressed in the same way as chickens.

ROASTERS

The raising of "soft roasters" has become an independent industry, and properly prepared birds weighing more than six pounds being in great demand from the first of January until



DRESSING FOWLS IN A LARGE CHICAGO ESTABLISHMENT

The men work at tables and each dresses his own fowl. They strip the bodies first, then the legs, and then the neck. Machines do not work well on scalded poultry. These men are members of a union, and make good pay.

two layers. Uniformity in size, color and weights of roasters packed in each box is absolutely necessary for attainment of the best results. A good three-layer box is 24 by 18 by 12 inches. but the two-layer package is most favored by the trade.

For adult fowls the standard box is 20 by 18 by 12 inches.

MARKET POULTRY AND EGGS

This will hold 24 birds. For turkeys the standard box is 26 by 24 by 15 inches. This will hold twelve young toms, or six young toms and eight hens, or sixteen hens.

On the outside of each box should be stencilled the shippers' name and the gross, tare and net weight of the box with the grade of the fowls it contains. The largest poultry dealers in the world, Swift & Co., pack their stock in boxes and grade it as follows:

Weight per doz.

Small broilers, 20 to 25 pounds.

Large broilers, 26 to 30 pounds.

Small fryers, 31 to 36 pounds.

Large fryers, 37 to 42 pounds.

Small roasters, 43 to 48 pounds.

Medium roasters, 49 to 60 pounds.

Large roasters, 60 pounds and over.

As poultry packed in boxes cannot, of course, be iced, the shipments should be sent in refrigerator cars. Some successful poultrymen who have a trade direct to the families pack the birds in paste-board boxes, each holding one bird. Common stock, which constitutes the bulk of the shipments, is sent in barrels. Three or 4 inches of ice, broken to the size of a fist is put in the bottom, and on this is packed a layer of poultry with the heads down, the backs up and the feet in the center of the barrels. Another layer of ice 2 or 3 inches thick is put on top and then another layer of chickens, ducks or geese, and ice, and so on until the barrel is full. A fifty-pound cake of ice is put on top and over all is applied a piece of burlap, kept in position by the top hoop. The poultry should not be frozen before being packed as frozen stock is worth two or three cents a pound less than that not frozen.

HOW TO SELL

A private trade brings the best returns. If the poultryman is near a city of good size he will have no difficulty in disposing of his products at prices far above those paid in the open market. Next to a family trade—or preferable to it if the business done is a large one—is the supplying of the best hotels and restaurants, or clubs. If direct sales are impracticable, as often is the case because of the grower's distance from the market, arrangements can be made with a city dealer or commission man to take all the birds raised. Capons, fancy roasters, broilers and other fine stock generally are contracted for, some shippers being paid from 5 to 10 cents a pound above the market price the year around. If the goods are sold through commission merchants, care should be taken to investigate the reliability of the merchant, as a dangerous number of "fly-by-night" concerns are in the business to fleece everybody with whom they deal, fleeing with the gains. This practice is so common that the United States government has issued this advice to shippers: "Beware of being tempted by higher market quotations than are sent out by well established dealers. High quotations are the favorite bait of the imposter."

"There is also a legal point that is well to bear in mind: In most, if not all, states, when a commission merchant receives

goods on consignment he becomes the shipper's agent, and any attempt to defraud his principal is punishable by fine or imprisonment. Not so if he buys goods outright, agreeing to pay for them at a stated price. In the latter case the shipper's only recourse if he fails to receive the contract price is a civil suit, resulting in a judgment generally worth no more than the paper it is written on. For this reason dishonest merchants frequently offer to buy outright. Too great care cannot be exercised in these matters. When a direct sale is made, except to a well-known house of good reputation, the safest method of procedure is for the shipper to consign the goods to his own order, making draft through bank or express company and attaching it to the bill of lading from the railroad company, properly endorsed. The bank or the express company will then present the draft and surrender the bill of lading only on payment, so that the commission merchant cannot obtain the goods until he has paid for them." Five cents on the dollar is the usual commission for selling poultry.



BOXES AND BARRELS USED FOR PACKING DRESSED POULTRY FOR SHIPMENT

SAVE THE FEATHERS

The poultryman overlooks an important source of profit if he neglects to save the feathers. The value of the feathers is an important reason for dry-picking the birds, as dry-picked body feathers from chickens bring from 18 to 19 cents a pound, while scalded feathers are worth only a cent a pound. The demand is steady the year around, the following being the average prices per pound:

Prime Live Geese, white.....	60	@ 62
Mixed Grey Feathers.....	43	@ 44
All Grey.....	38	@ 42
Old Geese, according to quality.....	20	@ 40
Mixed Geese and Duck.....	35	@ 37
Duck Feathers, white.....	42	@ 44
Mixed.....	32	@ 33
Old Duck, according to quality.....	15	@ 35

SUCCESSFUL POULTRY KEEPING

Chicken body dry picked, prime.....	03½	@	04½
Green or musty.....	02	@	04
Dry but quilly.....		@	03½
Dry picked, quilly and damp.....	01	@	02
Scalded.....	01	@	
White Chicken body, dry picked.....	18	@	19
Chicken and Turkey body, mixed.....		@	04½
Turkey Body, dry and choice.....		@	06½
Green and little damp.....	01	@	
White Turkey body, dry, prime.....	60	@	70
Tail, choice and clear.....		@	40
Tail, mixed with skirt feathers.....	20	@	25
Wing, from first two joints.....		@	19
Wing, tail and pointers.....		@	17
Wing and tail clear.....		@	25
Wing and pointers.....		@	13
Pointers.....		@	07

In picking turkeys, says the Shippers Guide, save all the feathers that grow on the tail of the turkey; also those on the two joints of the wing next the body. The pointed one-sided quills that grow on the outside or tip of the wing sell at a low price; and should be kept separate from the others. It would be best to keep each kind separate. Lay quill feathers straight, in as

storage warehouses until the demand is strong. The warehouses will take small consignments as well as large ones, and the rates are extremely low. One-fourth of a cent per pound is charged for the first sixty days or less, and thereafter an eighth of a cent a pound per month. All poultry put in storage must be packed in boxes. The ordinary rate for cold storage of eggs is 40 cents per thirty dozen case for the season from March 15th, to January 1st, on eggs stored prior to June 1st. On eggs stored on or after June 1st the rate is 10 cents per case for the first month and five cents a case for each month additional. The storage warehouse will advance from 70 to 80 per cent of the market value of the goods stored. It is estimated that 1,800,000,000 eggs or one-tenth of all the eggs laid in the United States are placed in cold storage every year.

The regular storage season for poultry is from September 30th to May 1st, and for this period a special rate of one-fourth to one-third of a cent a pound per month is made by most of the warehouses. A dozen broilers can be kept in the coolers from October to May for only 2 cents apiece. All poultry remaining in the coolers more than two or three weeks is frozen immediately upon arrival and is kept as hard as a rock. The temperature is kept at from 28 to 30 degrees, but the initial freezing is done with the thermometer at 12 to 15 degrees.

FATTENING POULTRY FOR MARKET

Fattening poultry by machinery has become an important industry in the last few years. Thirty-eight "feeding stations" with a capacity of from 3,000 to 10,000 birds each are in operation in the middle west, and many machines are in use in eastern states. The machine consists of a four-gallon receptacle mounted on a tripod and so arranged that when the operator pushes a treadle a quantity of semi-liquid ground food is forced through a rubber tube into the crop of the chicken, the operator holding the tube down to the bird's throat. The birds are kept in small coops and their crops are crammed full twice a day for two weeks. As a rule, they are kept in the crate three weeks, but fed from troughs the first week. Some fatteners do not use the machine at all.

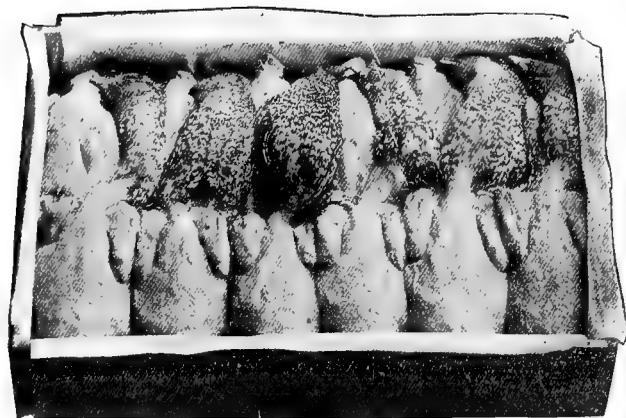
Crate-fed chickens are always in great demand at high prices. The crates in most common use are made of lathed or turned strips in tiers. A thin chicken weighing four pounds will by cramming be made six or more pounds in two or three weeks. If it was worth 12 cents when thin, it is worth 20 cents when crate-fed, per pound. The ordinary cost of putting from two to three pounds on the weight of a chicken has been found to be about 15 cents, and the average increased selling price from 75 cents to a dollar. This accounts for the enormous growth of the poultry fattening business.

At the Canadian Experiment Station 365 chickens fed in crates gained an average of 2.35 pounds each, and the average cost of food consumed was 5.27 cents per pound of increase in the live weight. This low cost of increased weight was secured when ground grain cost \$1.20 a hundred pounds and skim milk 15 cents a hundred pounds. The foods used were ground oats mixed with sour milk, skim milk, or buttermilk, and this was given in troughs in front of the crates, no machine being used.

PRICES TO BE OBTAINED

One dollar for a broiler, \$2.50 for a roaster or capon, \$3.50 for a dressed turkey, \$2.00 for a goose, \$1.00 for a duckling—these are not exceptional prices for good stock. The value of market poultry has increased steadily since 1901 and will continue to remain high. The consumption of poultry has increased enormously.

With a private trade of high class, excellent prices are obtained the year around—from 5 to 10 cents or even more per



A BOX OF DRESSED POULTRY OPENED TO SHOW
— METHOD OF PACKING

light boxes as possible; do not stuff them into bags, as it breaks them. Body feathers should be shipped in sacks. Before packing weigh your boxes with the covers, and mark the weight in plain figures on the side of the box.

Chicken body feathers should be forked over to allow the animal heat to get out of the feathers; they should be well dried out before shipping as the dampness mats them together, and they sometimes arrive heated and mouldy. Be sure and have no quill feathers mixed in with the body feathers. They can be shipped in sacks. Dry picked feathers command best prices. White chicken body feathers, dry picked, command big prices, but must be kept dry and clean. Feathers should be spread out on a floor to dry for if shipped at once they may become musty. Burlap bags are commonly used for shipping.

