day—few will do more. An acre of corn hanked the old way, leaving the stocks and fodder in the field to make manure, is worth from $12 to $14 at the crib. The stalks left in the field generally make manure by flying to pieces, and scattering all over your neighbor's land.

It will take a good acre of hay with the acre of corn to winter one steer. The hay is worth $12. The corn and hay together are worth about $25, and have required about two acres of your good land to produce them.

Suppose you cut and shock your corn. If you cut it the land can be fall-plowed. The men can start cutting across, and the plow can start behind. The work is done in early fall, when the days are long, bright and cool. A good average hand will cut and shock an acre and a half a day. (I have men who have averaged two acres a day), but any good fair hand will average an acre and a half a day, at $1 a day, by which one operation you not only secure your corn (every ear of it, too), but you also gather your hay crop in the shock, getting both done for one-third less cost than you used to pay for just your husking alone.

Now, I am going to demonstrate to you that one acre of good shock corn will fatten your steer in fine shape; so that your acre of corn is doing the work which took the other two acres to perform, leaving you half as much more land for pasture or other uses. The ear of shock corn being enveloped in the husk, is much easier chewed by the steers, and is more toothsome to them; they are less liable to get off their feed, and will gain, during the six months of winter feeding, an average of two pounds a day, besides keeping one shot, which follows each steer.

I will now give you a few figures: Last year I had a yard of thirty yearlings that averaged better than two pounds a day a part of the time. During the clear steady weather many made gains up to three pounds a day but the fearfully cold and stormy weather of January made the gains very small for that period. They averaged, when yanked, 982 pounds. They were sold in 140 days averaging 1.266 pounds equal to a gain of 285 pounds to the steer, or just five pounds over two pounds gain per day per steer. It took fourteen shock of corn to the steer to produce this gain of 285 pounds.

There are twenty shocks to the acre the way we cut them, so that 14 20 or 7-10 of an acre, put on 285 pounds in 140 days, and the sale of the cattle brought me just 223.00 per acre for the corn, besides the keeping for me of the shoots, and a nice lot of manure left in the yard, sufficient to manure six acres heavily. (With the manure we make we are able to broadcast thickly thirty acres or qr.) We find it takes the excrescence of about five head of cattle to manure one acre.

We find we cannot put on such certain nor as good gains in winter as on grass in the summer, without very heavy feeding; but the light gain of the steer is made up in a great measure by the carrying of the hogs, and the grand body of manure left after the winter feeding is over.

We therefore follow both systems of summer and winter feeding, for the two combine nicely, and serve to give us better opportunities to reap the benefit of the best markets at both seasons of the year.

I regard our stock growing as a vast, diversified and, when managed like business, a very lucrative business. Cattle feeding is one of its most important branches, and I hope the time is near when I and all my fellow stockmen will have become so well up in it, that we shall no longer tremble at the competition which now is driving us hard, but that we shall understand every avenue of our business and will know to a certainty how cheapest to produce the greatest substance and the best quality of that which commands the highest prices, and how to do it in the shortest possible time. We must work less with our hands and more with our heads. We must mix brains with our business, mix brains with our corn, mix brains with the culture of everything that grows if we would succeed. When these changes shall have been accomplished, then may we hope that the generation of sons who next succeed us, will not come home from college with their minds stuffed with the "vulgar errors of the wise."

Practical Hints on Poultry Culture.
[By L. A. Bishop, M. D., Fond du Lac.]

It has been truly said that we are a nation of egg eaters. We consume on an average 50,000,000 of eggs daily, of a
cash value of $800,000, aggregating $229,000,000 annually. Of poultry we consume a little over $300,000,000. Making a total of about $600,000,000 consumed annually of eggs and poultry in the United States alone; a product twice as large as the dairy product of this country and worth over $100,000,000 more than the wheat crop. From its magnitude, it deserves much consideration from the farmer as to the best breeds for profit, and the best and most economical management. The amount of poultry and eggs consumed in our largest cities is simply enormous. I see by the Maine Farmer that New York city consumes annually $25,000,000 of poultry and $10,000,000 of eggs, making a total of $35,000,000 for that city alone.

Right here in our own state the number of eggs handled annually is surprising. A firm at Waupaca pickled 60,000 dozen of eggs annually; another at Johnson's Creek about 40,000 dozen; marketing them in the winter season at about 100 per cent. profit. Our own city is not to be ignored. Bartlett & Casstens one day last week shipped 35,000 pounds of poultry. This was but the shipment of one firm for one day. The above figures do not include poultry and eggs shipped for breeding purposes, but for consumption alone. It outranks any other single article raised and sold in this country.

