Milwaukee. Watertown is the best place to get Bowker's animal meal.

Mr. Huffman—Would you advise feeding green cut bone?

Mrs. Lehmann—Yes, if you have some one to grind it. I can't get our men to do it.

BREEDS OF POULTRY FOR SPECIAL PURPOSES.

F. W. JENKINS, Eau Claire, Wis.

This is the question, the correct solution of which forms the chief corner-stone in the building of success in the poultry business. Do not be misled by this and think that, after the proper selection of a breed or variety for your special purpose, you have nothing more to do or learn. But my topic will not lead us into the mysteries that lay at the root of the business, such as care and feeding, proper construction of buildings, light and ventilation, science of mating, breeding, etc.

It is my purpose to assume two things: 1st. That you have had practical experience in poultry raising. 2nd. That you are raising poultry for eggs and the market.

It would not be profitable under this topic to enter into a discussion of the strictly fancy branches of the poultry business.

The first suggestion as to your selection is a breed or variety that you have a special liking for as we all have more success with things we have a fellow feeling for than we do with those we do not like, but this will not always do, as we may have formed a great friendship and liking for bantams but want to engage in the broiler, dressed poultry or egg business and certainly bantams won't do. This brings us directly to our text, the selection of breeds for special purposes.

The Breed for Laying.

We will first take up the breeds best adapted to laying and supplying the egg trade at the least cost. The best strictly egg breeds are the Hamburgs and Mediterranean classes as they will lay younger, with greater regularity, and many more in a year than any of the other laying fowls. The Polish, while good layers, belong more to the strictly fancy classes and are not practical fowls for the egg trade, as they are rather delicate, hard to raise and fall an easy prey to hawks. This latter fault is quite common to all birds with large top knots.

BROWN LEGHORNS.

The Hamburgs and Leghorns easily stand at the head of this class (and the Leghorns probably lead) for the reason that they mature younger,

commence laying younger, and with proper care and feeding will lay the year around. They are never idle except during the moulting season and they never or hardly ever set, so no time is lost that way. The young of both these breeds are veritable vest pocket editions of their parents as they are feathered out almost as soon as hatched and the sexes are easily distinguished by the combs when three or four days old. There are several varieties of both of these breeds and the choice among them simply rests on the fancy of the owner. They are to the egg business what the Jersey cow is to the dairy; they are great for eggs but not much for meat.

The Breed for Broilers.

The man who engages in the dressed poultry or broiler business must look elsewhere for an ideal breed It takes Hamburgs and Leghorns about fourteen weeks to make small broilers, while the Asiatics are ready at nine weeks old.

The principal breeds to be considered as strictly market and broiler birds are the Brahmas, Cochin and Langshans, as they attain the greatest size either as broilers or as matured fowls, but there is no half way ground, if not slaughtered at broiler age, nine or ten weeks, they will not be again fit for the block until nearly matured as from broiler age to near maturity they grow a large frame without putting on much of any meat or fat. In fact, while growing it is almost impossible to fatten them.

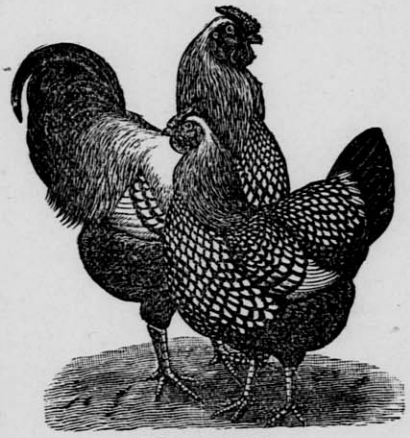
These breeds are also good winter layers, so they are not idle during that time of year. There is one objection to the Asiatics for market purposes, that is, the feathers on the legs. When dressed, if the feathers are left on the legs they make a bad appearance, and if they are pulled out they leave the leg looking bruised and somewhat unsightly. Of course the offending members can be removed entirely but most dressed poultry goes to the market and is weighed with legs and head on. The trade demands and will have yellow skinned and clean yellow legged birds and the successful poultry man will cater to their wishes.

