as much pleasure in digging up a neighborhood garden as that of their owner.

However undesirable spine may be in door-yards, gardens, or cultivated crops, close observation will convince reasoning farmers that this apparently wanton and unsightly turning up of pasture soil, is more of a benefit than an injury to the owner.

Most farmers who are feeding grain to cattle during the winter, find it to their interest to keep hogs to sort over the manure heaps, and hogs thus kept form a part of the profits of cattle feeding. Rings in the nose almost entirely unfit hogs for this work.

And in conclusion it is a fact well known among the best stockmen that the more quiet and comfortable domestic animals can be kept, and the more flesh they will put on with a given amount of feed. Hence the pain, worry, and excitement incident to ringing, together with the soreness and ulceration resulting therefrom, is just so much corn taken out of the owner's crib and thrown away.

There is no sentiment in the foregoing remarks. I hate a hog, except in the form of shortening for pie crust. But as we are so often admonished to give the devil his due, it is meet to be equally just to the animal in which he is supposed to dwell.

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**Horse Breeding.**

*By J. L. Hoover, Clinton, Wis.*

There probably is not a question before the American farmer today of so much importance, financially, as that of horse breeding. There certainly is no branch of farming so profitable, needing so little labor, and care, and one in which the farmer can take so much pride, and exhibit as much good judgement, as raising horses. Anybody can milk, anyone can get feed ground for the cattle, a man "just over" can feed hogs, and now the question is, can every one profitably raise horses. The horses bringing the most profit to the farmer are the heavy draft and roadsters. One of our prominent editors of a dairy paper, in an address to a Farmers' Institute, intimated that it took no brains to raise draft horses or beef cattle; comparing it to raising and fattening hogs; in fact carrying the idea that anyone with brains enough to shovel corn from a wagon to a hog pen, could successfully raise draft horses and beef cattle. But to raise dairy cattle and trotting horses, a man must have the brains of an editor of a dairy paper, and subscribe for the paper besides.

Now what are draft horses? The draft horse that is bringing the most money at the present time, and that promises to be the paying horse for years to come, is the horse that weighs from 1500 to 1700 pounds, of good form, a good brisk walker; high on the withers, a straight, short, well coupled back, good length of hip, without too much "slope," straight, heavy-boned smooth limbs; small head and ear, and above all, or rather underneath all, a good foot. Can we raise horses of this kind, without expending time, money, patience and plenty of good judgment? Judging by the experience of others for the past twenty years, I have come to the conclusion that the raising of draft horses is quite a science.