From the above figures you would naturally conclude that the poultry business is overdone. Far from it. Of the many products of husbandry this is almost the only one we do not export. For the year ending June 30, 1884, Canada alone sent us 11,384,856 dozen eggs, for which we paid her $1,950,561. Thirty-six million dozen eggs more than she produced was required last year to supply the United States; at least that is the number sent us by foreign countries. These were principally supplied from France, Holland, Belgium, England and Canada. Far-off China sent us 1,000,000 dozen. The major part was shipped from Antwerp, the great egg mart of the world, at an average expense for pickling, handling and freight of three-quarter of a cent each.

I wish to ask you farmers one more question: Does your poultry pay? I imagine I hear many of you say, "no," and I know you are correct. I again ask you, "why don't it pay?" I will tell you, and then I will tell you how to make it pay from 100 to 400 per cent. profit on the original investment. Does anything you are engaged in pay you any such returns? Each of you can promptly answer, "no, it does not." If it did your pocket books would always be flush. The reason your poultry does not pay is either from lack of knowledge or from negligence. You do not give it that care and study you do the other departments of the farm. You allow the fowls to hunt their own living; to lay where it best suits their convenience—in weeds and fence corners—with an old, broken-down stinking shed or a tree to roost in; no water to drink but what they can procure from some cesspool. Almost any fowl will lay in summer when eggs are cheap. It is the egg laid in winter that chiefly determines the balance sheet. Eggs in winter mean profit; the want of them means loss, and profit and loss does not depend upon chance, but are the consequences of wise or unwise methods of procedure. Most of you allow your poultry to shift for themselves, and if your stock degenerates or decimates by dint of sheer neglect; if they cease to lay and become unprofitable through the loose, slipshod and ill-chosen conditions of your own making, you never ought to say (as it would be stupendously ridiculour) that "there is no money in hens."

A farmer said to me the other day, 'I do not see why you get so many eggs. I do not get ten in all winter.' "Now I will wager a breeding pen of A No. 1 fowles that his flock of hens is make up of dunghills of all colors and sizes and allowed to shift for themselves the year round. He breeds poultry at a loss. It would be cheaper for him to kill all his hens and buy eggs and fowls for consumption. You may as well expect to make hens profitable without proper care and management as to think of making a 3-year-old steer weigh 1,800 pounds by wintering him at a straw stack with a snow bank for his bed and the cutting winds of winter for his stall. Shake off the old foggy idea that dunghill fowls are better layers than our improved varieties. All you need is one good trial in the proper manner and you will be convinced beyond a doubt. You may as well think of comparing a common native cow with an improved
Jersey for butter, or a common native steer with a Short Horn or a Hereford for beef, as to attempt to prove that a common fowl is as profitable to the farmer as the improved varieties. Fowls, like all domestic animals, will degenerate if left to shift for themselves and breed haphazard. It does not make any difference how well-bred your stock may be, if not well cared for, well fed, well sheltered and mated with wisdom and experience, it will degenerate and run out. It is a law of nature, and it is a wise breeder that heeds this law and profits by it. There is just as much difference in the different strains of the same variety of fowls as there is in the different strains of any one breed of stock. To keep up your stock, select large, well-developed, early hatched pullets—March, April or May; yearling hens, hatched during same season of the year; they will lay early and all winter long. It is an old adage among poultry men, and a true one: “Early chickens, early eggs; early eggs, early chickens.” If you find any that are particularly good layers, note it, and save eggs from such for hatching. Save medium-sized, perfect shells, perfect-formed eggs, from your best layers. Observe the same care in selecting eggs for hatching as you do in selecting your seed corn; then change your male birds at least every two years. Add fresh blood to your flock. Observe the same rules in selecting cockerels as you do in selecting any male animal to breed from. Sell off the old hens in June, when they bring a good price, and so make room for the young flock. If you find a hen that is often broody and difficult to get to laying again, cut her head off. You can better afford to replace her with one that will do better. In this way you will cultivate your flock and make them more profitable year by year.

If properly managed, you will find the poultry-yard the most profitable part of the farm for the money invested. Many reckon in this way, if 50 fowls are profitable, 500 will be ten times as profitable. This is an instance in which figures do not tell the truth. As soon as the number of fowls are doubled, troubles are quadrupled. A range and houses that will keep 50 in perfect health, will be over-crowded with 100, and all the trouble due to dense population will follow. You have all learned from experience that the larger the number of animals you keep together, the more you crowd them, the less they thrive. You all know that a flock of 10 sheep on the same feed will do better than a flock of 100. The same rule applies with equal force to fowls. Any of you can make a flock of from 50 to 100 fowls pay well, but it requires an especially suitable locality and adaptability of talent to make a flock of 1,000 pay. Not one man in a hundred can do it.