Advantage of Light Colored Fowls.

In choosing among the Asiatics your market fowl, one thing that should be taken into consideration after selecting the breed, is to select the white or light colored varieties, as the White Cochin, Light Brahmas, etc. Every housewife's experience in dressing fowls teaches her that the dark feathered fowls are the hardest to dress clean on account of the dark pin feathers, while the white or light colored fowls always look better with the same amount of labor than their dark feathered cousins. I know of no point of excellence as market fowls in the dark varieties that cannot be urged equally in favor of the white birds of the same breed.

The General Purpose Fowl.

The next class to be considered is the American, by many called the general purpose class for the different

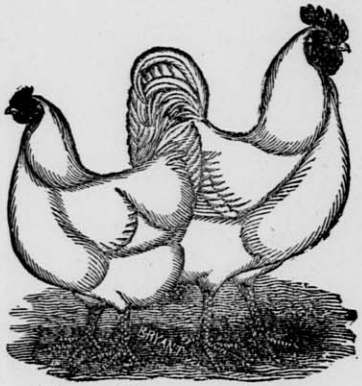


WYANDOTTES.

breeds as the Wyandottes and Plymouth Rocks make excellent broilers, though not as good as the Asiatics,

good average layers and a quick developing medium sized market fowl with yellow legs and skin. They are not the best fowls for eggs, broilers or the market but combine these three qualities nicely. I consider them good birds for the farmer or any person who only wants to keep one variety of fowls, and who has neither time nor place to bother with different breeds. They will set and hatch their young, furnish the table with both eggs and meat.

There are several other breeds of fowls that are good for both eggs and table use, but do not set, so lose one of the essential qualities of the perfect general purpose fowl. These are the Houdan, a French fowl of good size and laying qualities, well adapted to our northern climate on account of having a very small comb and wattles and a large protecting tuft of feathers around them.



White Plymouth Rocks.

The English Red Cap are a very handsome fowl with much the same characteristics as the Houdan but have an enormous comb or cap in place of the tuft of feathers.

The Minorcas are also a general purpose fowl in a way, being fair size and very good layers but carrying a little too much comb and wattles to suit me.

Breeders of the Dorkings claim for them a high place among the market and general purpose fowl and they at least should receive some mention. I have never had any experience with them, but from what I have seen of them I think they would make a good market bird.

The Best Crosses.

At the Rhode Island experiment station some very interesting and valuable experiments have been carried on in crossing thorough bred fowls of different breeds for special purposes. I believe for egg production no cross has been found that can improve on the Leghorn and Hamburg. There they are very well satisfied with the Cornish Indian Game and Light Brahma Cross, both for broilers and market purposes. I have never tried that cross but can see no reason why the first cross should not be all right as the young birds are plump and uniform throughout. I would however say that as a general proposition I am very much opposed to the crossing of thorough-bred birds and only assent to the use of a thorough-bred male with a common flock of hens as one way to improve the stock, but when thoroughbred birds or their eggs can be bought as cheaply as they can today, the breeding up plan is a slow and unsatisfactory way.

Experiments We Have Made.

Mr. W. E. Dorland and myself at our farm at Chippewa Falls, known as the Mansfield Poultry Yards, have conducted for the past five or six years a series of experiments in crossing thoroughbred fowls and have determined to our satisfaction at least that for special purposes or for general purposes the thoroughbred bird is the most profitable, easiest to handle and generally most satisfactory to raise. In support of that statement it will be necessary to digress slightly from our subject. Each distinct breed has certain characteristics peculiar to itself and they are so marked that the differ-

ent breeds cannot run together or be fed together with good results. For instance, Light Brahmas and Leghorns cannot be reared together and kept together after maturity successfully, as the Brahmas while growing require more feed than the Brahmas the Leghorn as they grow faster and larger. After maturity the Leghorn require more feed than the Brahmas because they are more active and lay more often than the Brahma. The feed required for a laying Leghorn hen would fatten a Brahma hen up so she couldn't lay but would in a short time die from over fat. A hen to give the best results should have what feed she requires but her attendant should know better than to over-feed her. He should also understand that the different breeds have different natures and should be fed and cared for differently. One of the secrets of success is not to get too many birds together in one pen or coop and to keep together only those of the same natures and disposition.

