THE SIMPLE LIFE

THE POULTRYMAN

HISTORY OF POLISH FOWL

In compiling this brief history of Polish fowls the writer has drawn on all sources available for information, using Bement's "American Poulterer's Companion," published in 1847, Brown's "American Poultry Yard," published in 1850, "The American Fowl Breeder," published in 1850, "The Poultry Book" published by Doubleday, Page & Co., New York, and "Wright's Book of Poultry," published by Cassell & Company, London and New York. These works we consult for matters pertaining to the history of the breed and the authorities quoted by them are referred to, these authorities going back to ancient times. To this have been added some facts of personal knowledge reaching back to 1858, when the breed first came under the notice of the writer. In this sketch we have given the substance of all that is known of this beautiful and valuable breed, which has been too long neglected by American poultry men.

Polish fowls, under various names, seem to have been known and described for several hundred years. There is considerable reason for thinking that a breed anciently known as Paduans were of the same general style as the Polish fowls of today. Almost within the memory of men now living there was a polled or crested breed known as Hamburgs, which were practically the same fowls as we have today under the name of Polish.

Later these were called Poland fowls, under the mistaken impression that they came to England from Poland, or were originated in that country.

The most striking characteristic of the Polish fowl is its enormous crest, this being common to all varieties of this family.

The American Standard of Perfection recognizes eight varieties of Polish fowls as follows: White Crested Black, Bearded Golden, Bearded Silver, Bearded White, Buff Laced, Non-Bearded Silver, Non-Bearded White.

Originally all varieties were non-bearded or, as they are commonly designated, plain. When first introduced into England the bearded varieties were considered of mixed blood but later they were regularly recognized as sub-varieties.

A peculiar conformation of the skull produces the characteristic crest. This is a round protuberance from the top of the skull, covered only with skin from which the plumage of the crest grows. The strange departure from the normal skull, found in all other varieties of domestic fowl, has never been accounted for and such a radical change in the conformation of this part of the skeleton is hard to account for, if we are to continue to regard Polish fowls as being descended from the same stock as other breeds.

Besides the varieties enumerated above there was at one time a variety which had white plumage except as to the crest, which was black. This is found in literature so many times and in such authentic places, that there can hardly be a doubt that such a variety existed, but it is now entirely extinct, a fact to be very much regretted.

Crested bearded fowls, which we call Polish, are found in widely separated parts of the world. They are esteemed in Russia and Egyptian poultry keepers value them because of their great productiveness.

Bennett, writing in 1844, describes and illustrates the "Black Poland Top-Knot fowl." He says: "The head is flat and surmounted by a fleshy protuberance, out of which spring the crown of feathers or top-knot, white or black, with the fleshy King David's crown, consisting of four or five spikes. They are not so thickly covered with feathers as some other breeds, and still less so with down. The true breed is rather above medium size; their form is plump and deep, and the legs of the best sorts are not too long, and most have five toes."

Here we have five toes allowed in Polish fowls, a thing that would at once disqualify them in these days.

Quoting Mowbray, an earlier writer, Bement says: "The Polanders are not only kept as ornamental but they are a most useful variety, particularly on account of the abundance of the eggs they lay, being the least inclined to sit of any other breed, whence they are sometimes called 'everlasting layers,' and it is usual to set their eggs under other hens."

This term everlasting layers brings us back to the old name for Bolton Grays, a Hamburg variety which was often called "Dutch everlasting layers."

Continuing, Bennet makes this remarkable claim for the Polish fowls of his day: "They fatten as quickly as any other breed, and in quality similar to the Dorking; their flesh perhaps more juicy and of a richer flavor." He further quotes Mowbray as saying his five Poland hens laid 503 eggs in eleven months, this being a large production in those days.

Bennet also mentions briefly the "Golden Top-Knot fowls," saying they were probably a cross between the white crested black fowls he called Polands and the common yellow hen. In this he evidently was mistaken for a good many years before Buffon, the naturalist, had noted crested fowl with parti-colored plumage, intimating they were valued more the more different colors they displayed, particularly when they were black and golden or black and silver in color, thus configuring the Golden and Silver Polish of today.