PROFITS IN COLD STORAGE

Whenever the supply of poultry in any market exceeds the demand, the surplus is put into cold storage where it is kept until prices are high again, often being left in the coolers seven or eight months. In addition, hundreds of thousands of dollars are invested each summer in poultry to be put in refrigerators until next winter. Rather than sell stock at low prices, the poultryman often will find it profitable to place the birds in

MARKET POULTRY AND EGGS

pound for roasting fowls and others that are sold by weight, being paid as a premium. Some of the most successful poultrymen with private markets place each bird or pair of birds in pasteboard boxes made for the purpose, and sell the chickens "by the box"—not by weight—at \$1, \$1.50 or multiples of 50, according to the kind of stock. For those who must depend on the open market the best plan is to write to the commission merchant or dealer and secure from him a list of the average prices per month paid for all kinds of stock, and then arrange to have the birds ready for sale in the month when prices average highest.

Heavy roasting fowls, capons, turkeys, geese and ducks are in greatest demand and fetch the highest prices from November to February not so much of this class of poultry being consumed during warm weather. In the summer, too, it is difficult to ship dressed poultry because of the trouble of icing it, and for this reason most of the stock from April to October is shipped alive.

The great increase in the price of poultry during recent years may be shown from the following quotations for turkeys.

	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896
January.....	17 to 18	17 to 19	16 to 17½	17 to 18	8½ to 12	7½ to 9	9 to 10	8 to 11	10 to 11½	8 to 12½	8 to 12
February.....	18 to 19	19 to 20	16 to 17½	15 to 18	9½ to 14½	7½ to 9½	8½ to 10	8 to 11	9½ to 12	8 to 12½	9 to 13½
March.....	16 to 17	19 to 20	16 to 17½	15 to 18	10 to 15	7 to 12	8 to 12	8 to 13	9½ to 12½	8 to 13	13
April.....	11 to 12½	14 to 15	11 to 12	12 to 13	9 to 12½	6½ to 8	7½ to 10	8 to 10	8 to 12	6 to 9	8 to 12
May.....	11 to 12½	14 to 15	11 to 12	10 to 12	9 to 12½	6 to 8½	6 to 9	7 to 10	6 to 9	6 to 9	7 to 10
June.....	10 to 12½	13½ to 15	10 to 12	10 to 12	10 to 12	5½ to 7½	5 to 7	6 to 9	5 to 8	6 to 7	6 to 9
July.....	11 to 12½	14 to 15	10 to 11½	10 to 11	11½ to 12	6 to 7½	5½ to 7	7 to 8½	6 to 8	6 to 10	7 to 10
August.....	12 to 18	15 to 17	12 to 17	11 to 11	12 to 12½	6 to 8	6 to 7½	7½ to 10	6 to 10	7 to 10	8 to 11
September.....	13 to 16	15 to 16	12 to 14	10 to 11	13	7 to 9	7 to 8	8 to 12	7 to 11	7½ to 10	8 to 11
October.....	13 to 16	13 to 17	12	11 to 14	11 to 13	7 to 8½	6 to 9	8 to 11	7 to 11	8 to 10	7½ to 9½
November.....	16½ to 21	16 to 18	15 to 18	15 to 18	10 to 16	7 to 10	6 to 10½	9 to 11	8 to 11½	8 to 10½	9 to 11½
December.....	16 to 17½	16 to 17½	14 to 17	15 to 17½	13 to 18	9 to 11½	8 to 9½	9 to 10½	8 to 11	8 to 12	10½ to 11½

These are for ordinary birds and when two prices are given the bulk of the stock was sold at the higher figure. Prices quoted for January, February, March, November and December are for dressed birds, and for the rest of the year, for live turkeys. The figures are those paid to the country shippers, and not those which the stock brought when bought by the butchers. Fancy turkeys were disposed of, as a rule, at 5 cents or more per pound above these figures, which were supplied by Howard, Bartels & Co., official statisticians for the Chicago butter and egg board.

Broilers should be marketed as early in the year as possible, before the market is flooded with them. A dollar apiece often is brought for the best stock. Roasters find a good market throughout the year, except in the hottest part of the summer, and specialties, such as ducklings, young geese, "baby" turkeys, crate-fed poultry, or machine fatted fowls, are always in demand at high figures.

KILLING AND DRESSING MARKET POULTRY

DRY PICKED POULTRY IS PREFERRED IN
EASTERN MARKETS—HOW TO KILL AND
DRY PICK—SOME ADVICE ON SHIPMENTS—
WHERE SCALDED POULTRY IS IN DEMAND—
REQUIREMENTS OF VARIOUS MARKETS

P. T. WOODS, M. D.

Methods of killing and dressing market poultry vary in different sections of the country and it is necessary for the poultryman to make himself familiar with the existing conditions and the requirements of his particular market center. This is easily done if he will obtain the regular market bulletins from one or more of the commission dealers in the city in which he intends to dispose of his output.

From time to time these reports contain special instructions for killing, dressing, packing and shipping poultry, and we have drawn on this source for a portion of the information given in this article.

In the best eastern markets, New York and Boston, and on the Pacific coast, dry picked poultry has the preference and commands the best prices. In the middle west and western markets as well as in some southern ones scalded poultry is required and is in greatest demand. This we believe to be due chiefly to the fact that dry picked poultry to present an attractive appearance requires the services of an experienced picker. The west and south is still comparatively new country in the production of high-class market poultry and outside of some of the large packing houses, experienced dry pickers are few in number and hard to find.

In the east where high-grade dry picked poultry is in greatest demand and scalded stock almost "goes begging" for a customer, there are many experienced men who make killing and dressing market poultry a profession. The prices paid for their services vary in different sections of the country.

In nearly all cases they are paid on the piece-work plan, receiving a certain amount per bird for all that are dressed, the prices ranging from 3 to 6 cents per head for chickens and from 4 to 8 cents per head for ducks.

In the vicinity of New York City and Philadelphia there are a number of families who devote the greater part of their time to dry picking market poultry and they derive a very comfortable income from this source. At Vineland, New Jersey, which is in the heart of a broiler, roaster and duck raising section, there is a family consisting of father, mother, two daughters, a son and wife, who make a business of travelling about the country dressing poultry for the growers in that section. These pickers visit different plants at regular intervals, the men doing the killing and rough picking and the women serving as pinfeatherers and finishers. It is no uncommon thing for one of these pickers to rough pick 200 broilers in a day without tearing the skin, and it should be remembered that broilers are very easily torn. When dressing full grown birds that are reasonably free from pinfeathers these pickers will finish a considerably larger number.

EARNINGS OF A SKILLED PICKER

In the July 1905 issue of the RELIABLE POULTRY JOURNAL we told the story of an expert picker who picks South Shore Soft Roasters and made the remarkable record of earning \$23.00 one week, \$33.40 the second week, \$34.80 the third week, \$36.44 the fourth week and \$38.56 the fifth week, in five successive weeks' work dry picking soft roasting chickens at 4 cents each. The record is all the more remarkable because in this case the picker finished the birds, removing all pinfeathers, cooled them in the water tank, hung them up to dry, and cleaned up his part of the picking room at the close of each day's work besides helping weigh up the finished product when the same were packed for shipment, and he worked no longer hours than the average working man. This is an exceptional case but there are many good pickers in the east who regularly earn from \$15.00 to \$25.00 per week.

SUCCESSFUL POULTRY KEEPING

Duck picking is a more tedious process but experienced dry pickers are able to earn a comfortable income. The average price paid is 7 cents per duck, and a good picker can finish from 40 to 60 ducks per day. In the August RELIABLE POULTRY JOURNAL we called attention to the fact that on one of the large eastern duck ranches the pickers were earning from \$2.80 to \$4.20 per day. As all of this work is piece-work a skilled workman can usually earn very satisfactory pay, all depending on his ability.

LEARN TO DRY PICK—IT PAYS

Dry picked poultry is becoming more and more in demand in the western markets and as the call for high-grade poultry increases and the market poultry industry develops in this section, there will be greater opportunities for earning good pay in this line of work. The enterprising young man with a liking for poultry work will soon begin to take up dry picking and he will be among the first to reap the benefits.

In the opinion of the writer the dry picked fowl when dressed by an expert, presents by far the most attractive appearance, and if we are to believe the testimony of many epicures and reliable housekeepers, dry picked birds are much more to be desired as a table delicacy than the scalded product. Some may consider this difference an imaginary one but it is only necessary to compare the expertly dressed dry picked carcass with the scalded, parboiled, or partially cooked unattractive ones to acquire a decided preference for the dry picked article.

Aside from this the dry picked bird will keep better, reach market in better condition, and none of its naturally fine flavor has been injured by contact with hot water, usually dirty and often decidedly repulsive. Even when the scalding is done by an expert the practice is an objectionable one and results seldom justify the means employed.

Dry picking is a comparatively simple matter, easily learned, and once the operator has acquired a little practice, there is no more need of tearing the bird during dry picking than there is after the carcass has been skillfully scalded.

HOW TO KILL AND DRY PICK

Experienced dry pickers claim that the only trick in getting the feathers to come out easily is in the method of sticking. If the bird is killed properly the feathers will come out easily without tearing the skin. If the killing or sticking is not done as it should be or if the bird is choked too much the feathers may cling as if they were clinched, and it will be practically impossible to get them out without tearing the skin.

Nearly every experienced picker has his own particular method of killing and dressing. Along the south shore in Massachusetts the pickers for the most part prefer to sit while working and hold the birds in their laps. It is a practice of some to stick the bird through the throat immediately beneath the angle of the lower jaw or mandible, then give the bird a sharp blow on the back of the head with a blunt stick or billy, the shock of the blow resulting in a nervous spasm that loosens the feathers. The most expert, however, have discarded this method for the nicer operation of sticking the bird through the mouth, allowing the knife point to penetrate the base of the brain, accomplishing the same result in loosening the feathers in a much more satisfactory manner. The writer learned the New Jersey method of dry picking and much prefers it to all others, and will endeavor to describe this method of killing and dressing in detail.

When learning to dry pick the beginner will get much more satisfactory results if he will practice on adult fowls until he acquires the knack of it. Select adult birds that are well feathered and practically free from pinfeathers, and the opera-

tion will be a comparatively simple matter. After one or two trials the beginner should be able to remove all of the feathers in a few rapid movements of the hands.

Make preparations for dressing the birds by having every thing as convenient as possible. Provide two barrels placed against the wall of the room or building in which you intend to operate, one for blood and waste feathers and the other for the feathers which are to be saved. Have a good sharp knife with a medium-sized blade; an ordinary pocket knife will answer.

The chickens to be killed should be placed in coops within easy reach of the picker. The operator should roll up his sleeves and put on a large apron. We prefer to use a bran sack tied across the breast, just beneath the arms and again around the waist. This covers the clothing and is thick enough to afford ample protection from blood that may be spattered. A soft cap should be worn to keep the feathers out of the hair.