Crossing Thorough-bred Fowls.

Where thorough-bred fowls of one kind are kept together the characteristics of the birds should be alike and the same proper care beneficial to the entire lot. Cross-bred birds are sure to have different natures and require different care and feeding and if kept together in numbers cannot do well. When we have so many different breeds, some best suited to one purpose, some best suited to another and still others best suited for a general purpose fowl, there can be no excuse for crossing thorough-bred fowls. When they are crossed it must be done for a purpose and tell me your purpose and I will select a thorough-bred fowl much better suited to the purpose than the cross-bred bird, unless possibly the single exception of the Cornish Indian Game and Light Brahma Cross. Usually the first cross only make fit birds for one purpose as those birds bred together the next year show a marked inferiority, and so on each succeeding generation. While in the chicks produced from the first cross there will be a fair average uniformity, the succeeding generations of these cross-bred birds will be all sorts, sizes and color. There should be no trouble in selecting among the various breeds of water fowls or turkeys, as size, color and the owner's fancy should govern. The Bronze or White Holland turkey should suit almost any one, while the Pekin ducks and Toulouse goose meet all requirements.

As to climatic condition, I believe any of the foregoing breeds are well adapted to a cold climate and my experience is that they all want good comfortable quarters and care to get the best results and if the conditions surrounding them are proper they will be a source of profit to their owner.

DISCUSSION.

Mr. Arnold—What chickens do you recommend?

Mr. Jenkins—The general purpose fowls are Plymouth Rocks, and the Wyandottes. I personally prefer the Wyandottes; the strain is a matter of fancy.

Mr. Briggs—Which are the better, barred Plymouth Rocks or white?

Mr. Jenkins—That is a matter of fancy.

Mr. Reed—Isn't it true that a white fowl is the easiest cleaned for market, and for that reason it is the best, other things being equal?

Mr. Jenkins—Yes, I made that statement; a white bird is always better than a dark one for market purposes.

Mr. Reed—Is not the white Plymouth Rock a larger chicken than the barred?

Mr. Jenkins—No, it shouldn't be.

Mr. Reed—How do you like the Cornish Game for general purposes?

Mr. Jenkins—They are not as good as the Wyandotte or the Plymouth Rock.

Mr. Kellogg—Can you successfully use artificial heat in hen houses for the winter?

Mr. Jenkins—If you understand it,

Mr. Kellogg—How did you come to understand it?

Mr. Jenkins—By experience.

Mr. Kellogg—That is a dear way.

Mr. Jenkins—It is the best way. I think the best way to do is to have your chickens where they do not need it, but if you are going to use artificial heat at all, I would use it more for ventilation than for heat, and in that way you don't get a great deal of heat out of it.

A Lady—I read in a paper once that very early pullets would moult in the fall the same as hens, and then they would not lay any better than hens. Is that so?

Mr. Jenkins—That depends on the breed. I would just as soon have the Hamburg or Leghorn hatch the first of July as any other time of the year. The Brahmas and Wyandottes must be hatched as early as possible.

A Lady—Are the different strains of fowls affected by their age in laying?

Mr. Jenkins—Yes; a Plymouth Rock hen, after a year and a half old, is rather a poor layer; that I think is due to the fact that they fatten so easily; it is hard to keep them in laying condition. I have known of Leghorn hens being good layers up to nine and ten years old.

Mr. Arnold—Then we judge that a hen that is of a thick fleshy formation that will thicken with age, is not a good hen for laying?

Mr. Jenkins—Yes, that is true.

Mr. Arnold—How old would you recommend keeping hens?

Mr. Jenkins—That depends on the particular breed. I would watch them pretty close; as long as a Leghorn hen lays pretty well, I would keep her.

A Member—When this spring chicken gets to be eight or nine years old, what are you going to do with her?