In the American Fowl Breeder, published in 1850, the White Crested Black Polish fowl is described, also the "Spangled Polish." This is the first American book we have found in which this breed is called Polish. This description says: "The Spangled Polish is a fowl of extraordinary beauty, extremely scarce and hard to be procured. This fowl presents a symmetrical and regular combination of the following colors, viz.: A bright orange, a clear white, a brilliant green and a jetty black, softened down with a rich, pure brown, every feather being tipped with white, so as to produce the effect whence has been derived the term of spangled."

This quotation shows that in 1850 Spangled Polish had not yet been reduced to the two colors that are characteristic of the Golden Polish or the Silver Polish of today.

From the same authority we learn that the Spangled Polish of sixty years ago was "a prevailing golden yellow with white spangles like the cock." From this it would seem a startling change has been made in the plumage. From a golden yellow feather tipped with a white spangle we now have a golden bay groundwork, each feather laced with black.

Ten years later, in 1860, Browne wrote his "American Poultry Yard." He describes White Crested Black Polish fowls, Golden Polands and Silver Polands. It will be noticed he calls the older variety Polish and the newer ones Polands.

Browne quotes Aldrovani, who wrote in the sixteenth century, giving that old writer's description of Paduan fowls but discredits the notion that these Paduan fowls were anything but an ancient form of the Polish fowl of his day.

He credits the "White Crested Black Polish" with being good layers, instancing one hen that laid 125 eggs from spring until she began to molt in the fall. He says they are indifferent sitters and not dependable as mothers, some being careful and others not. He did not regard the young as particularly tender and altogether seemed to consider this variety as being well worth cultivating.

In his discussion of Golden Polands, Browne says they are sometimes called gold spangled but not correctly, because, although these birds have spots, those marking are not universal, but many of the finest specimens have the feathers merely fringed with a darker color, the cocks, much more frequently than the hens, exhibit a spotted or spangled appearance."

The Silver Polands are described as being the same as the Golden, except that white, black and gray are exchanged for ochre or yellow and various shades of brown.

Browne also mentions that occasionally a pure white bird is bred from the White Crested Black Polish, saying these were usually tender and not reliable breeders. Here is the earliest mention we have found of a pure white variety, and it is altogether probable that the White variety came from some of these white spots.

Our own recollection of White Crested Black Polish goes back to 1858, at which time in the neighborhood in which we lived there were several flocks of what were locally called "Polanders," a great uncle keeping a large flock of them. They were then reputed to be great layers and most of the farm flocks of the vicinity showed that many of the fowls were crosses, rudimentary crests and lark crests being quite common. After the lapse of all these years many of the common fowls of that neighborhood still show this old infusion of Polish blood in their black plumage and lark crests.

Historians seem to agree that this breed was at one time held in high repute as layers. Some old writers even give them credit with large size, one calling them a "stately fowl," and another saying they were considerably larger than the common fowl, which may mean much or little.

As late as 1885 the poultry shows would bring out a splendid display of Polish fowls in all their varieties. About that time something of a sensation was created when a breeder from Springfield, Ohio, named Jeffreys, sold a pair of White Crested Black Polish fowls for $75. This would be a high price today for a good pair of these fowls, although they have much to recommend them. Both Weir and Wright intimate that they have been inbred until they have lost something of their old constitutional vigor and this perhaps is true.

That they are among the most beautiful of our fowls hardly anyone will deny. There is no reason why their old-time prolificacy should not be restored and their constitutional vigor bred back into them.

The Polish fowls will never become popular with those who breed fowls for particular purposes, but for those who have a limited area to devote to fowls, this breed in all its varieties presents an opportunity to keep a flock which will pay for the trouble of caring for it and give the owner the pleasure that comes from the ownership of birds that are the prettiest of their kind.