Drive a nail in the wall above the center of the barrel intended for blood and waste feathers at a point a little higher than the head of the picker. Provide a loop of stout cord from 6 to 10 inches long and fasten this to the nail. Make a noose in the lower end of this cord to be slipped over the fowl's feet to hold it firmly by the legs. When the fowl's legs are secured in this noose the bird should hang close to the wall with its head on a line with the operator's left arm when held in a horizontal position with the elbow against the side of the body. This position will be found to be the most convenient. If the bird is hung either too high or too low it will be awkward to handle.

After a few trials the picker will be able to judge exactly what point is the most convenient for him to hang the birds and the exact length of the cord he should use. Do not hang the bird from a beam or pole in the center of the room where it can swing both ways, and do not hang the bird in a similar position fixing a weight to the upper mandible to hold it steady. Such practice makes the operation an awkward one and prevents getting the best results.

With the bird hanging against the wall in the proper position as described above it cannot get out of reach should it struggle and slip from the hand, and it is always under control. The picker should stand facing the wall with his knees braced against the barrels. This gives him a purchase so that the bird may be held firmly when it struggles.

The killing knife may be stuck into the wall or placed on a shelf near by. Some pickers prefer to have it tied to a cord fastened about the waist.

STICKING

Grasp the neck of the fowl with the thumb and forefinger of the left hand. Draw the hand gently downward until it strikes the angle of the jaw forcing the fowl's mouth open, but be careful not to choke it. Hold the mouth firmly open with the third finger. Introduce the knife into the throat and with a few quick motions of the knife up and down sever the large arteries at the side of the neck just below the ear, so that the bird bleeds freely. Now hold the knife at an angle with the bird's bill pointing toward the back part of the roof of the mouth in a line with the eye. With a rapid movement drive the knife through the roof of the mouth into the base of the bird's brain and give a quick half turn of the blade. This causes paralysis, renders the bird insensible, practically kills it, and a quick sudden shudder will pass through the fowl indicating that the feathers have loosened.

Adult birds should be stuck much more heavily than squab broilers or broilers. As a rule with small chickens the twisting in motion of the knife should be very slight. If the sticking is too heavy or too light the feathers will not loosen properly. It is, however, a very simple matter and easily acquired with a little practice.

MARKET POULTRY AND EGGS

BEGINNING TO PICK

As soon as the fowl is stuck the operator should begin at once to remove the feathers, taking them off as rapidly as possible. Grasp the wings with the thumb and first two fingers of the left hand, holding the neck of the bird between the third and little finger, stretching the body a little downward without choking the bird so as to keep the noose and string taut. This gives the operator full control of the bird so that he can hold it firmly. Next with two or three quick motions with the right hand remove the large stiff wing feathers; also the stiff feathers at the shoulder joints. In removing the large wing feathers they should be grasped with the extended fingers of the right hand and pulled out with a quick downward movement. The stiff feathers at the shoulder joints are pulled upward.

Now grasp with the right hand the tail feathers and remove them all with one quick twisting motion. Pass the right hand rapidly down the back from the rump to the neck, removing all the feathers with the thumb and forefinger pulling them downward. The bird should then be shifted to the right hand and the left hand used to pick the soft feathers of the abdomen. These can all nearly be removed at one time by grasping a handful of them in the left hand and making a quick turn of the wrist throwing the thumb outward.

Next remove all the feathers from the sides of the breast pulling towards the fowl's back and a little downward on each side. Remove the balance of the feathers on the breast with a downward motion. If the sticking has been properly done these feathers will all come out easily without any danger of tearing; in fact, in adult birds they seem almost to fall out. Again transfer the bird to the left hand grasping it firmly by the head and quickly strip the feathers from the neck with the thumb and finger of the right hand, pulling them a little downward. The feathers on the wings and thighs may be easily removed with the thumb and forefinger of either hand. It only requires a quick eye and a little practice to become an expert picker in a short time. It will surprise the beginner to see how rapidly and how easily birds can be dry picked by following this plan. Good pickers will often have half a dozen birds stripped or rough picked before the first bird is done fluttering.

Some years ago the Society for the Prevention of Cruelty to Animals investigated this method of picking in the state of New Jersey, and after going carefully into the subject and witnessing the operation performed by a number of expert pickers the society's agents were satisfied that there is no more cruelty in this method of killing than in any other; and that the suffering on the part of the bird is reduced to a minimum. It is doubtful if the bird experiences any considerable amount of pain, since the cutting of the large arteries is so quickly done that it could scarcely be felt and when rapidly followed by the sticking into the brain the bird becomes at once insensible to pain. Sticking through the side of the neck and clubbing on the head with a piece of wood is much more brutal and by no means as satisfactory as the method we have described.

REMOVING THE PINFEATHERS

The pinfeatherer will find it more convenient to hold the bird in the lap and should be seated on a stool or box convenient to the rough picker, or if the picker is to do the finishing as well as the roughing, he should remove the bird from the noose, seat himself in a chair and finish the bird in this position. All long hairs and pinfeathers should be removed by the aid of the fingers and a blunt knife. The picker usually begins at the rump, cleans every thing along the back to the neck, then goes over the breast and abdomen, the wings next, and last the thighs, carefully cleaning up the whole fowl so that the

carcass is free from pinfeathers and looks clean and attractive. If there are any large tears in the skin these are cleansed and sewed up by the pinfeatherer.

In pinfeathering a blunt half-bladed case knife will be found the most convenient to use. Should the crop be full the skin at the back of the neck is split and the crop worked out through the opening and removed. As soon as the birds are finished they should be thrown into cold water to cool. After all animal heat has left the body they are taken out, the heads and mouths thoroughly cleaned, the feet and legs scrubbed with a brush to remove all dirt, and the carcasses hung up on racks to dry. On some plants it is customary to have two cooling baths, one simply of cold water to remove the first heat from the carcass, and another, containing water and chunks of ice, into which the birds are afterwards thrown to remain during the hot weather, until it is time to ship them to market, and in cold weather until all the animal heat has left the body when they are taken out and hung up to dry.

DRY PICKING DUCKS

Dry picking ducks is a much less simple matter and requires more skill and patience. A good-sized shoe knife with a half square end made as sharp as a razor is used for sticking in a very similar manner to that described above for chickens. After sticking, the duck is then given a sharp blow on the base of the skull with a round piece of hard wood similar to the policeman's short billy. The bird is held in the lap, its neck between the knees, and legs and wings firmly grasped in the left hand and the feathers quickly removed with the right hand, with a sharp movement from the tail toward the head. In some of the more tender parts the pulling is done in an opposite direction, or toward the tail.

After the coarse feathers and larger pinfeathers are removed the carcass is rubbed over with a little water and shaved with a sharp shoe knife having a concave edge. As stated above the requirements in dressed poultry differ with the various markets.

BOSTON, PROVIDENCE, NEW YORK AND PHILADELPHIA MARKETS

There is very little difference in the demand of the eastern markets, Boston, Mass., Providence, R. I., New York, N. Y., and Philadelphia, Pa. Here dry picked poultry is always at a premium. Beginning with the new year there is an ever increasing demand for good-sized soft roasting chickens. Weights most in demand are those which will dress approximately 10 pounds to the pair. Plump, soft-meated, quick-grown, yellow skinned stock are in the greatest demand. Late-hatched chickens suitable for broilers and weighing from 3 to 4½ pounds per pair will also command good prices early in January. By the middle of January squab broilers or individual chickens that dress about 12 ounces to one pound each, are in good demand and usually command good prices from the middle of January to the first of May. Soft roasters bring the best prices between June 1st and July 15th. The lowest prices for roasting chickens prevail between October 1st and November 1st. Broilers command the highest prices between the middle of April and the middle of June; the lowest prices during August and September. Ducks bring the best prices from May 1st to June 1st and the lowest prices during July and August. Fowls as a rule bring good prices throughout the year, but lowest prices prevail during the latter part of the summer.

Poultry for these large eastern markets should be starved for 12 to 24 hours before killing so that the crop and entrails will be empty. They are sold with the heads on and entrails in. If the crop contains food it must be removed. For Boston, Providence, New York, or Philadelphia all poultry should be

SUCCESSFUL POULTRY KEEPING

dry picked and thoroughly bled. They should not be stunned by pounding them on the back of the head as this causes the blood to settle and injures the sale. Scalded poultry will not bring more than half price in New England markets.

PACKING FOR SHIPMENT IN HOT WEATHER

Strong and sound barrels are best for ice packing poultry for shipment during hot weather. These barrels should be well washed before using and only clean ice should be used. Place a good layer of broken ice on the bottom of the barrel, then a layer of poultry beginning in the middle and packing in a circle with heads down, backs up and feet toward the center, then alternate layers of ice and poultry. Fill the barrel to within 6 inches of the top, taking care to have ice between the poultry and the staves of the barrel. Fill the top of the barrel with large pieces of ice and cover with clean burlap, and mark with brush or stencil. If to be shipped a long distance put in an extra large piece of ice on top. If properly packed the poultry can be on the road fifty hours without injury. Always ship by express in warm weather.

COLD WEATHER SHIPMENTS

During cold weather poultry can be shipped either by freight or express. It should be entirely cold but not frozen before it is packed. Boxes make the best packages and should be lined with paper and packed so closely that the contents cannot move. Never use straw for packing and never wrap the dressed poultry in paper.

Mark the cover of the package distinctly with the kind and quality of the contents, the gross weight and the correct tare in plain figures. Have your own address on the box and see that the package is properly addressed to the merchant to whom you are shipping. Never ship any goods to arrive on a holiday. Always place a duplicate invoice in every package and notify the dealer by mail of shipment, sending the original invoice in your letter.

Yellow meated, yellow-legged, plump poultry is most in demand in the eastern markets and when cleanly dry picked and neatly packed commands the top prices.

BALTIMORE MARKET

Scalded poultry is preferred in Baltimore, Maryland, market and sells best with head and feet off. The birds should be scalded carefully and feathers removed without breaking the skin. The scalded poultry should be plumped after picking by dipping it for a few moments in hot water, not quite boiling,

and then throwing the birds into cool water of the natural temperature where they should remain ten to fifteen minutes. When this is done cut off the head and feet and hang the carcasses up to thoroughly dry off. Be sure that all animal heat has passed out of the body before packing for shipment. Ship in plainly marked packages as advised above, packed tightly so that the flesh will not become bruised in transit. There is a light demand in Baltimore for dry picked poultry.

BUFFALO AND CHICAGO MARKETS

In Buffalo, N. Y., and Chicago, Ills., scalded poultry is in greatest demand and commands best prices. Care should be taken not to scald the heads. For scalding use water that is as near the boiling point as possible without boiling. Pick the legs dry before scalding. Hold the bird by the head and legs, immerse in the hot water, and lift up and down two or three times. Be careful not to immerse the head as it turns the color of the comb and gives the eyes a shrunken appearance, leading the buyer to think the fowl has been sick. Remove the feathers and pinfeathers without breaking the skin and plump the bird as directed in preparing them for Baltimore market. Birds are sold with heads and feet on and entrails in (undrawn). If crops contain food they should be removed. Expertly dressed dry picked poultry is becoming more and more in demand in these markets.