One of the most important items in poultry breeding is a suitable poultry house. This can be constructed at very little expense, any farm-yard is not properly equipped without one. Select a dry well-drained spot. If not thoroughly drained, drain it. For a flock of fifty hens erect a building thirty feet long by twelve feet wide, eight feet high in front and five feet high in the rear, with a southern or south-eastern exposure, double boarded and filled with anything to make it warm. Bank up well to keep out the wind and frost. Put on double doors with space between and all the double windows you can get in. On the south side to let in abundance of light and solar heat. Do not fail to ventilate well. This is very important. Have your ventilating shafts run from the ground up through the roof. In this way you will rid your house of the noxious vapors in reach of the fowls and at the same time retain the heat that raises to the top of the house, making many degrees difference. Whether you ventilate from the bottom or top, do not allow any drafts of cold air. A crack is more dangerous than an open door. Put in a few loads of gravel and fine dirt for your fowls to tick and wallow in. The dust bath is the fowls toilet set, don’t forget it. Make a single perch three inches wide, rounded on the top, the whole length of the rear of the house, twenty inches to two feet from a plank floor, three feet wide, also running the whole length of the back of the house. Six or eight inches under the perch place a platform two feet wide, and under this laying boxes, closed in front so the hen has to reach them from the rear. These are called dark nests. By using them your hens will not be disturbed by those not wishing to lay, and will not acquire the pernicious habit of egg-eating. Put in some boxes at the side
filled with broken bones, crushed cyster shells, charcoal and broken glass. These articles will aid digestion, keep the digestive organs healthy, and furnish material for bone and shells. The cost for the material for such a house need not exceed $30 or $40, and any of you are sufficiently handy with tools to construct it. This may be embellished upon to any extent, but you cannot improve upon the principle, or construct one that will serve the purpose better. Make your poultry house warm enough to prevent the hens' combs and wattles from freezing. A hen with a frozen comb will no more think of laying an egg than a man will think of working with a frozen foot.

I do not advise artificial heat. I think they will be healthier without it.

Keep your hen house clean from vermin, exercise as much care in cleaning your hens' house as you do in your cows' house, sprinkling the platform under the perch daily with road dust or what is better land-plaster, and cleaning it off thoroughly from once to twice a week. Put the manure away in boxes or barrels to be used as a fertilizer, which you will find equal in value to the best compounds fertilizers which would cost you from $40 to $60 per ton. A flock of fifty hens will furnish from three-fourths to a ton of this guano in one winter. This item alone will pay for the poultry house in one season. Try it on your vines and corn and you will be surprised at the growth it will produce. Nothing in the market is equal to it as a fertilizer. Do not use either bleached or unbleached ashes; these dissolve the dropping, thereby liberating the ammonia and will render the manure of very little value.

To keep your fowls free from vermin, give them all the opportunity they desire to dust themselves in dry earth. If you detect any lice sprinkle them with Persian insect powder—a very cheap article to be found in any drug store. Wash the perches and nests occasionally with kerosene and smudge the house three or four times a year with burning sulphur or pine tar. In winter give a warm feed in the morning of wet meal with a little bone-meal in it. This will keep them from bowel troubles. Scraps from the table and bits of meat, change the diet often. Rotate it the same as you should rotate your crops. Give whole grain at night. Corn is best as this takes much time to digest and keeps up the animal heat through the long nights in winter. Buckwheat is one of the best grains to make your hens lay. Do not over-feed or give much fat-producing foods, but more egg-producing, those that contain the elements necessary for the construction of the egg and its shell. Do not keep a hen fat, if you do she will lay soft-shelled eggs if she lays at all, and be subject to apoplexy and congestion of the egg tract. Some day you will find her dead on the nest and the verdict must be over-feeding killed her.

Give your fowls plenty of green feed. Onions are the best, next cabbage, beets and turnips. Do not fail to give them plenty of fresh water. Every day bury the grain you give them in the earth, or throw in a forkful of straw or dry leaves and through the grain in these. This will give them exercise and keep them out of mischief, so preventing any bad habits. You remember the old adage that "Satin always finds some mischief still for idle hands to do."