At any show where there are good specimens of any variety of Polish fowls their coops invariably cause visitors to stop and watch them with great interest, and no breed excites more attention of more remarks from those who merely attend out of curiosity.

So much do enterprizing show managers appreciate the attractive quality of this breed that one of them has been currently reported to have paid a breeder's expenses if he would bring a full line of this breed to the show he managed. Whether this is true we do not pretend to say, but it is rather proof of the manager's business ability than otherwise if it is true, for a fine line of Polish fowls is a valuable attraction at a show of this kind. Those who desire much pleasure and an opportunity to exercise their skill as breeders will not find more attractive or interesting fowls in the whole list than will be found in the Polish family.—Poultry.

FATTENING CHICKS

There is probably no animal on the farm that is capable of making more economical use of food consumed than is a young pullet or a cockerel. As a general rule farmers market their pullets and cockerels before they are in the best condition for marketing. They should be fed for at least three weeks prior to shipment. Some of the large poultry feeders use as much as 20 per cent of animal food mixed with the grain ration. It is questionable whether such a large quantity can be used with economy on the average farm, for the reason that intensive feeding is seldom practical, and the consequent needed care is not usually given, but as much as 10 per cent of animal food mixed with the corn ration should give good results.

For fattening purposes it is better to feed ground corn and, if possible, to moisten it with milk. Milk is rich in proteid matter and helps balance the ration. The last week or ten days of the feeding period corn may be fed to the exclusion of all other feeds. Bear in mind that when feeding chicks for the market they should not have too much exercise. During the first two weeks they may run about in a comparatively small yard, but during the last week or ten days better results will be secured if chicks are penned up in very small pens where they can practically secure no exercise at all. Some of the large English feeders allow their chicks no exercise whatever. They feed them on the intensive plan, and in many cases use what is called the cramming method. For two weeks they feed the chicks all they will eat of ground feed, such as hulled oats and barley mixed with milk, and as soon as the appetite of the chicks wanes they force the feed into their crops by means of a machine especially constructed for that purpose. In this way it is claimed that more rapid gains are secured and the meat of such chickens is also very tender and juicy.—Farmers' Tribune.

FANCY POULTRY

No one need fear of the fancy being overdone. The "short-term" fancier and the demand for good birds by those starting in the business will keep up an active demand for high-class stock for many years to come. The small per cent of really high-class exhibition birds from the average mating will also help keep the market alive. From 5 to 10 per cent of the best matings produce top birds. Fifty per cent of any variety or breed should be sold for table use or kept for market eggs. Line breeding, a closer following of pedigrees and severe selection will improve these averages in any breeder's yards. The fancy presents as much of an opening today as the breeding of any class of pure-bred stock. It can be entered more cheaply, and for the man of real ability as a student of breeding the returns will come sooner than in any other field. Hard work with the hands and good head work will put the breeder to the fore early. There are many men who are putting the best they have in themselves into the business of poultry breeding, and they are making names for honesty and success. Stand up for the fancy and the business in general. There is room at the top, and applied methods can get there. The fancy is a recognized calling and many glory in it.

GUINEA A PROFITABLE FOWL

With the gradual disappearance of natural game birds, there is growing up a demand in the cities for a domestic bird which has all the qualities of the game bird, in color and texture of the flesh and the game flavor that epicures so much delight in. We refer to the guinea fowl, which has heretofore been kept more as an odd bird than because there was any particular profit in breeding it.

The guinea as we know it, is but one of many varieties, all of which originally came from Africa. The ancient Romans were acquainted with the guinea fowl, but there is good reason for thinking that the guinea fowl of old Rome was one of the species found in Eastern Africa, rather than the native of the West Coast, which is found in large numbers in its native country, identical in shape and color with the guinea of our farm yards.

Guineas are fowls that do best when treated on the let-alone principle. They have a natural inclination to wander in the fields and seek their own food. If given a wide range, such as they can have on a farm, they care little for the feeds of domestication, wandering forth early and staying abroad late, during all of the year when they can find seeds, green stuffs and insects to eat.