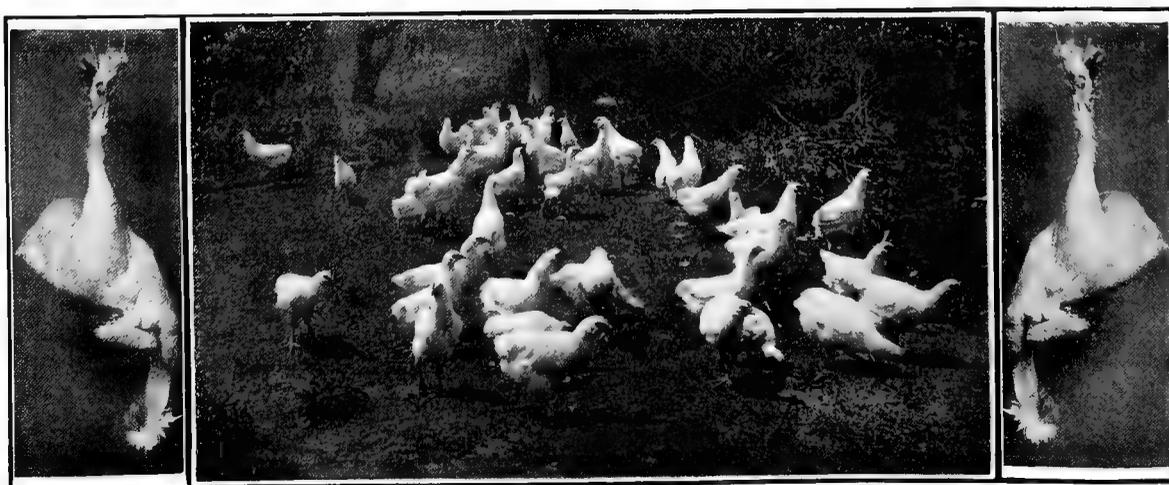
ST. LOUIS MARKET

A prominent dealer in St. Louis, Mo., says that careful handling and fine appearance of the stock are half the selling. When everything is plenty a fine lot of poultry will find favor and sell readily, while rough stuff will lie around and may possibly have to be sacrificed at a discount. The St. Louis market prefers scalded poultry carefully picked and well plumped. The birds should be bled in the mouth and are sold with heads and feet on, undrawn, the crops removed if they contain food.

SAN FRANCISCO MARKET

Dry picked poultry is in demand in San Francisco, Cal. No poultry is scalded for this market as buyers will not purchase it. The entrails are always left in and never drawn. Crop is only removed when it contains food. Heads and feet are always left on.

Poultry should be packed in barrels or small boxes weighing from 100 to 200 pounds. Large plump poultry is always in the best demand. This market differs from the eastern, southern and mid-western markets, as the birds are customarily sold by the pair or by the dozen.



CHAPTER ELEVEN

TURKEYS, DUCKS AND GEESE

CARE AND MANAGEMENT OF TURKEYS

TURKEYS FROM SHELL TO MARKET—USE OF TURKEY HENS TO HATCH AND RAISE THE POULTS — TREES THE BEST ROOSTING PLACE — NESTS — CARE OF SITTING HENS — FEEDING POULTS—LIBERTY TO ROAM — STANDARD WEIGHT

MRS. HATTIE A. WELD, Greely, Kans.



WHENEVER I talk, write or even think turkey, it is a White Holland Turkey. Why? First, because to me they are the most beautiful. Any one who can look upon a flock of fifty or one hundred turkeys all white as snow—except the black beard and the beaks, legs and feet which are varying tints of pink, any one, I say,

who can look upon such a flock without admiration, has no eye for the beautiful.

Second: Their quiet, gentle disposition always wins friends for them.

Third: They dress well for the market. We now have them bred to a size that can compete favorably with any variety of turkeys. But I will not stop now to give all their good qualities.

WHEN STARTING, BUY BIRDS, NOT EGGS

Better begin with turkeys instead of just buying the eggs. A chicken hen will hatch the eggs just as well as a turkey hen and she will do her best at raising the poults; but she does not wander far enough to give them the food they require and therefore they always lack the size of the turkey-raised birds. And besides, the lice that they get from the chicken hen are so much harder to fight and seem to do the little ones so much more harm than the regular turkey lice. To be sure neither kind is a benefit, but of two evils choose the lesser.

Buy your breeders in the fall, if possible. November is the very best month as the turkeys are in range condition, not fattened in the least, and all you have to do is to keep them growing and in good breeding condition.

One feed a day is plenty. I prefer to give that at night as this makes them range after cattle or other stock and gives them necessary exercise. But at five o'clock (as the days shorten, feed at four), I put a little wheat or oats in a trough and call them, that all may go to roost satisfied. Have oyster shell, grit and charcoal where they can get it any time. Also plenty of water as the turkey does not like to depend upon snow any more than other fowls do.

We yard our chickens in October and leave the range for the turkeys as the two do not feed well together.

THE BEST ROOSTS AND NESTS

With us the best roosting places are the tree tops and the colder the weather the higher the turkeys fly. They should have a shed open to the south where they may go during stormy days, if they wish. And they will greatly appreciate some poles for perching under this shed.

The first of February is none too early to prepare nesting places. We get salt or sugar barrels and scatter them around in the orchard, laying them down with open end to the south, driving a couple of stakes at each side to keep the barrel solid. Cover with brush and old hay, having the opening partly hidden. Now place a cozy nest in the barrel and a couple of china nest eggs and we are ready for Mrs. White Holland. Drive the hens accidentally (?) past these hidden (?) nests and see if you do not enjoy the performance of the hen that is about ready to begin laying. Her neck stretches out, she looks on this side and on that, goes partly in, comes out, goes in again, turns round and round and right then and there apparently concludes to deposit twenty or twenty-five eggs in that fine place at laying time.

Or, if there is an unused stall in the barn, the turkey hen likes to lay there too. One year I had three White Hollands sit in the same manger upon 46 eggs and they brought out 45 poults. The only trouble was when one hen raised up to turn her eggs, her neighbor upon left or right would stretch out her long neck and with her beak roll under herself as many eggs as she had time to steal. So I had to fasten boards between the three hens.

PROTECT THE PULLETS

At mating time if your male bird is a large, clumsy, old bird and his mates are pullets, you may save yourself some unpleasant work by putting gloves upon him. Just get the heavy duck gloves that cost 25 cents for three pairs. Put them upon Mr. Tom's feet sewing fast above the spur with heavy thread. Leave plenty of room for his toes to clinch round the perch, being especially careful to leave room for the small back toe. The thumb and extra finger of the glove I bring up over the top of the foot and sew securely. Last year my old 35 pound tom wore out three pairs—but I did not have a hurt pullet while he was wearing them.

If one of the females does happen to be torn, anyone by using a little grit, a fine needle and some waxed, white silk thread can perform the necessary surgical work. First, cut off the feathers near the edges of the wound; next syringe the wound with warm water containing a weak solution of carbolic acid. Take short lengths of white silk and wax it, bring the torn skin up in place and hold it there. Now take a stitch in the two edges, draw close together and tie. Cut your thread and take another stitch. It does not take long to sew up a bad hurt and the turkey never moves. It will heal readily and hardly leave a scar if well done. A good healing ointment may be used to hasten the work.

SUCCESSFUL POULTRY KEEPING

MANAGING THE CONTRARY LAYER

Sometimes White Hollands begin laying in February but usually it is from March 15th to April 1st. If the weather is cold gather the eggs soon after they are laid and stamp the date upon each. Then you can set the oldest first each time. Turn the eggs once a day till you set them.

If your hen does not fancy any of the nests you provide let her choose one for herself as she will not go far, and being "white" it is almost impossible for her to go to her nest without your seeing her. If it is an inconvenient place for her to sit, do not worry. Let her lay her clutch of eggs and begin sitting. I usually remove her to the nest where I want her to sit the first night she is broody, but it would be safer with some to wait till the second night. I have barrel nests arranged in a large, grassy yard under some cedar trees, both for shade and because I imagine the odor from the cedar to be a lice preventive. Carry your hen gently, talk to her and put her in the barrel carefully. Let her see the half dozen nest eggs you have given her and press gently down upon her shoulders, if she does not want to sit down, rub some of the eggs upon her bare breast, continuing to press her down gently. Sometimes it is necessary to bend her legs back carefully and hold her down for a few minutes, talking to her all the time. I have never had but one turkey refuse to sit upon the nest and that time I think it was because of my impatience.

When the hen settles down fasten her in securely, leaving plenty of room for ventilation, and slip away. Do not disturb for two or three days (except to peep in to see if she is sitting). Now she is both hungry and thirsty, take her off gently and away she will go for the corn and water, and you want to have a good big water dish for Mrs. Sitting Turkey always wants to stand in water while she drinks. I do not know whether it is to allay the fever in her feet and legs or to take the stiff feeling out. I simply know her likes and cater to them. Let her drink, eat her corn and pick some grass. This gives you time to exchange the nest eggs for good ones, provided your hen has been sitting all right. I should like to say right here that I often give the eggs to two chicken hens and let them sit upon them for a couple of weeks while the turkey finishes her clutch of eggs. In this way you get your poults a couple of weeks earlier and the turkey makes just as good a mother as when sitting her full time, only you must be sure she is down to business before taking the eggs from the chicken hens.

Dust your turkey with a good louse powder two or three times while she is sitting and also have a good dust place in her yard. Do not use the powder too near hatching time.

CARE OF TURKEY MOTHER AND POULTS

Fifteen or sixteen eggs are enough for the turkey. She can cover more all right, but as nearly every egg hatches and the little ones grow so rapidly, if she has a larger brood she can not hover them so well in our heavy spring rains.

And it does not take 28 days for them to hatch. On the 26th day you will have turkeys. Now do not disturb your hen. The little ones come out of a small hole and the egg shells never slip over each other as chicken egg shells do, so there is no need to interfere and it always makes the hen nervous to be bothered, especially if she is a pullet.

If the mother turkey does not bring off her brood the second day, I generally take her off in the afternoon. Reach in, get hold of her legs, lift her straight up and out of the barrel. Then take the little ones out. If it should be a cold, wet time leave the turkey undisturbed till the third day. Take some of the shells from the nest, remove the inner membrane, crush the shell into tiny bits and scatter for the little ones to peck

at. They will not eat much till they get so they can stand well. It is not best to try to rush them, as the old hen knows best how and when to teach them to eat.

Their first real food is cottage cheese, made from clabber milk, with a tiny bit of pepper added but no other seasoning. Scatter this on a board near the hen, and she will hold pieces of the cheese in her beak for the babies to take. This is why I begin with the cheese as it seems their nature to look to their mother's beak for their first food. Feed only a little at a time. Here is where so many make a fatal mistake. You must feed sparingly for a few days but feed often. Every two and one-half hours is my rule.