A hen will lay from 100 to 150 eggs a year, and if you crowd her to laying in the winter by duplicating the natural food of summer, together with warmth she will lay her eggs when they are of the greatest value, and be ready to raise a brood of chicks early in the spring, thus enabling you to place this progeny on the market when it will bring the highest price. A chick weighing two pounds in May will be worth as much, or more, than a six pound chicken in November, and thus save you the expense of growing the extra four pounds of meat. One bushel of corn will make from nine to eleven pounds of either poultry or pork, and the poultry is worth from one and a half to two times as much money as the pork, and is much better as a diet. A hen will consume from one bushel to one bushel and two quarts of corn, or its equivalent, a year, according to the size and variety, with a cash value of from fifty to seventy-five cents a year. At the latter figure, a flock of fifty hens will cost $37.50 to keep them one year. These will lay, if taken care of properly, and of an improved variety, twelve dozen eggs each a year. This, at an average price of 15 cents a dozen, will amount to $1.80 for each hen, or $90 for the flock. Then, deducting the expense of keeping, $37.50, you have
left a clear profit of $52.50 on eggs alone, say nothing about the young chickens. Remove the sick fowls from the healthy ones. By allowing them to remain, they will vitiate the air of your poultry house with the germs of disease. You may as well think of keeping your flock healthy by permitting the sick to mingle with the healthy, as to think of improving your own health by continually remaining in the sick room. A laying hen has a bright red comb and wattles. A hen that does not lay has a pale comb. If you find any such in your flock, keep watch of them. Try to determine the reason. You will find that there is one of three things, either she is sick, over-fat, or naturally a poor layer. In either event it will not in all probability pay you to keep her.

As the breeding season approaches, separate your flock into pens of from ten to twenty-five according to the variety—of the large varieties, ten to twelve, and of the smaller varieties, fifteen to twenty-five. As these are the numbers, you can rely upon for one male to fertilize, all the eggs, for a non-fertilized egg is set at a loss, both in losing the eggs and the loss of the hen's time as a setter and brooder. In each of these pens put a strong, vigorous male bird, an early cockeral or a yearling cock. When you set your hens, make it a point to set two or more at the same time, as many times a hen can care for more chicks than she will hatch out. If you do not wish to raise chickens, keep the male birds away from the hens, as a non-fertilized egg will keep much better and longer than one that has been fertilized.

Economy of the Barnyard.
[By Barney Sheridan, Byron.]

The title of this paper is "The Economy of the Barnyard." The four important factors that are essential about this are, first, proper stableing; second, good and suitable fodder for the different kinds of stock you keep; third, plenty of good water conveyed to the barnyard, if you can possibly do it, by adopting the method of piping it from wells or springs. For no farmer can afford, in my opinion, to let his stock of any description run over his land without that freedom being detrimental to both stock and land.

When a man forms an opinion that his cattle, sheep or horses can subsist on frozen grass, he makes, if I am right, a great mistake. They may keep up an outside appearance; but the tallow that they have been putting on all summer is rapidly decreasing.

The time of year that some farmers neglect their stock is in the latter part of the fall. Stock should not be allowed to remain out during cold rains, they should be taken up, stabled, and a little feed given to them.

Dairying is one of the most essential points for the prosperity of the farmer, if properly managed. The farmer should not rely on old meadows of long standing for summer pasture, and timothy for winter feed. I do not think there is much money in that. In order to make dairying a success in these days (and I would especially speak of our clay-ground farmers) we must change our pastures as often as possible; not let them stand over three years at most. For I believe one acre of new seeding to clover and timothy will produce more feed than two acres of meadow of long standing. Plant plenty of corn and fodder, for these are better substitutes for feed than any hay. No farmer is liable to get overstocked with corn fodder, if it is of good quality. In order to have it this way do not stack your fodder when it is in such a condition that it will heat in the barn or stack. The result in such cases is, the fodder is spoiled and injurious to any animal that is obliged to eat it. I recommend, if there is any doubt of fodder being dry enough, stack it out in small stacks. I cut the fodder for my horses and cattle and feed it whole to my sheep. I find that to be the best way of feeding it.

There are a great many farmers who say there is no money in raising so much corn, but I find no trouble in raising a good crop. But my experience is that the first thing to be done is to put the ground in proper shape. Some farmers will plow their sod, harrow it a few times, and call it good; but I believe it should be pulverized thoroughly with a good pulverizer. I use the disk harrow, and I can recommend it to be one of the best implements on my farm. It leaves the ground in such a condition that it is easy to keep clear of weeds. I cultivate my corn as often as possible, especially in dry weather, as it helps.