In mating guineas, not more than two hens should be allowed for one cock, although occasionally a cock will mate with more than this number. In their natural state they mate in pairs, but under domestication they have broken away from the original plan and accept more than one mate.

It requires from twenty-six to twenty-eight days to hatch guinea eggs, and it is best to hatch them under common hens.

When they are first hatched they are as wild as quail and will run away and hide, and finally become lost if they are not confined in a pen in which they cannot find a hole out of which they can creep, and they will find the hole if it is there. A pen made of foot-wide board will keep them long enough so they will become accustomed to the mother hen. Once they get acquainted with their foster mother and learn her language, they are very affectionate and will talk to her as they follow her about, never leaving her day or night. Indeed, they stay with the hens all the season and even through the winter.

Guineas are quite prolific layers, hiding their nests in the fields as does a turkey, unless they have been accustomed to sleeping in a house. If hatched with hens they do not have such wild dispositions and frequently lay in the nest provided for hens, until about the time when they become broody, when they will steal away and lay a clutch of eggs to hatch.

The young are quite tender for a few days and should be fed little and very often at first. In a short time they become hardy and after that will endure any kind of weather that may come, even to sleeping out of doors in the coldest weather.

The eggs are small but of good flavor, but there is no market demand for them and, except for home consumption or for use in hatching, they are not valuable.

Guinea hens are not good mothers. It must be a very favorable season in which a guinea hen will raise more than a few of the young she hatches. As a rule they wander about through damp grass until the young are mostly lost.

As remarked above these birds are coming more into demand all the time from city consumers, who are beginning to appreciate their tender palatable flesh, which hardly anyone can distinguish from grouse or pheasant flesh. It is a fact that in the larger cities there is a regular market for guineas at good prices, which are served as game at restaurants and hotels.

The common pearl guinea has darker flesh than the white variety. The white guinea is never found in its native country, the loss of color being an accident of domestication, which has been taken advantage of to breed a new variety. Wright leaves the inference in the minds of his readers that white guineas are hardly known in Europe, but in this country they are not uncommon. We have always thought they were not as wild as the darker colored ones, but this may be a mistake.

There is little difficulty in distinguishing the sexes to one who is familiar with these birds, but the beginner is often at a loss to tell the males from the females. The male has a coarser head than the female and a different voice. It is the female that has the characteristic cry of the breed. She alone calls "buckwheat, buckwheat," the male never using this call.

As night watches a few guineas are a perfect defense. They know a stranger at any time and will set up their clatter day or night, and he is a bold chicken thief who can withstand their discordant screeching when he invades a poultry house where guineas are kept.

Guineas should not be hatched until continuous warm weather has come, say, the last of May and during June. The female guinea usually does not sit until later than this. A small flock is profitable and interesting.

TURKEY TROUBLES

It is not supposed that turkeys will grow and develop great size with no attention, whatever. Likewise they will not thrive and grow with a great amount of over-feeding. We are flooded now with letters asking various questions relative to handling turkeys. One of our correspondents writes that her method has previously been to allow the turkeys to shift for themselves and they did well, but of late years they do not grow and develop great size under this management as they once did. We must remember that there is not the great supply of insect life now that there was in early years. We are living in the land of changes. Everything about us is continually changing, hence the method of caring for turkeys must change somewhat from what it was in the days of our forefathers.

While we prefer to allow our turkeys to forage for the greater part of their living, yet we must give them some attention and provide the shortage of natural supply in the shape of grains, fresh meats, etc.