Their second feed is a few pinches of popular brand of chick food. I scatter it upon a nice smooth place, and sit down to watch the little ones eat. I pick up first one, then another. Beginning thus early they never have any fear of you, and my hens having been handled from their youth up fear no danger for their little ones from me. For a couple of weeks I alternate the cheese and chick food, giving three feeds a day of the chick food and two of the curd. Sometimes if we have continued rains so the little ones can not range, I omit the curd as it has a tendency to irritate the bowels if not balanced by green foods and insects.

LET THEM ROAM

Now, here many turkey breeders will differ with me but I give the hen and her flock their liberty at once, but usually take her some distance from other fowls as little turkeys follow anything that is moving. At night the mother will take her young back to the nest and she will get the last one into the barrel, without help usually, and she never crushes one as a chicken hen sometimes does. I say I give the turkey hen her liberty—and so I do—but I guide her to the pasture or a corn field or some place where the grass is not rank. And I do not let her out of the yard till the dew is gone from the grass.

After the little ones are four weeks old three feeds a day of the chick food are plenty and probably the old hen has begun to wander too far to come up except for dinner and supper. Now, too, begin to mix whole grains of wheat and kaffir corn in with the chick food. In this way you will teach them to eat the whole grains. Right at first they will not like it as turkeys do not like to change from one grain to another. By the time they are six or seven weeks old I am putting oats in, too, and the chick food is omitted. Some complain of oats but I have found no trouble as my turkeys always have grit, shell, etc. I think oats one of our best grains for making size.

SHADY YARD AND OPEN SHED

A week or two, at most, is long enough to let the turkey roost in the barrel. Remove the barrel and she will select a place near by for her brood. I think my big shady grassy yard has paid for itself many times. The fence is four feet high and no varmint has ever troubled the turkeys there. There is a low shed at one side, opening to the south, that is covered with roofing paper so it is warm and rain proof. Rainy nights I put my turkey hens under this shed but during fair weather they want all out doors to sleep in. If a heavy rain comes up in the night it only takes a few minutes to gather the little ones into my big apron, and take their mother under my arm and run to this shed. I suppose there is little use in doing this as a turkey seems to know instinctively to choose a roosting place that is a little higher than the surrounding ground and her great wings are just like the roof of a house to shed water but I can sleep better if the flock is under the shed during a bad storm. I keep them roosting in this yard just as long as I can, but finally they go to the trees.

TURKEYS, DUCKS AND GEESE

INSECT POWDER FOR POULTS

I have not said a thing about dusting the little ones for lice. Try to put a little insect powder on their heads, under the bill along the throat, and along the quill feathers of the wings, once a week at first. Later I do this just whenever I can. During continued rains is your opportunity to fight the lice and you must do it, too, for at such times the turkeys are deprived of their main weapon against lice—their daily dust bath. Some use lard, vaseline, etc., but whenever I have tried greasing little turkeys I have always had a funeral, so I stick to the insect powder.

SIZE DEPENDS ON EXERCISE

When your turkeys' heads begin to get red you count them raised and begin to spend the money they will bring—in your mind. And I want to help make the pile as large as possible. Let the turkeys range as far as they will, for their size depends so much upon this; and they are as regular as a clock in returning home for supper at five. They will not miss the time fifteen minutes. Possibly this is because their owner is always at the gate and their supper is always ready for them just at this time.

A BENEFIT TO CROPS

One can't compute the grasshoppers, chintz bugs and all sorts of insects that a flock of turkeys will turn into cash, besides destroying mice, moles and even snakes. A "doubting Thomas" should follow the flock for an hour and I think his distrust would vanish. A farmer can readily tell which field of clover was hunted over by the turkeys by the scarcity of grasshoppers at cutting time. They will pick a tender leaf of said clover here and there but the fee they levy is very small for the service they render. Then take them in the cornfields—when the corn is too large for the plow. One has no idea of the weed seed they devour. Or turn them out on the field where oats or wheat has been harvested. The grain is always followed by a crop of fox tail and this weed is a delight to turkeys. They begin at the bottom of the head and with one effort strip nearly

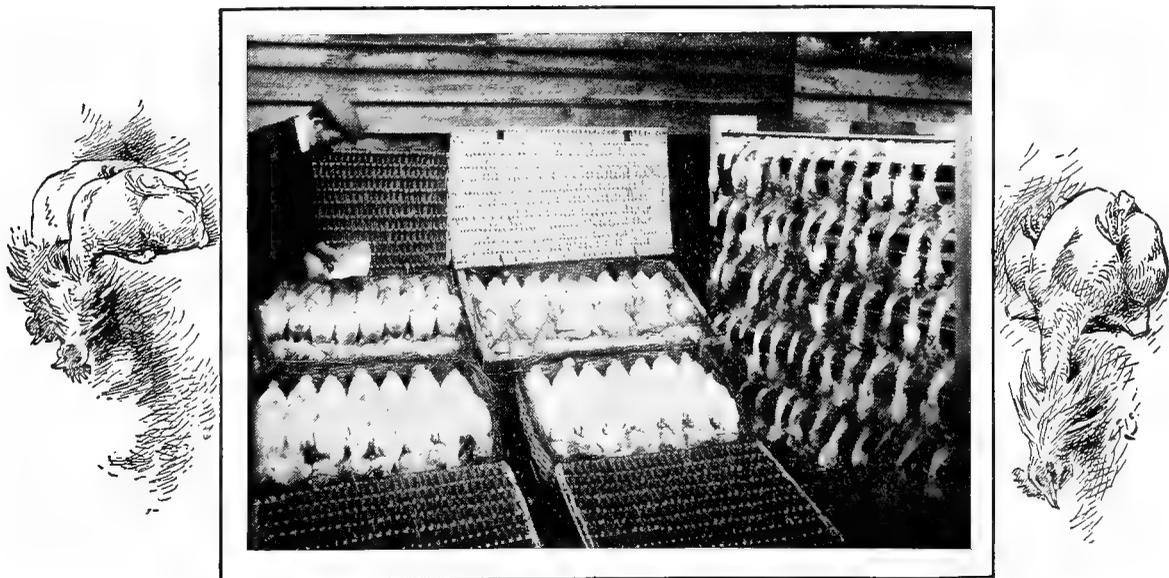
every seed from the stalk. A flock of turkeys is not a detriment to the farm but a benefit if one takes time to find out the truth. Ours never molest the grain or the corn in the shock. If they were starved to it, probably they would. But they are fed every morning (when I can hold them long enough) and always at night, so during the day it is insects and weed seeds for which they search.

When October is with us and frosty nights and cold mornings come, the turkeys like to linger round the barn in the sunny places, but for your pocketbook's sake you must not permit it. By nine o'clock take a long stick in each hand and drive them to the fields and pastures. It will be no trouble, as turkeys drive like sheep—at least mine do. I keep them hunting the late grasshoppers and seeds till past ten, then I slip away. Sometimes they do not see me go, and keep on hunting. Sometimes they beat me to the house—but they have had their morning exercise and so have I, and both they and myself are benefitted by these rambles. I drive them to the range every day during October if they do not go by themselves and my! the pounds of turkey it adds to my flock.

PURE-BREDS PAY BEST

It pays to raise pure-breds even for market. When I began years ago with White Hollands and marketed 9 pound pullets and 14 pound cockerels, I thought my turkeys paid pretty well. But now I find the cost but little more in producing 17 pound pullets and 26 pound cockerels. Then, too, if you carry a good grade of stock you can dispose of every bird raised for considerably above market price by advertising your stock. There are very few "culls" among turkeys. They breed so much truer to type than chickens.

If one is ailing very much the balance of the flock often kill it. Inhuman? No, sir. Instinct. The fittest should survive. And the largest, strongest, most vigorous male should be allowed to occupy the place he wins by defeating all others—the head of the flock. And I cannot help thinking our "Standard Makers" are going against nature when they award "First" to a 26 pound cock over his 35 pound competitor of equal score. Anyhow, friends, you breed big birds and I will guarantee you five chances for sales where the breeder of "Standard weights" has one.





SUCCESSFUL DUCK GROWING

THE PROFITABLE IMPERIAL PEKIN DUCK—ACCOUNT OF A VISIT TO MR. JAMES RANKIN'S FAMOUS MAPLEWOOD DUCK FARM—VALUABLE POINTERS ON INCUBATION, BREEDING STOCK, BROODING AND OTHER MATTERS OF INTEREST TO POULTRYMEN

P. T. WOODS, M. D.

WE do not know of anything that gives us more genuine satisfaction than a good long talk with a thoroughly practical and successful poultryman who has had many years of experience and who was one of the pioneers in the business. Therefore, when recently we found ourselves en route for South Easton, Mass., on a particularly fine day, we anticipated much pleasure and profit from our proposed visit to Mr. James Rankin who has been aptly named by the poultry fraternity the "Father of the Pekin Duck Industry in America." Our pleasant expectations were agreeably fulfilled and we will now endeavor to tell our readers something about all that we saw and learned at this great modern duck ranch and home of the justly famous Imperial Pekin Duck.

We were met at the Easton railroad station by Mr. Rankin's son-in-law and after a delightful drive over some fine country roads arrived at Maplewood Farm, one of the largest and best equipped duck ranches in the country. One of the first things we noticed as we approached Maplewood was the excellence of the location and layout as well as the fine construction and stability of the farm and duck buildings. While Pekin Ducks are the chief products it cannot be considered an exclusively duck farm since other farming interests are also well established and conducted. But the Imperial Pekin is there in all its glory and standard excellence and is unquestionably the farm crop of greatest importance, all other features being subservient to it.

On our arrival Mr. Rankin met us at the door of the incubator cellar, and being particularly interested, we were at once conducted into that department to view 190 newly hatched ducks that had just been excluded from 200 eggs left in the machine at the final test. Mr. James Rankin is well known in the poultry world and his name is always associated with the Pekin Duck Industry. About forty years ago he made his first start with ducks and ten years later he came prominently before the poultry public as an incubator inventor and manufacturer, and an advocate of artificial hatching and rearing of both chicks and ducks. The Monarch Incubator was developed and manufactured by Mr. Rankin on his home farm, and for

over a quarter of a century proved itself to be one of the most successful hot water tank incubators ever invented. During recent years owing to pressure of other business and because of the high cost of construction, and so necessarily high selling price, it was decided to abandon the manufacture of these machines and take them off the market. Nineteen of these Monarchs of 600-egg capacity each, are now in use on the farm and bringing off remarkable hatches of strong, vigorous ducklings, besides two 300-egg capacity machines of a more modern make which Mr. Rankin considers quite equal in operation and results to his own invention. This gives Maplewood Farm in its two incubator cellars a total machine capacity capable of setting 12,000 duck eggs at one time.