Just run over in your minds the number of such horses as I have described, that have been raised anywhere within the limit of your observation, for the past twenty years, and how many such have been raised by any one man? How many such can be found at the present day? The scarcity of them, and the fact that but very few men have raised more than one or two in a lifetime leads us to think that the few that have been raised were mere accidents, and not the result of skilful breeding. Now what is the cause of such scarcity, and why so many failures to secure the desired result? It certainly is in the selection of our breeding stock. If a farmer wants to increase the weight of his sheep, he don't select a small wrinkly merino, or a half blood Southdown; but selects not only a large individual, but one that has been bred for size and mutton qualities for many generations, and one that he knows will be just what he expects. If he has small scrub cattle, and he wants to increase their size and fattening qualities, he does not select one of his own herd, or even trade scraps with his neighbor: but chooses a Shorthorn, Hereford or Angus that he is satisfied is of pure breeding, and that will transmit with almost unerring certainty the easy fattening qualities, large size and grand form he has inherited for many generations. Where we have failed in successfully raising draft horses is in not following up the same principles in selecting our sires that we do in mutton or beef. A great many think that if a horse weighs
1400 pounds, no matter what his ancestry was, whether his sire was a scrub, or his dam was a trotter, or whether he had any ancestry at all or not; they think his colts must grow into draft horses. Others use 1400 to 1600-pound horses that have the necessary qualifications to get them recorded in their respective stud books; these may have the required breeding to back them, but we must look farther. We must have weight. Take for example the Percherons. We find the best of medium weight, ever imported, including the well-known Success, weight about 1600 pounds; Normandy, weighing 1550, and Louis Napoleon weighing about 1630 pounds, left progeny that would not average over 1200 or 1300 pounds. The fact of their good breeding is unquestioned; their individual excellence was unexcelled; and as sires of their class of horses they have had few equals; yet as sires of draft horses, they were almost failures. We admit that they occasionally got a colt that filled the harness of a draft horse, but so will almost any horse. Why their failure? Because the Percheron of 30 to 50 years ago was not bred for large size. The use for which they were bred did not require it; and horses of that size having been bred for a great many years, with the object of medium weight in view, could not be expected to sire 1700-pound horses, especially when crossed with the breeding stock of this country; but for the last 25 or 30 years, the demand for heavy horses, for city use, and for exportation to this and other countries, has caused a great change in the breeding of Percherons in France. The color most desired by Frenchmen was the grey; but with the change of market came the change in color and size. They are now selecting their largest horses and those of dark color, for their breeding stock; and the horses that are most desired for exportation from France at the present time, and that are priced the highest, are the blacks, bays or browns, weighing from 1800 to 2100 pounds. The most prominent fairs have commenced classing them as light and heavy draft; those weighing less than 1800 as light: and over 1800 as heavy. If we want to raise light-weight horses and take light weight prices, then the horses weighing from 1500 to 1700 pounds are the ones to use, but if we want to raise the heavy draft, and get the heavy money, then the dark colored horse, weighing from 1800 to 2100 pounds is the one to use. Take for example, Brilliant, weight about 2100, a coal black, and whose progeny are nearly all dark color. He has been the most successful horse in the show ring and in the stud, in both France and America. And why? he has proved himself to be just what the times demand. The markets call for size. He transmits size. The taste of the American people today is for dark colored horses: his colts inherit his own beautiful color; and possessing the other qualities of a draft horse they are in great demand. If it proves true in the case of "Brilliant," would it not be advisable in selecting our breeders to search for the horse having his characteristics as nearly as possible? The question of size and weight does not apply only to Percherons. Go to the stables of any importer of Shire or Clydesdale horses and you will find the greatest number of the horses weigh from 1500 to 1650 pounds and are sold at prices to suit purchasers; but if you select a horse weighing 2900 pounds or over, whose pedigree will stand inspection, who has proved himself to be a sire of draft horses, whose ancestors were successful in the show rings of their native country, their prices range from $500 to $2500 more than the lighter class. And right here let me remark, you never hear of a 1500 or 1600 pound horse taking first premiums as draft horses in Scotland; in fact at almost any fair in Scotland or America, where impartial Scotchmen are acting as awarding committee, the blue ribbon goes almost invariably to the large, heavy, good moving, lofty, stylish appearing horse; for there probably is no nation in the world that takes more pride in their horses, studies the effect of different crosses more carefully, guards the purity of their breeding so well, profits by the experience they gain, that will go farther to breed to the horse of their choice, and make more money out of their horses than the Scotchmen. The greatest mistakes in awarding premiums at our county fairs are made in the draft horse class. In choosing a committee, what are termed trotting horse men are generally selected, or in their place a committee of farmers, that don’t like heavy horses. Consequently if there is a horse in the ring of medium weight, stylish appearance, and a good stepper, he is the
horse that gets the ribbon. The horse of 2000 pounds weight, however nice and smoothly he may move, in comparison to his weight, no matter how many points he would score as a draft horse, however grandly he may be proportioned, no matter how much more his colts are worth when mature, he stands no show, he is "too big" for this class of men; and really stands no more show in a draft horse ring, than he would in competing for mile heats upon the track.

The managers of the fair may mean well, they class draft horses by themselves, and give each breed a class by itself. We enter our large, heavy horses in the draft horse class; lead them into the ring, to compete with draft horses, are confronted by three "light horse men" as awarding committee, and have the ribbons tied on horses that would be far better in the roadster or general purpose class, while we go back to the stable, wondering what kind of an animal a draft horse is. Another thing to be considered in the successful raising of draft horses, is the mares to be used as breeders: to get the best results we must have help from the other side of the house. If we are breeding Percherons, we certainly get the best results from dams possessing a large share of Percheron blood, the higher the grade the better the results: but we can look for grand profits from the large, rangy, roomy matrons of common breeding, that are found on most of our farms. In proportion to the quality of our breeders we may look for the amount of profit. Another question constantly arising, is, which is the best breed of draft horses? My idea is that either of them is good enough for anyone; and the one we may like best is the best one for us. Between the Shire and Clydesdale, I really think there is not much choice. Between these breeds and the Percherons there may be, but whichever you may choose, select the very best within your reach; take the best care of the mare and foal that you are able to; don't give the foal a chance to get stunted or stop growing a day, until it is well enough developed to sell, then sell it; and you can't help but make money.

Next to the heavy draft, in regard to profit comes the quick gaited, nervous roadster. Understand me, I don't mean trotters, as the average breeders kept by farmers, have not got the breeding to warrant the raising of trotters with any degree of certainty. We may occasionally get a fast one when using a high bred sire, the same as we may occasionally get a colt that will develop into a 1700-pound horse from a 1400-pound sire; but what the farmer wants is something that pays every time. Now what has been the result of roadster breeding, for the past twenty years. The large majority of our farmers have made a glorious failure of it. They have used spavined, blind, old, weak mares, too poor and played out for any kind of work, then taken the pains to find a horse of about the same characteristics, that is heralded with flaming posters, stuck on every blacksmith shop door, and old board fence, as the cele-brated world renowned horse "Gewhileke," whose great grand sire was a great, great grand son of imported Messenger, and whose dam was the granddaughter of the celebrated grandson of the renowned "Lightning Splitter." All for $5.00. And the thing that results from such a union is invariably a Hambletonian, and a cousin of Mound S, generally sells for $50 or $75 as a three year old, and is a curse to whoever buys it. Now friends, does that pay? On the other hand, select your best stock as breeders; young, sound, full of life and vigor, of as good breeding as you can afford. Then go to some reliable stable, select a horse whose breeding is unquestioned, that is as near individual perfection as possible, one that is a trotter himself and is backed by trotting ancestors on both sides, don't let 5 or 10 miles or $5 or $10 scare you, and in the produce you will find the "happy medium," the American roadster, that will sell from $200 up. Now friends, will that pay?