Some few amateurs that have experienced great losses with their Bronze varieties the past year naturally arrive at the conclusion that they are not hardy and write us to know if they are regarded as one of the hardy varieties. They are not only hardy but the Bronze turkeys are the largest and most profitable of all turkeys. If they are intelligently bred they are perfectly hardy and easy to raise. Last season was a hard year for turkeys. Just why there was great mortality throughout the country in young turkey poults is yet undecided and all solutions yet offered by turkey experts are evidently theoretical. However, we know an unusual number of poults was lost last year from some cause. We believe the season was against them. Wet weather is hard on turkeys, simply next to an impossibility to raise them during a wet season. The country generally experienced a great rainfall last year. In our immediate community the month of May was unusually dry. Here the turkeys grew finely during the dry month, but as soon as the wet weather struck us the great cry was heard of losses of turkey poults. Throughout the entire wet season it was an every-day occurrence to hear someone talking over the telephone of their turkeys dying. Had the season been dry I am confident the number of turkeys raised would have been much larger.

As a rule, and contrary to the general opinion, turkeys are not hard to raise. In the majority of instances the trouble with turkeys can be traced to the feed and management. Hence the best plan to adopt in raising turkeys is to study their natural habits and supply their wants in that direction.

As previously stated the Bronze turkeys are not only hardy and profitable, but are the most popular variety grown. We do not make this assertion through a selfish motive but because all authorities on the subject frankly admit the fact that the Bronze turkeys are the most popular breed grown in America today. This alone is evidence that they are hardy and quick to mature. The demand in all the markets far exceeds the supply and always will, consequently if you have the range for those profitable fowls you should not worry about raising a good number the coming season. If you failed to raise the majority you hatched last year give special attention to the lice problem this year and feed but little artificial food, allowing them to forage for the greater amount of their food. The lice problem is the main obstacle to raising turkeys, not the feed.

POULTRY NOTES

Kill off all the old hens this fall. Unless a hen is extra valuable she should not be kept for laying beyond two seasons.

If you are shipping away any poultry, do so in a proper way. Use chaff on the floor of the pen in which they go their journey. Put water dishes on firmly, and attach a bag of food to one end, so that they can be easily fed and cared for. One sees sometimes that people are most cruel in the way they send birds off—close, stuffy boxes, and all unprovided for their long journey.

The farm without a hen is like a ship without a sail. The ship could plow its way slowly but surely, but when the canvas is spread how it scuds along! The hen will bring an income that will tide the farmer over many a crisis. We have known them to pay the grocery bills and buy shoes and books for the children at school; yes, we have known them to help lift the mortgage.

AROUND THE FARM

FINE FOOD FOR MILK COWS

The high protein content of oats combined with other good qualities, gives it a high rating as a grain food for milk cows. In many parts of the country where it returns large yields per acre, it is a cheap source of protein. When oats are high, however, and bran can be purchased at a reasonable price, it is often better to sell the oats and feed the mill product.

There is a close similarity between oats and bran in their analysis and their value for feeding. One experiment is on record where whole oats were ground and gave 10 per cent. better milk and butter-fat returns than bran. Of course, bran is quite variable in its analysis, so that this result could only be considered as indicative. However, the above experiment does not disagree much with general opinion.

Bran, that is wheat bran, derives its high value from the fact that it contains a larger amount of digestible protein and ash than any of the common grains. Besides, it adds bulk to a heavy grain ration; for example, corn meal, and is a natural laxative—two points considered by many to represent the best properties of bran.

Comparing the analysis of oats with that of bran we find that for every hundred pounds of weight, bran furnishes three pounds more of digestible protein and nearly the same amount more of ash. While it is somewhat short on fat content we will not consider that feature; both of these feeds are used primarily for their ash and protein, principally the latter, and other qualities mentioned before. Let us compare the two feeds on a protein basis alone, placing the cost of this element at three and three-quarter cents per pound. This is what protein costs in feed where it comprises a large part, as for example in cottonseed meal. Just on a protein basis, therefore, bran is worth nearly twelve cents more per hundred pounds than oats. Thus, if the cost of bran is ninety cents per hundred, oats would be worth twelve cents less or practically twenty-eight cents per bushel. With bran at eighty cents, oats would equal it at twenty-five cents.