SAVING EGGS FOR HATCHING

Naturally one of the first things we talked about was artificial incubation, a subject in which the writer is much interested and one on which Mr. Rankin is well qualified to talk authoritatively.

He firmly believes in keeping eggs cool when saving them for hatching and recommends that they be kept at a temperature of between 40 and 50 degrees Fahrenheit. As low as 35 degrees will not injure the eggs and at 40 to 45 degrees they can be safely kept for three or four weeks before setting them. Eggs lose vitality rapidly when exposed to a temperature above 75 degrees and are seldom fit for hatching when kept for more than three or four days at this temperature. This information coming as it does from forty years experience of a very active, capable and observing man should prove valuable to all poultry keepers who save eggs for incubation. Only well formed, medium-sized eggs with sound shells are used for hatching. As a rule the fresher the eggs the better for incubating purposes, but entirely satisfactory results have been obtained from one month old eggs, when they have been properly kept. While keeping the eggs they are not disturbed to handle or turn them. They are placed in boxes, baskets or cases and allowed to remain until needed for sitting. This plan has been found to give the best results.

TURKEYS, DUCKS AND GEESE

COOLING OR AIRING THE EGGS

For a long time in the earlier years of his business Mr. Rankin used to hatch with hens, the Pekin Duck seldom sits and when she does cannot be depended upon as a reliable mother. He found that where the hens were confined to the nests and only allowed off for a brief interval each day to feed, drink, exercise and dust, the results were better than where the birds were allowed their own sweet will. Further he made the interesting discovery that by protecting the eggs, covering them while the hens were off the nest, he got better hatches of stronger chicks and ducklings. This led him to believe that while it is necessary for the hen to leave the nest to feed and attend to Nature's needs, so allowing the eggs to cool, it is not proof that the eggs need cooling. Some incubator manufacturers have advised cooling or airing the eggs daily for the simple reason that the hen allows them to cool, losing sight of the fact that while it is a necessity for the hen to leave the nest it may not be helpful to the embryo. When the hen leaves the nest and the eggs cool, they quickly return to the temperature when she covers them again with her warm body and in a very short time they have regained their normal temperature. With an incubator it is different and it may require an hour or more to regain the lost heat. He firmly believes that cooling and airing the eggs is in a large measure responsible for the poor hatches obtained by some who employ artificial means. In this belief he is supported by the opinions we have heard expressed by many other experienced poultrymen. The eggs get sufficient colling and airing while turning them twice a day in all machines where eggs are turned by hand. Where eggs are machine turned without removing them from the incubator it is well to air them a few minutes at each turning.

When operating in cold weather the doors of the machines are kept closed while turning, in warm or hot weather they may be allowed to remain open at this time. The eggs are turned twice daily beginning in the morning of the third day. The eggs are always turned by hand and their relative position in the trays changed daily to help offset any inequality of the heat in the egg chamber. Hand turning in this manner more than pays for the labor involved by the better hatches obtained. When turning eggs in a very cold room they are turned as quickly as possible to avoid too much cooling. Care is taken not to jar or shake the eggs overmuch while turning as the less shaking they get the better.

TEMPERATURE OF EGG CHAMBER AND TESTING

The temperature of the egg chamber is maintained at 102 degrees with a thermometer on a live egg until the animal heat begins to get well established which is on or about the fifteenth or sixteenth day, when the heat is allowed to go to 103 degrees, at which point the temperature is maintained throughout the balance of the hatch. Readjustment of the regulating device is frequently necessary when running a machine filled with strongly fertile eggs, as there is always a tendency to a rise of temperature, and this is considered a good sign.

The duck eggs are tested out after they have been incubated about seventy hours and all the clear eggs are sent to market. Mr. Rankin assured us that these infertile eggs brought a price equal to strictly fresh eggs and that they were really considered a superior article because of their keeping qualities. Being so short a time in the machine they do not dry down appreciably and in appearance are equal to any egg fresh from the nest. They are not in the least injured for any culinary purposes and will boil perfectly, which is considered one of the best tests of a fresh egg. In keeping qualities these tested out infertile eggs are superior to all others as they will keep in perfect condition for months, if kept in a cold, dry place.

The sales of these eggs total up a very comfortable figure during the season.

A second test is always made on the tenth or twelfth day and all eggs missed at first test, or those in which the germs have died, are removed. A final test is usually made on or about the 24th day. Whenever a dead egg becomes putrid it is smelled out and removed. These can often be detected by the color or marbled appearance of the shell.

The wire cloth of the egg trays is covered with or replaced by burlap which is less liable to injure eggs and makes turning easier, as the eggs do not roll about on it as they do on wire. Moisture is used in the machines from the 18th day and is considered a necessity in incubating duck eggs. The usual method is to sprinkle the burlap on the tray and the eggs thoroughly with water at about the temperature of the eggs, the object being to saturate the air of the egg chamber with moisture.

On the 26th day the eggs and trays are made quite wet with moderately warm water and the machine closed to remain so until the hatch is over. The ducklings are usually all out on the 27th day and are removed to the brooders on the 28th.

THE BREEDING STOCK

At Maplewood they are carrying this year (1906) 1,100 head or prime young breeders, and they have carried as high as 2,500. All of these breeders are fine lusty, healthy, vigorous youngsters. Mr. Rankin does not believe in carrying any considerable proportion of one or two-year old birds over for breeding purposes. He pushes all his growing stock for all that there is in them, and gets all the growth and eggs he can in the shortest possible time. The breeders are picked from the growing pens before the birds go to the fattening yards, and only the choicest and most vigorous, healthy specimens are selected.

He selects his best drakes for next winter's breeders from the growing yards containing this year's January, February and March hatched ducklings. At the time these birds are chosen the flocks are in their best possible shape just prior to the final finishing for the market, and will average to weigh about six or seven pounds each and worth at market prices from 25 to 30 cents a pound. So it will be seen that his breeding stock stands him at market prices from \$1.50 to \$2.00 a head. Add to this the fact that these birds when selected are but eight to ten weeks old and must be fed and cared for until nine months old before breeding them, it is not surprising that breeding birds do not sell for less than \$3.00 to \$5.00 each.

Choosing the breeding ducks is done in the same manner but is seldom begun before the March hatched ducklings begin to develop. As a rule ducks will mature for breeding about twelve weeks earlier than the drakes, so that as a breeder a six months old duck compares favorably with a nine months old drake.

We show herewith a picture of a flock of Imperial Pekin Drakes which our artist took for us at Maplewood. This flock contains nearly 300 fine breeding males, all early hatched youngsters that have been carefully selected as the pick of the season's production. Never before have we seen a more handsome lot of Pekin drakes in one bunch and it is extremely doubtful if such a lot was ever before duplicated, many of them going ten pounds and over in weight and all in the pink of condition.

The Rankin method of selecting ducklings, taking the pick of the flock to save for breeders as soon as their good points can be determined, is a particularly good one and worth following. Raising as he does from 25,000 to 30,000 ducklings annually this gives him a grand opportunity for the selection of the best sort of breeding stock for all essentials, including standard points, profitable tendencies as to development, size shape and vigor.

SUCCESSFUL POULTRY KEEPING

NO WATER EXCEPT FOR DRINKING PURPOSES

This duck ranch is unique in one respect that the breeding stock do not have access to a water run. No water is supplied to ducks or ducklings except for drinking purposes. The breeding houses are light, airy and well ventilated, and divided into pens of twenty-five birds each; five ducks to each drake, early in the season, and later on six to eight ducks to one drake as the males become more active and begin to handle the ducks more roughly. If too many drakes are allowed in the pens late in the breeding season, they are liable to spoil the appearance of the ducks by rough usage and make their heads and necks sore and bloody by pulling at the feathers.

The breeding pens are about 12 by 20 feet and have outside yards about 20 by 100 feet each. There is a three-foot walk just back of the pens in the breeding house and separated from them by a low two-foot high partition. The birds are fed in the house near the walk, and all the water they get is one bucket to each two pens (the water trough is in the middle partition) three times a day, or but twelve quarts of water for each fifty ducks at each meal. That seems pretty closely figuring for water supply for birds that are normally considered water fowl, but the breeders were in the best possible condition, and we were given to understand that the fertility of the eggs was all that could be desired or expected for the season of the year. Neither the old or young stock ever have water to swim or bathe in.

FEEDING THE BREEDERS

Young stock selected for breeders are turned out to pasture as soon as possible in flocks of 200 each. Here they are housed in open sheds or shelters and are fed twice a day all they will eat of the following mash mixture: Three parts, by measure, heavy wheat bran, one part low grade flour, one part corn meal, five per cent beef scrap, three per cent fine grit, and all the green food they will eat in the shape of corn fodder, clover, alfalfa, oat fodder, or green rye, cut fine.

When housed in the breeding pens in the fall the birds are put on the laying ration and from then receive a mash twice a day, morning and evening, composed of equal parts, by measure, wheat bran and corn meal; ten per cent beef scrap; twenty per cent low grade flour; ten per cent boiled turnips, mangel beets or potatoes; fifteen per cent clover, rowen or alfalfa, green rye or refuse cabbage, cut fine, and three per cent grit. At noon they get a light feed of corn and oats. Clean grit and the best quality of oyster shell is kept in boxes always before the birds. The mash food is never cooked and is always mixed with cold water.

The houses are always kept clean and well aired. The breeding pens are cleaned out and bedded frequently with meadow hay grown on the farm. The ducks appreciate the clean, dry bedding, and it is necessary to keep their feet warm and give them a dry bed. Unlike hens, ducks do not need any incentive to exercise; they are always on the move and usually busy both day and night. On account of this tendency to be always on the move and talking about it, and because of their extreme timidity it is necessary to avoid having dark quarters at night. Lighted lanterns are kept in the houses and yards at night to keep the ducks quiet.

LOTS OF HARD WORK IN DUCK GROWING

While one of the most profitable branches of the poultry business there is plenty of good hard work connected with the conduct of a large duck ranch. It means early to rise and late to bed for the man in charge if a respectable balance is to be kept on the right side of the ledger. It isn't a business suited

to the man who likes short hours or who wants to linger in bed after daybreak. The duck man must be up and doing before sun-up, when the first gray haze of dawn shows on the horizon. The ducks will be up and waiting for breakfast and it isn't good business policy to keep them waiting too long. They have lusty appetites and the clamorings of their empty stomachs will cause them to fret off good flesh or will affect the egg crop if permitted to go long unappeased.

Mr. Rankin employs six men on his duck farm and he keeps them all busy. For himself he considers fourteen to sixteen hours out of the twenty-four a day's work, and he has been keeping this sort of thing up for a long time and is still hale, hearty and remarkably young and vigorous for his years. On one of our visits to his plant we reached there on an early morning train and found him busily at work hoeing the asparagus bed, having already finished the routine work for the morning. Many years of strenuous farm life have not marred his health or activity and there are few men in offices today, fifteen or more years younger, who are his equal in physique.