Another point in favor of the best is the pride we can take in raising them, showing that when we give them a little good hay or eats that we will get pay for it; then when our friends or neighbors come to borrow a few bags or swap stories, we can take them out to the yard or pasture, get on top of a forkful of straw, swell up with pride as big as our vest will permit, and expound on the good qualities, fine breeding and excellent points; and if it is a roadster, get down from our eminence and chase it around the yard with a corn stalk to show its gait, but if you are unfortunate enough to have one of the other kind, you take care he does not see
it; but if he does, and says anything about it, you will hate to own up that you had anything to do with that sort of stock, so you look as wise as you can under the circumstances, and tell him you traded a corn sheller to Willard Hartshorn for that thing.

Once more I would urge you, whatever class of horses you are raising, use the best you can find. Fix in your mind the kind of animal you want, then find your model.

There never was a question asked on this great problem, so simple and yet so important, as one asked in one of our best journals, a question that applies to both breeds and answers itself. "Will a horse transmit what he does not possess himself?" If a horse does not possess the weight and other qualifications of the draft horse, can he transmit those qualities? If a horse does not possess style, speed, breeding, endurance and the other requirements of a good sire of roadsters, can he transmit those qualities?

Ever keep in mind, when looking up your breeding stock, that question: "Can a horse transmit what he does not possess himself?"

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**Potato Culture.**

[By A. M. Penney, Waupaca, Wis.]

The first thing to be considered is the land on which the potato is to be planted. Experience has shown that new land which has raised but one crop of grain is by all means the best, providing the land was thoroughly broken and cleared of grubs; if not it would be better to take off two crops before planting to potatoes. In case the farmer must depend upon old land to raise a crop of potatoes, he should turn under a crop of clover in the month of August, ploughing rather deep and endeavoring to turn the clover all under, ploughing again in spring but not deep enough to turn up the rotted clover. This method insures mellow land well fertilized, and with proper cultivation one should get a good crop. Potatoes should not be planted too often on the same piece of land.

Experience has shown that we do not get a large yield and the quality is greatly inferior. At least three years should intervene between crops. Land that is a little rolling in my opinion is preferable to low land, as potatoes planted on low ground do not get sufficient air and in consequence are more liable to blight than those planted on higher ground. Agricultural writers claim that blight is caused by an insect that attacks the tops of the vines and works down to the potato, its ravages being much increased by wet followed by warm sultry weather. Hence the importance of the vines getting the benefit of any air that may be stirring. Next in importance is selecting and preparing the seed. Use good sized and well shaped potatoes, cut so as to leave two to four eyes in each piece; if seed is cut in small pieces it is liable to rot in case of wet, cold weather after planting. A good sized piece is necessary to properly nourish the germ. Farmers should avoid cutting large quantities of seed and putting in bags or piles, for they will heat very quickly and destroy or weaken the germ. If circumstances compel the use of small potatoes for seed, I would recommend planting them whole after clipping the seed end. I would also recommend sprinkling the cut seed with land plaster as it prevents loss of moisture and acts as a fertilizer. Extra care is necessary in selecting seed this year on account of the second growth formed on our last crop. The leading varieties now in the market are the Burbank, Early Rose, Beauty of Hebron, Dunmore and Peerless. I would advise planting the Early Rose and Beauty of Hebron for the fall market, but avoid planting what are called the late Hebron which is a large coarse, deep-eyed potato with a yellow coat inside, they do not cook well and are not wanted in the market. For the winter and spring market plant Burbank, Dunmore, and Peerless. In consequence of the largely increased competition of Michigan, Utah, and Colorado our market at St Louis, Kansas City and other southern points is cut off, the quality of our potatoes this year being inferior to those grown in other states. Unless farmers and dealers take all possible pains to put our potatoes on the market in the best condition, "Waupaca county potatoes" will never again have their former good reputation. Large quantities of land in Michigan from which the timber has been cut, is being broken up and planted to potatoes. This land is a sandy loam and produces large crops of a superior quality. We must expect to meet this competition every year, hence the necessity of improving the quality of our potatoes. Look at the market report in any Chicago paper and you will see Michigan potatoes.