It must be remembered that this comparison has been based solely on protein basis. While we think that is the point on which to make the most representative comparison, there are other things to be considered; for example, the cost of marketing oats and hauling back the bran. This expense would allow oats to be two or three cents per bushel above their value compared with bran, before the change would be profitable. Then in turn this expense might be offset by the superior quality of the bran in giving bulk to the ration of grain and keeping the digestive apparatus in tone. Ash is low in many rations, and as this is a very necessary element in the making of milk, the large percentage in bran is a point in favor of the mill product.

From the above we do not wish to give the impression that when the price admits, bran should wholly replace oats, for we should always wish to feed several pounds of this unsurpassed grain for milk making. But suppose oats are worth twenty-eight cents per bushel, and bran eighty cents per hundred, it is quite likely that the farmer any reasonable distance from market could buy and feed bran freely, especially if no clover hay or other roughage high in protein could be fed. Some careful breeders would not be without bran whatever it cost, but the farmer not making a specialty of dairying must be economical and use feeds of his own raising as largely as possible.

SHEEP MANAGEMENT

There is a general impression existing among those that know little about sheep that these animals will live and become fat on weeds and brush, and that the cost of keeping a flock of sheep is next to nothing. The experienced flock-master knows better than this, and he gives his sheep good feed and good care throughout the entire year. Unless this is done the sheep will not be profitable. When a few sheep are kept under the other method they will continue to exist, but their owner will be greatly disappointed at not receiving the profits from them he thinks he should receive.

From my experience and observation in raising sheep I have found that they must be given the best of care and attention at all times. They require good pasturage, and to this should be added plenty of shade and fresh water. The feeding should be the best that can be done in the fall months, so that the sheep will go into winter quarters in good shape. I find that unless they start in to winter right they will not thrive in the latter part of it. So, in addition to the pasturage, the sheep should have turnips and pumpkins in the fall and sugar beets will be found to be particularly valuable. I am sorry to say that, according to my observation, a great many flocks do not get the amount of attention they should receive, and seldom get anything but pasturage. This is a fruitful cause of disappointment to their owner.

The necessity for starting the sheep into winter with a good lot of muscle and fat on their bodies is because during the winter there is quite a drain made upon them in two or three directions. One of these is the growing of wool, which continues to develop all through the winter. Another is the fact that the ewes are developing their young, and unless they have a great supply of substance to start with it will be found exceedingly difficult to keep them in good condition. A third drain is the loss of animal heat, which in turn causes the burning up of all the fat on their bodies.

In considering the management of sheep, it must be remembered that a flock cannot be handled or fattened successfully without a close observation of their habits and peculiarities. There are a great many little things that enter into the attention and management that may seem trivial, but they have much to do with the profit, thrift and comfort of the flock. The competent feeder acquires a trained eye that detects at a glance any evidence of disorder that will be manifest if a single animal is off its feed or out of condition. To the unobserving or inexperienced feeder, sheep all look alike, but when rightly studied no class of stock presents more marked peculiarities or so clearly manifest evidences of thrift and well doing. Attention to these little details, accompanied by regular habits and a quiet manner, constitutes the keynote of successful sheep feeding. There is nothing that will contribute more to good results than contentment and quiet surroundings. Harsh treatment and rough manners absolutely disqualify any man for success in this work, and the feeder who disturbs the quiet and comfort of his flock every time he goes about it, should quit the sheep business at once. The natural timidity and nervous temperament of the sheep necessitate gentle treatment. Their dainty habits about eating and drinking must also be indulged in as fully as practicable. No kind of stock naturally selects a wider variety of feed, particularly of rough forage and vegetation; but two essentials are always exacted, namely: cleanliness and palatability. Sheep should never be given any stale or undesirable feed, nor should they be expected to eat any feed left over from a previous meal. The ration should always be wholesome and tempting to the appetite.

The barn or stable quarters should never be without fresh, pure atmosphere and an ample supply of dry bedding during the winter months. Sheep rarely suffer from cold if kept dry and protected from direct drafts. The open air is better than a poorly kept shed or barn.—Maritime Farmer.