NO GROUND POISONING

Although Maplewood has been a duck and poultry plant for forty years there is no evidence of ground poisoning of which we hear so much now in the poultry papers. Cleanliness and good common sense care of the farm are responsible for this freedom from the common evils attendant on the constant use of yards and houses for poultry and ducks.

Maplewood Farm is very flat and there is no gentle slope to aid in the natural cleansing of the yards with each rainfall, but the soil is fairly well drained. Once each week the men sweep out the runs and yards and the manure so cleaned out is used on another part of the farm for fertilizer. In hot weather the yards are also swept thoroughly when ever there are signs of an approaching heavy rain. Otherwise the hot sun on the wet droppings would cause a very unpleasant odor.

As soon as the ducks are out of the yards for the season the soil is well turned over by deep plowing, is thoroughly worked and planted to rye, clover, alfalfa, corn or other crops. One or two crops a year on the ground gives all the disinfecting needed. On this ranch they grow all the green food and vegetables used and store away quantities of mangle beets, turnips and cabbages for the winter. Rye is kept growing the year round. Clover, alfalfa and corn fodder are grown in large quantities. Fresh cut, shredded green corn fodder is considered one of the best green foods for ducks of all ages.

BROODING AND FEEDING THE DUCKLINGS

All ducklings are brooded in hot water pipe houses of the ordinary box-hover pattern with one flow and one return pipe, each 2 niches in diameter.

It is aimed to keep the temperature under the hovers at between 80 and 90 degrees and the house itself comfortably warm. There is always plenty of fresh air in the houses at all times and when the ducklings are two weeks old they get an outdoor run on green rye. The little birds are kept comfortable, clean and well fed. Their runs and hovers are bedded with planer shavings.

The water founts are galvanized iron and are placed on a wire cloth fastened on to a board walled pit at a level with the earth floor of the run so that any water slopped is quickly drained away and does not mess up the brooder house.

For the first four days the ducklings are fed four times a day all they will eat up clean in twenty minutes of a mash made of four parts by measure of wheat bran; one part corn meal; one part low grade flour, five per cent fine grit.

From four days to four weeks old they are fed four times

TURKEYS, DUCKS AND GEESE

a day all they will clean up of a mash made of four parts by measure wheat bran; one part corn meal; one part low grade flour; three per cent fine grit; five per cent fine ground beef scrap (soaked first by scalding). Finely cut green clover, rye or cabbage is fed freely.

From the end of the fourth week until six weeks old they have the following mash four times a day all they will clean up quickly: Three parts by measure wheat bran; one part corn meal; one part low grade flour; three per cent fine grit; five per cent beef scrap; one per cent fine oyster shells and a liberal amount of fine cut green food mixed in mash.

From the end of the sixth week until eight weeks old, they have the following mash three times a day: Equal parts by measure wheat bran, and corn meal and fifteen per cent low grade flour; ten per cent beef scrap; ten per cent green food and three per cent grit. Keep oyster shells before them.

From eight weeks until finish at ten or eleven weeks they are fed three times a day on a mash of one-half corn meal; equal parts by measure wheat bran and a low grade flour; ten per cent beef scrap, and three per cent grit. Oyster shell is kept before them. Green food is fed less freely until within ten days to two weeks of market time and then is omitted altogether. The birds are watered at feeding time. All mashes are made dry and crumbly, never gummy or pasty. As soon as the ducks are weaned from the brooder they are housed in the fattening sheds and yards to remain there until ready for market, unless selected for breeders, in which case they go out on pasture. The mortality among ducklings on this plant is estimated at not over two per cent of the sound, healthy ducklings hatched. All weaklings are killed when the ducklings are taken from the machine to be placed in the brooders.

GRAIN, GRIT AND SHELL BY THE CARLOAD

All grain, grit, shell and beef scrap used on this farm is bought by the carload. It takes a vast amount of food to keep this plant going in the height of the season. At the time of our visit the 1,100 breeders were receiving about fifteen bushels of mixed mash food at a meal.

When the brooder houses are full and the plant is going at full capacity it requires 760 buckets of mash mixture a day to satisfy the hungry ducks and ducklings. These buckets average 12 quarts each, so that it means 285 bushels of mixed feed per day to run this plant in the busy season.

Four expert pickers are employed by this plant while the market season is on. These men receive seven cents per head for picking ducklings and will dress from 40 to 60 ducks each as a day's work.

Maplewood averages to market 200 ducks a day during the season which begins in February and ends in August. Besides this many hundreds of breeders are grown and thousands of eggs are sold for hatching. Pekin ducks are remarkably prolific layers and when once well established in laying it is not uncommon to get as high as 90 per cent egg yield from the flock. After the first few eggs are laid and the birds get in full lay the fertility is remarkably good. The ducks usually start laying in January and are well established and showing a good fertility by the middle of March, and they keep it up until well into June or early July. The ducks will average about 140 eggs per head for the season, some making records as high as 165 eggs. Young ducks will often begin laying at five months old but it is customary to endeavor to hold them back until they are more mature.

MARKETING AND PROFITS

All ducks marketed by this plant are hatched, grown, killed, dressed, cooled and iced on the home farm. They are

marketed when from nine to eleven weeks old. Mr. Rankin estimates that the total cost of raising duck meat, labor included, is not over 10 cents per pound at the present prices for grain.

Marketable ducklings will average to dress six pounds each at nine weeks old and seven pounds each at ten to eleven weeks old. One drake grown last season weighed nine and one-half pounds when dressed and ready for market at ten weeks old; this is an exceptional record weight.

The prices for fancy market ducks are highest early in the season and the man who beats his competitors getting into market gets the cream of the profits. This season had only begun when we made our last visit to Maplewood and it was too early to obtain figures on the market, but all the incubators were in full blast and the brooder houses rapidly filling up with ducklings.

Last year (1905) the top price was 30 cents per pound for early ducklings and did not go below 15 cents late in the season. Mr. Rankin at the last of the season during July made but one shipment at this lowest price as he was able to control the market for his output, and for all other lots the lowest price paid was 19 cents per pound. Boston market takes the bulk of the output of this plant although some few shipments are made to the New York market when prices are favorable. Last season sales of Maplewood ducklings averaged 20 cents per pound. At an average gross cost of production of 10 cents per pound this means quite a tidy profit.

The buying public is only just beginning to get acquainted with the excellence of properly grown duck meat and each year sees a constantly increasing demand. With such generous profits to pay for the hard work it is not strange that the industry is developing by a steady and sturdy growth.

For a man who likes outdoor life and is willing to stay at home, work hard and keep long hours there is no branch of the poultry business that gives promise of better or more certain returns.

To Mr. James Rankin belongs the honor of being one of the first men in the United States to recognize the value of the Pekin duck and to help create the great market outlet in this country for specially grown, fed and fattened ten weeks old ducklings. May he live long and prosper.

TOULOUSE GEESE

B. F. HISLOP, Milford, Ill.

Several years ago we decided that geese would be a source of income in connection with other poultry rearing. The question then was to decide on the variety we would breed. First we looked to the common market's demand, knowing that this went hand in hand with the fancy. We easily learned the market demanded the heaviest geese, also the fattest, and that the Toulouse came nearer this type than any other, hence our selection.

There are drawbacks to all kinds of poultry rearing—one don't get from this "something for nothing" any more than in another calling, but of all the birds we have handled, geese have the least, and they can stand pampering and heavy feeding and all the breeder needs to do is to see that they have green forage, plenty of drinking water and a little grit; then he can feed any kind of grain he chooses and in any quantity. Of course grain for the young goslings should be in the form of mash and generous in quantity, in connection with green forage, etc., but the adult birds may be scrimped on this if one does not care to fatten them.

SUCCESSFUL POULTRY KEEPING

The young birds before in full feather must be protected from inclement weather, but the adults can live most anywhere at all seasons, open sheds or the shelter of buildings is all they ever need in our vigorous winters.

During the summer the adults may be plucked at least three times, first at close of breeding season, the others as soon as feathers are in condition; this is when the quills of the small feather (no others should ever be plucked) are free from animal matter, like blood, etc. These feathers will pay for the bird's keep, leaving the price of fowl as profit.

Geese are different from other domestic fowl, as it requires no high fencing to keep them confined anywhere; a big tight pasture is sufficient as they never think of flying over, and the adults are too large for small openings.

They are only fit for the common market about three months in the year at best, November, December and January; rest of the season are thin, no matter how fed (we never tried stuffing them). The goslings are very vigorous with good care, seldom die, barring accidents. We say, a gosling hatched means a goose for market, and seldom miss it. To get the best size one wants to keep them growing all summer. We hatch the eggs and rear the young with chicken hens, as we find them more docile and easier handled. They are then very tame, regular pets, always happy and contented, while other young fowls do lots of crying around. Our goslings reach from standard weights up to as high as 20 to 22 pound females, and 23 to 25 pound males, in December. Average good birds, 16 pound females and 19 pound males, highest weights given are our exceptionally fine show birds and fattened, although this is done on range and whole grain.

We have never been able to supply the fancy market at good prices, since we have established our reputation to send what we promise and cheerfully take back birds that are not

satisfactory. True, we don't get as large sums for single specimens as is often received for turkeys or chickens, but on an average (most all geese are good specimens in a well bred flock) we make as much and often more profit off of our geese than any other variety of fowl we handle. They are not as prolific when it comes to eggs and young birds as turkeys, neither to be compared with chickens in this respect, but the per cent of young reared to maturity is too great for comparison.

Being large birds the ordinary farmer need not expect to rear large numbers of them, nor does he of any kind of stock, but every farmer could easily keep a trio or two of old breeders each year and rear all the young possible from these. The adults while not laying can run in lots with shoats or even several old hogs with little or no danger, or with horses and cows if there are a few nooks for them that the large animals can't go in. The old birds kept for breeding should never be made excessively fat during the winter, if one wants best results in spring.

Geese live to a good old age and breed well, young breeders are not as good as old ones. Toulouse are by many farmers called "dry land" geese, it isn't necessary for them to have swimming pools; it won't hurt them to but they can't be fattened to top weights when they do. Goslings should never be allowed to swim while in down, or when weather is chilly.

The young birds keep changing in color until in full feather, then they remain the same, both male and female are alike to a feather, male coarser and larger, with more of a masculine look about the head, but one not familiar with them can't distinguish between the sexes nor can an old breeder until they about reach maturity; then their voices become different, that of the female, very hoarse and male squeaky; actions of birds also a key to sex.

Geese in common market bring from 10 to 12 cents per pound; as breeders, good ones \$5 up to \$15 or more.