Mr. Jenkins—I would answer that as the Jersey cow man told me once with reference to the selling of his cow. He said that he could well afford to erect a tombstone over that cow after burying her.

A Lady—Which do you prefer, the single comb or the double comb brown Leghorns?

Mr. Jenkins—I don't think it makes a particle of difference, but I prefer the single comb.

Question—How is the black Langshan for laying in winter?

Mr. Jenkins—Good. The single comb is more apt to freeze than the rose comb, but when the rose comb is once frozen, the only way to thaw it out is to chop the head off. A hen with a frozen comb won't lay, but of course I do not think it advisable to keep hens where the comb will freeze.

Mr. Hopkins—Do you find any objection to the size of the eggs of the Brown Leghorns for selling?

Mr. Jenkins—I have seen Brown Leghorns' eggs that would average with Brahma eggs. I think where the Brown Leghorns are bred principally for show purposes, bred without regard to the size of their eggs, the eggs are small, but you can breed them up to be good layers.

Supt. McKerrow—How would you do that, by selecting the largest eggs for incubation?

Mr. Jenkins—Yes, I would.

would not the white lay the larger

A Member—As between the two, eggs?

Mr. Jenkins—I have never noticed any difference.

A Lady—Where you have a strain of fowls, all of one color, how do you distinguish the younger hens from the older ones?

Mr. Jenkins—Well, after they get two years of age, you can't very well.

A Lady—Can you tell them by the wrinkles on their legs?

Mr. Jenkins—I don't know whether the wrinkles are there or not.

Question—What do you think of Houdan fowls?

Mr. Jenkins—I like them first rate.

The Chairman—Do you handle ducks also?

Mr. Jenkins—Yes, and goslings.

The Chairman—Are they profitable?

Mr. Jenkins—Yes; of course they re-

quire treatment different from that of other fowls. I find that they should be yarded pretty close, so as to keep out of the rain and dew, and to keep them from exercising too much. Exercise is a good thing for a chicken, but a poor thing for ducks. A duck is an enormous eater and requires more bulky food.

Supt. McKerrow—How about the turkey?

Mr. Jenkins—Well, I think the less you have to do with the turkey the better you are off.

Mr. Hayes—You only mean when they are shut up, you cannot keep them in pens. Can't you raise them on the farm as easy as any fowl you raise?

The Chairman—Mr. Hayes wishes to know if you can't raise them on your neighbors?

Mr. Hayes—They will clear your farm of grasshoppers.

Supt. McKerrow—What do you mean, that you would not raise turkeys at all?

Mr. Jenkins—No, I mean that if you are raising turkeys you want to let them alone.

A Lady—Isn't it a fact that the most profit you make out of turkeys is that they feed off your neighbors?

Mr. Jenkins—Yes, if the neighbor don't feed off the turkey.

Mr. Huffman—Don't you think eggs ought to be sold by the pound?

Mr. Jenkins—You can adapt yourself to the market. If they are sold by the dozen, keep a hen that will lay fancy small eggs.

Mr. Huffman—Where do you keep your incubator?

Mr. Jenkins—We have always kept it in the house. One hundred and sixty eggs capacity. Simplex.

Question—Would you advise any larger?

Mr. Jenkins—Why, I do not see any reason why two hundred cannot be run as easily as one hundred and sixty.

A Lady—What does an incubator cost?

Mr. Jenkins—The various makes have their own prices. While the Simplex is the cheapest machine, if it is properly handled it works all right, but it is not every one who can handle it. It is almost as much trouble as some hens are.

Question—What is your idea of the Excelsior machine?

Mr. Jenkins—We have one of them and we don't like it at all.

Mrs. Lehmann—It is not good for anything.

Mr. Jenkins—The trouble is it does not hatch as well as the other kind, and it does not regulate itself.

Question—How many chicks will you raise from one hundred and sixty eggs?

Mr. Jenkins—I have run from thirty to one hundred and fifty, but I do not think that is due to the machine.

Supt. McKerrow—About what is the average price for an incubator?