IMPROVING WOOL QUALITY

Col. McCrae, of the experiment station at Guelph, Canada, has received many letters from woolen manufacturers making suggestions to sheep farmers for improvements of preparing wool for the markets. The most practical suggestions in these letters are summarized as follows:

Improvement can be made in the quantity of wool by more care in the selection of stock from which to breed.

Sheep should be sheltered from storms, and their fold or sleeping shelter should be on dry ground. Exposure to severe winter weather while the sheep are insufficiently fed is a cause of weak spots in the fibre of the wool. In extreme cases the wool breaks off in the manufacturing process at these weak spots, and it becomes practically shoddy.

Sheep should be kept in clean fields, and not allowed to run in roads where burrs abound; nor should they be allowed to run about straw stacks, where their fleeces get filled with chaff. The reason of this is that burrs and chaff, etc., have to be taken out either by hand or by clipping away valuable parts of the fleece, entailing loss of time, or it has to be put through the carbonizer, which weakens the wool more or less. This is a serious matter to mills having no carbonizing plant, and the manufacturer would in any case prefer to pay a high price for clean wool rather than a low price for burry or dirty wool.

If the sheep are exposed to long rains or stand under the eaves of sheds or barns, the yoke of the wool is washed out, and this is the cause of "cots" in wool, which depreciate the value of the fleece to the manufacturer.

Wash well or not at all. Tub washing is condemned by many manufacturers. Wash in clear, soft water, or if only hard water is available, it can be softened by soapsuds being poured over the fleece and washed off. Wash as soon after warm weather sets in as can be done without danger to the health of the sheep. The quality of the fleece deteriorates rapidly in Canada when the hot weather sets in. In cold districts, or in very cold seasons, it may be better to shear without washing. After washing, shear as soon as the wool is dry. For reasons before given, the value of the fleece is damaged by too long delay in shearing.

Do not brand sheep with paint or tar on the wool. The painted or tarred spots cannot be cleaned by ordinary process, and the wool of that part of the fleece is spoiled.

Do not tie a fleece with binder twine. It gets mixed with the wool, to the damage of the goods, because the dye does not take the same on this fibre as it does on wool. Use cotton twine and roll up fleece with the flesh side out. Odds and ends of wool should be tied up by themselves. Cleanliness and care in these respects will well repay the sheep raiser.

ECONOMIZING SPACE

Space in this country is not, as a general thing, considered to be very valuable. At least, that is true in regard to the general system of farming followed; it is of the extensive rather than the intensive kind. But even men with large farms have found it necessary to economize space when it comes to their buildings. The placing of good buildings on the farm is an expensive matter, so it is essential to economize in that respect as much as possible—double up as it were.

We have seen this doubling up successfully done in the case of hog houses. Some farmers follow the practice of letting their hogs go upstairs to sleep. This sounds strange at first, but it is not at all impossible or impracticable.

This is a good plan, especially where the hog house has a cement floor. Cement floors are thoroughly practical for feeding floors, but they are objectionable as sleeping floors. Cement is a very good conductor of heat, and when the body of the hog comes in contact with it, the animal heat is conducted from the hog's body through the cement floor into the ground. It seems to draw the heat out of the body and transmit it into the colder ground below. No kind of drainage or anything else will prevent this. It is as much the nature of heat to travel through cement easily as it is for electricity to follow along a steel wire. Where the floors of hog houses are made of wood, this effect is not produced, as wood is a poor conductor of heat; it will not transmit heat and cold easily. Cement will not only take the heat out of the animal and conduct it into the ground below, but it will take heat to warm up all the cement surrounding the place upon which the animal happens to be lying. This is not the case with wood, and so whenever cement is used as a floor for the pig pen a wooden sleeping floor should be provided. This is generally done just a few inches above the cement—about four inches up from the cement floor—but the sleeping place can be put much higher and an economy of space can thus be effected. We have seen this idea followed in the pens of a large hog feeder which we visited recently.