CHAPTER TWELVE

PREVENTION OF POULTRY DISEASES

BREED ONLY SOUND, HEALTHY STOCK

IMPORTANCE OF FRESH AIR AND SUNSHINE—WHOLESOME FOOD AND PURE WATER NECESSARY TO HEALTH—DON'T WASTE FIVE OR TEN DOLLARS' WORTH OF TIME AND MEDICINE DOCTORING A DOLLAR BIRD, AND SO RISK INFECTION OF YOUR WHOLE FLOCK



AS THE prevention of disease is of much greater importance than the cure so far as poultrymen are concerned, we shall devote this chapter entirely to a brief discussion of how to avoid poultry ailments. For those who care to go more fully into the subject and who desire to know the best methods of treating sick fowls, we recommend a careful study of the book "*Reliable Poultry Remedies*" of the RELIABLE POULTRY JOURNAL series. In that book will be found all that it is necessary for poultrymen to know about diseases common to poultry.

In the prevention of poultry diseases one of the most important matters is to bear in mind the fact that "like begets like." You cannot grow good crops from poor seed, you cannot raise strong sturdy chickens from breeding stock that has had serious sickness or that is debilitated and out of condition. Once you breed birds that are not in condition or that have made only a fair recovery from a serious illness, you start trouble that it will take several generations of careful breeding to uproot. To be absolutely sure of having healthy chicks it is not sufficient alone to have healthy parent stock, the stock must have been healthy for more than one generation; in other words, to have healthy chicks you must have healthy grand-parent and parent stock. Begin now to select and handle your stock with a view to breeding only healthy fowls hereafter. If this is given careful attention, in a few years, provided you properly care for your stock, disease on your poultry plant will be conspicuous only by its absence.

THE BREEDING STOCK

Breeding stock must be perfectly sound, healthy, vigorous and active. Cured fowls that have once had a serious ailment should never be used in the breeding pen if the best results are desired. Examine all breeders carefully, particularly the mouth, throat, nose and eyes. Don't breed a bird that has a cough or that is seriously troubled with canker. Breeding birds should be plump but not overfat. They should be as nearly physically sound as it is possible to have them. Fowls of either sex which exhibit a tendency to grow dark about the face, comb and wattles when frightened or startled, or after running, should not be used in the breeding pen, as there is in all probability something wrong with the circulatory organs and they cannot as a rule be depended upon to produce healthy offspring. Select birds that are good feeders, but don't use the gluttons of the flock. There are always a few birds in every flock that are inclined to make hogs of themselves in the matter of feeding, and these are seldom good layers and almost invariably are poor breeders. It is best to make use of their gluttonous tendencies to get them fattened quickly and off to market.

While it is true that so far as we know disease cannot be

transmitted through heredity, it is also true that the tendency to disease may be handed down for several generations. For this reason it is absolutely necessary to breed only sound, vigorous, healthy, active specimens. Be sure that breeding birds are well matured. Don't use those which are exceptionally precocious. Too early maturity is just as bad as too late maturity. Choose birds which mature evenly and well and show as far as possible good development at all stages of growth. Look for the bright eyes, red comb, smooth, dry, well-kept plumage, keen appetite and activity, which indicate the healthy fowl. If you pay attention to these details the battle is half won.

NATURE'S BEST REMEDIAL AGENTS

Nature has provided for us two of the best remedial agents, disinfectants, blood purifiers and health promoters, in pure fresh air and sunlight. Fresh air is of just as great importance at night as during the daytime. Many fowls that would otherwise be sound and healthy have their constitutions utterly ruined by cooping in tight, poorly ventilated poultry buildings. No poultry house should be too tightly closed at night. Some allowance should always be made for a liberal supply of pure fresh air. As a general rule fowls do best in any climate in cold poultry houses that are well ventilated or in open front buildings, the so-called fresh air poultry houses. There are many types of these buildings and most of them will prove safe and satisfactory. The most essential feature is to provide a plentiful supply of pure fresh air at all times without drafts about the roost. Houses that are tight at the north end and east and west sides and have a tight roof, can have the windows or openings in the south front kept open for the greater part of the time, night and day through the year, in fact, the south front should never be wholly closed. In cold houses where this plan is adopted there will never be any trouble from so-called "house sweating," the birds will not be as susceptible to sudden weather changes, and the egg yield will be just as good as, and frequently better than, that of fowls kept in tight, close poultry buildings. Tight poultry houses will be greatly benefitted by having muslin screens substituted for a part of the glass in the south front. Use the coarse unbleached muslin and tack it loosely on to wooden frames which take the place of the upper half of the window sash. In this way fresh air can be supplied without danger from drafts, even in small narrow poultry buildings. Sunshine is one of the best purifiers and disinfectants that we have, and all poultry houses should be so arranged as to admit an abundance of sunlight to the interior of the house whenever the sun shines.

WHOLESOME FOOD AND PURE WATER NECESSARY

Wholesome food and pure water are of the greatest importance. Remember that the greater per cent of the fowl's

SUCCESSFUL POULTRY KEEPING

body, and of eggs produced by fowls, is water. They need a constant supply of clean, pure, fresh water at all times. It should be drawn from a source from which we would be willing to take our own supply. Disease will spread through impure or polluted drinking water more quickly than in almost any other way. Where a good, pure, fresh running stream can be had it will serve well for watering the fowls, but as a rule running streams are not fit for drinking purposes. No stock should be permitted to drink from streams which run through foul barnyards and piggeries, or which receive the seepage from manure heaps, privys and piggeries. Neither should streams into which factories empty their waste be used for watering stock of any description. Where a stream has its source in a pure spring or springs and runs through clean open land or woodland, and is not contaminated from above mentioned sources, it may be safely made use of and proves an ideal means of watering, provided it is so placed that it will not receive the wash of crowded poultry yards.

Drinking fountains should be cleansed frequently. For adult fowls 10 or 12 quart galvanized iron pails make the best drinking vessels, as they are easily handled and may be thoroughly cleaned with very little labor. Good galvanized iron drinking fountains are best for little chicks, although easily cleaned earthenware, glass or cast-iron water fountains may be used when convenient. It is seldom wise to allow more than one pen of fowls to water from the same pen or bucket where birds are kept in continuous houses, since by watering two pens from one receptacle you simply double the chances of infection should sickness break out in either one of the flocks.

All food should be sound, sweet and free from must and mold. Never use sour, musty or moldy grain. It is a prolific source of bowel troubles in both young and old stock. Cracked grains when purchased in this condition should be carefully inspected, as they are very liable to be musty. Fowls need a variety of food to keep their appetites in good condition, which means keeping them healthy. Grain may be supplied mixed or separately, and it is wise to feed at least two or three kinds such as wheat, corn and oats. Barley, buckwheat, kaffir corn and other grains and seeds may also be used to advantage by way of variety. Green food is of the utmost importance and some fresh raw food should be fed at all seasons of the year. The ideal way to feed green food is to give the birds a good pasture on clover or grassland. If this cannot be supplied, furnish them with an abundance of raw vegetables such as mangels, beets, turnips, cabbages and small potatoes, as much as they will clean up during the day. Vary this supply occasionally by giving cut clover or cut alfalfa. By keeping an abundance of green food sufficient for each days' needs before the birds all the time, you will prevent many common ailments and discourage feather picking.

Oyster shell, grit and charcoal are necessary to the health of the birds, and should be kept before them at all times. Oyster shell is particularly necessary and it has been found by careful tests that birds supplied with grit alone do not do as well as those that have oyster shell and no grit, while those having both grit and oyster shell do best. Charcoal is necessary as a corrective. The fowls will not eat more than they need of it and it keeps their digestive organs in good condition and prevents diarrhoea.

CARE OF THE POULTRY HOUSE

Poultry houses should be kept reasonably clean. By this we mean filth must be avoided. A little dust will do no harm, but extreme dustiness is dangerous to the health of the birds. You will generally find more or less catarrhal trouble in buildings that are exceedingly dusty. Sand or gravel is preferable

as a filling for poultry houses to loam or other dusty soil. Road dust should not be used as it is necessarily of a filthy character containing all sorts of impure matter. Fowls will enjoy and take benefit from a good dust bath and such should be supplied in some sunny portion of the pen. Clean, sandy loam mixed with a little sifted coal ashes makes a very good dust bath, and the fowls will prefer it in summer time kept a little moist.

VERMIN

You cannot expect fowls to be very healthy and do well if they are subject to continued attacks of lice and mites. These poultry vermin must be gotten rid of if we are to get best results. With a little care one can enjoy almost entire freedom from these pests. A good liquid lice killer used freely about the roosts and droppings boards will insure freedom from mites. To get rid of the body lice on the fowl, dust the birds once in three months with pure Dalmatian or Persian Insect Powder. This powder should be made of the pure fresh ground Persian insect flowers, or Pyrethrum, and should be purchased of a reputable drug supply house. The price varies from 25 to 30 cents a pound, and it is well worth the money to any poultryman. In dusting the fowls they should be dusted thoroughly, working the powder well into the feathers down to the skin all over the body. If all birds are given a thorough dusting and a little of the powder is scattered in each nest, there will be no more trouble from lice for some time. We seldom find it necessary to dust birds oftener than once in three months, but it is absolutely necessary to use the pure, fresh, unadulterated powder.

AVOIDABLE CAUSES OF DISEASE

Among the avoidable causes of disease are poorly ventilated poultry houses, overcrowded buildings, crowding on the roosts at night, dampness, filthy quarters, impure food and water, the use of moldy or musty litter material, and breeding from unsound, unhealthy or debilitated stock. All of these causes can be avoided with a little care.

All new fowls received should be quarantined for a short time before being introduced to a flock. Sick birds when found should be immediately removed from the flock, and if seriously sick had best be killed and cremated. It is never wise to spend five or ten dollars' worth of time and medicine doctoring a bird whose carcass is only worth about a dollar at market prices. If it were simply a matter of doctoring the bird alone, the matter would not be so serious, but as a rule when time is taken to treat sick fowls the danger of infection of the balance of the flock is not reckoned with. If a sick bird is promptly disposed of and the carcass cremated the danger of infection of the balance of the stock is reduced to the minimum. If the bird is simply placed by itself on some other part of the farm and the attendant goes from treating it to the buildings occupied by the other stock, or if contagion is carried in some other way, there is always liability of spreading the disease.

As a general rule the best way to treat simple sickness in fowls is to provide a range for them on some remote part of the farm where they will be obliged to rough it in open front sheds with the roosts well elevated in the rear part where the birds can sleep free from drafts, but at the same time have the benefit of practically living in the open. Keep a mixture of dry grains always before these birds and plenty of oyster shell, grit, charcoal and pure water. See that they have an abundance of green food. Any that are worth saving will usually come through without the necessity of special treatment. The outdoor natural "roughing it" life will be all that is necessary to bring them round in good shape. Seriously sick birds had best be killed at once and the carcasses cremated.