Mr. Jenkins—From 150 to 200 egg capacity will range from $30 to $50.

Question—What is the price of the Monarch machine?

Mrs. Lehmann—The Monarch is a high priced machine, but it is a good one. It is on this principle: it is a hot water machine, and very good at regulating, and you need not look at it once in twelve hours; you can go to bed and sleep every night, and you cannot do that with the Excelsior nor with a good many others.

Question—Does it have the top and bottom heat?

Mrs. Lehmann—It has just the top heat and hot water at that, so that if the light goes out, or anything, it is so arranged that it will stand the changes in the atmosphere, which the cheaper machines will not do.

Question—Do you keep them in a dry cellar?

Mrs. Lehmann—Yes, a cellar is a splendid place to hatch them if it is not too damp, because the temperature don't change there, as a rule. Mine is in the basement; I have a basement to the hen house and I keep my vegetables, cabbages, and such things in there, and part of it is partitioned off for the incubator room.

Question—What is the trouble when

chickens break the shell before they are ready to come out?

Mrs. Lehmann—Too much moisture. I do not know what is the trouble, but in some way there is too much moisture.

Question—Where is the Monarch incubator made?

Mrs. Lehmann—Southeastern Massachusetts.

Mr. Arnold—Is there any machine invented for testing eggs?

Mrs. Lehmann—You can tell an egg every time after it has been in three days, whether it is all right, if you hold it to the light.

Mr. Arnold—I mean when we go to the store to buy them.

Mrs. Lehmann—I don't know unless you do as a party in Minnesota did, break them.

The Chairman—I know Mrs. Lehmann is quite successful with ducks, and I would like to know how she handles them, and what she thinks of them as far as profit is concerned.

Mrs. Lehmann—I have the Pekin ducks and they are one of the best layers, but they seldom set successfully, so you have to set them under hens, or in an incubator. In feeding ducks do not feed raw corn meal; that is where so many people make a failure with ducks; it is sure death to them, every single time; about the third day they will turn over and die, and some will say it is one thing and some another, but it is nothing in the world but the raw corn meal. They will grow on skim milk like little pigs; mix middlings in the skim milk, that does not get sticky, and they will eat it up all right. I feed a great deal of cheese curd; we have lots of skim milk and I feed a great deal of it with cheese curds to both chickens and ducks, and I feed a great deal of it sweet, because we run it through the separator and we have it sweet and warm, right from the separator.

Question—What particular turkeys do you have?

Mrs. Lehmann—Mammoth Bronze; they grow to be very large, some of them weighing twenty-eight and thirty pounds, and they are clean and nice to dress and they sell well.

Mr. Arnold—Is not the size objectionable?

Mrs. Lehmann—Not at all; I never found any objection at all. I never sell mine for market so large—only those left over in the spring. I had a few left over in the spring and I sold them last year at fifteen cents a pound and there was no complaint made of their size.

Mr. Arnold—The market demands about twelve pounds.

Question—Can you raise ducks successfully without ponds?

Mrs. Lehmann—Yes, very successfully; my hen house is on a side hill and my well is on top of the hill, and I have pipes carrying water to barrels. You must have something that the ducks can get into and not drown. I turn the faucet enough to let it drip and let the ducks get water that way. For the old ducks I have a kerosene barrel, cut off about a foot and set into the ground. I think this year I shall try to have a hole dug and cemented for them because we have plenty of water, and keep the water running into it; have it not over two feet deep and slant it out, so that the edges are easy to get out of onto the land. Ducks will drown as quickly as a chicken. I let the water drip and keep it full all the time; let the ducks go in whenever they want to. Do not let little ducks have too much water as they are apt to go in and play too long and get chilled. When they begin to feather out they can have all the water they want, but before a duck or goose is feathered out, it must not get wet. I keep the water dripping into this trough and it stands there for the old hens. We sometimes have to sweep it out with an old broom, but if it is kept running fresh all the time it is not apt to get so dirty. You must not forget that you must have grass for your chickens; for ducks it doesn't make any difference.