Over a part of the hog house an upstairs can be built three or four feet above the floor, and leading to this is a long slanting gangway with cleats nailed across it for the hogs to walk up on. They will go up here to sleep, and will always keep it clean. They can be fed below and will easily become accustomed to "going upstairs" to sleep. This economizes space and keeps the hogs up off the damp floors. Plenty of bedding can be placed up there and the hogs will do as well or better than where they eat and sleep on the same floor.

Of course it is necessary to have a railing around the upper deck so as to prevent the hogs from taking too short a cut by jumping off at feeding time. It is also well to have a movable partition so arranged that only enough room in the upper deck may be allowed for the pigs that are to occupy it. By giving the hogs no spare space in their "bedroom," they will always keep it clean. By using a light movable board partition which may be slid down between different sets of cleats, the sleeping place can be enlarged or made smaller according to the size of the litter of pigs to occupy the pen.

WINTERING HOGS

Large expense in any undertaking is not a guarantee of success; sometimes the cheaper methods are the most satisfactory. With the idea of advocating a plan that involves the necessity of no outlay in cash, and that gives good satisfaction at the same time, we have for a number of years drawn attention to the ease with which straw piles may be utilized for the winter protection of pigs.

Everyone knows the way that hogs have of piling together during cold weather or of rooting their way as far as possible into a straw pile, so as to be protected from the cold on all sides. This draws our attention to the peculiar nature of the hog's covering, and to the fact that he needs different treatment from other kinds of live stock. The sheep has a heavy covering of wool, which will keep out the severest cold; cattle and horses are well covered with a coat of hair which thickens up and grows longer when they are subjected to exposure; nature has provided for them, as against the cold of winter, better than she has for the hog. The protection from cold afforded a hog by his covering of hair is very slight. His hair is not thick and its bristly nature does not serve to shut out much cold. Heat thus easily radiates from his body and he quickly cools off, or is as quickly warmed up.

This necessitates that he be given a pen where he will be able to cover himself up fairly well and where he will be sheltered from the wind. A straw pile may be easily built so as to meet the requirements in this respect, and as the plan outlined here has been tried in a great many cases and found perfectly satisfactory, we have every confidence in commending it to any who may not have given it a trial.

Before threshing, put four posts in the ground and on these put a covering about ten feet square, this covering to be about six feet above the ground. Now thresh a setting of straw over this, building the stack out about eight or ten feet past each side of the wooden erection and leaving an entrance through the straw on one side. The pigs will then go in and burrow into the straw from the inside, making for themselves warm, dry nests, sheltered from the wind.

One might think that such a protection would need ventilation and that hogs sleeping in such a place would come out steaming and take cold. Such is not the case. The straw is porous and is itself a good ventilator and at the same time keeps out the cold. The animal heat and moisture given off by respiration is absorbed by the straw and the place is always dry and snug.

The advantage of constructing a shed of this kind over leaving the hogs to run to an open straw pile for shelter is that the hogs will burrow under an open straw pile only for a very short distance. They will lie along the sides of it, but not go under far enough to keep sufficiently warm during our cold winters. When they have a chance to work from the inside of the pile, in a shelter as described, they will burrow clear in out of sight, and if they do not the shed is warm enough for them. They will do first rate in such a place; it doesn't cost much to make it, and it is worthy of a trial.

If you have not already threshed, just try this, and if you have threshed and need a hog house you can make a pen as described and move the straw pile and stack it over it cheaper than you can build a house as warm in any other way.—Nor'-West Farmer.

In the fall the farmer lays in an abundant supply of fodder for his horses, cattle and sheep during the winter. So should you provide for your poultry. They need fodder also, such as imperfect cabbage heads, turnips, small potatoes. These make excellent diversions from the ordinary poultry house menu. A change of food is very beneficial to the poultry. Green food in winter makes an excellent dessert.