

breed of the past and the improved breed of to-day is beyond comparison.

Nothing can be more penny-wise than the practice of many of our farmers of breeding from scrub or grade hogs. To the farmer who breeds ten or more sows a thoroughbred boar is cheaper at \$50 than a grade boar at nothing, even if the hogs are all to be fattened. A single dollar on a pig would make up the money, and I am confident that in many cases I have seen a difference of \$5 each, with the same care, between thoroughbred hogs and those that have been bred haphazard. On hundreds of farms to-day can be found stock hogs a year old that will not weigh over eighty pounds each, and that are not 10 pounds heavier than they were in December. If offered for sale now they would not bring over five and a half cents a pound, and they have probably consumed as much grain as the breed of hogs that, at the same age, weigh 200 pounds and are worth seven cents a pound.

The man who is carefully breeding pure stock is a public benefactor, and ought to be well paid for what he offers to the public, for it is valuable. Such men should be patronized and encouraged, for the farmer cannot do without them. In the good time coming, more attention will be paid to this matter than at present. Not only should this question be discussed in the grange, but the members should co-operate, and purchase such animals as will improve their stock.

Experimenting with Grades.

S. W. Hart, of Lapeer county, Mich., has been experimenting with grades, and the following is a report of the results as given by the *Michigan Farmer*. It shows conclusively that hay is not a *sine qua non* with stock, and that it can be successfully bred in seasons when the hay crop is short by the use of auxiliary crops. These cattle were bred from fair native cows, and the bull was a thoroughbred Short-horn, so that we may consider them half breeds. The cattle were sold as follows:

One pair over 3 years old	250.00
One cow	115.00
The 3-year old steers bred and fed by Hart are as follows:		
1 pair 3-year old steers	205.00
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Hart raised these 3-year olds on skim milk when calves, they never eat a ton of hay, and no hay at all, for the reason that he did not have the hay. All the pasture on which he fed them corn stalks, turnips and grain. The driver who purchased them took the whole lot with an allowance for shrinkage of 91 lbs. for their delivery in Detroit, below their weight at Milton. We have a lesson here about feeding. Hart, by use of a good bull had good stock to work with, and taking into consideration that he was short of hay, fed a splendid lot of cattle, making up in attention to his stock for his want of hay. In this he has set an example, and we are much pleased to present his report to our readers, for it shows that "blood will tell." We ask, then, can any farmer that takes his chance of the bulls met with, show anything like this record?—*Boston Cultivator*.

Treatment of Shying Horses.

Shying generally arises from timidity, but sometimes it is united with cunning, and induces the animal to assume a fear of some object for the sole purpose of finding an excuse for turning aside. The usual cause of shying is, doubtless, the presence of some object to which the horse has not been accustomed, and if he has defective eyes, which render him short-sighted, it will be difficult to convince him of the innocent nature of the novel object. There are endless peculiarities in shying horses, some being dreadfully alarmed by one kind of object which to others is not at all formidable. The best plan of treatment which can be adopted, is to take as little notice as possible of the shying and to be especially careful to show no fear of its recurrence when the "alarming" object appears in the distance. When the horse begins to show alarm, but not till then, the driver should speak encouragingly to him, and if necessary, with a severe tone, which may even be supported by the use of the whip if his onward progress cannot otherwise be maintained.

The principle which should be carried out is to adopt such measures as will get the horse to pass the object at which he shies, somehow or other, and this should be effected with as little violence as possible, always commanding an encouraging tone as soon as the purpose is gained. Nothing has so great a tendency to keep up the habit as the plan so common among ignorant groomers of chastising the shyer after he has passed the object of his alarm. If he can be persuaded to go quietly up to it, and examine it with his muzzle, as well as with his eyes, great good will be effected, but this can seldom be done with moving vehicles, and heaps of stones or piles of sand are generally only alarming from defective vision, so that each time they assume a new phase to the active imagination of the timid animal. Punishing bits only make a high couraged horse worse, and the use of "overchecks" rarely, if ever, prove beneficial.

Sheep Treatment in California.

The only disease of any consequence which troubles the Californian sheep-grazer is "scab." This is very troublesome at times, but is not of such a fatal character as the disease of the same name in Britain. Indeed, it is seldom or never fatal in California, and as the expense of removing is considerable where the flocks are so extensive and the appliances difficult of access, we find that in many flocks no attention is paid to the disease whatever, but it is allowed to run its course. In this case it is found that the disease leaves the sheep after a time, and the animal is again restored to its former health and quality of fleece; although of course during the time the animal is so affected it is almost worthless either for its mutton or wool. This carelessness, however, in regard to the disease referred to, is gradually but surely dying out, and it is very probable that in a few years either Government will find it necessary to legislate for its proper removal, as is at present done in New Zealand and Australia, or the graziers themselves will find it necessary for their own advantage to have the disease properly attended to. Among the more intelligent and wealthy class of sheep-owners in the country, however, we find that very great attention is paid to its cure, and in such cases I have seen flocks of 30,000 sheep belonging to one person where the disease was completely stamped out, and careful attention paid to its removal whenever the least signs were observed of its return, which sometimes occurred from proximity to ranches where the disease was not attended to. The ranch from which I have taken my observations on this subject was provided with a most complete arrangement for the cure of the disease by "dipping."

The ingredients used for the dipping were an infusion of tobacco with common sulphur—or about 20 gallons of the former to 1 lb. of the latter. The tobacco was allowed to steep for about a fortnight or so, before being used, in a large tank, capable of containing over 10,000 gallons at a time. When the infusion was complete, the liquid was drawn off into another tank, preparatory to its being used, while another infusion was set agoing in the first one. The liquid in the infusing and store tanks was heated by steam in a large boiler. The prepared tobacco juice was run from the second tank into what was called the "dipping tank," in such quantities as was required. It was then heated to 150 degrees, and mixed with sulphur in the proportions already given. The dipping tank was about 15 feet long, 6 feet deep, by about 34 to 4 feet broad, and was lined with lead.—*Cor. North British Agriculturist*.

The Comfort of the Horse.

Doubtless much of the cruelty exercised through the bearing rein is done in sheer ignorance of its effects upon the animal's mouth. The plan, or rather torture, originating with jockeys, solely to give the head a sprightly but unnatural cast, has been propagated through successive generations thoughtlessly, until it is now regarded as one of the essentials of a horse's outfit. It is nevertheless a piece of wanton cruelty, and should be cast aside as such. Mr. Flower, of England, an eminent authority, condemns it unconditionally, and has written a series of articles on the subject, which are attracting universal attention. From one of these, to the *English Livestock Journal*, we make an extract. He says:—The important object which it is sought to effect by the use of the bearing-rein is beauty of the head and neck. We doubt whether the desired objects are really effected by its use. The gag bearing-rein is the successor to the simple bearing-rein, a comparatively harmless contrivance, which was much in vogue some thirty or forty years ago. That the new apparatus occasions much pain to the animal there cannot be two opinions. The action of every muscle of the head is impeded, and should a false step be taken, we should imagine it would be more difficult instead of easier, as some assert it is, for the animal to recover its feet.

Perhaps the simplest, most effective, and most humane form of bit to use for riding or driving is the curb bit with port, i.e., with an arch in the middle intended to make the pressure rest on the bars of the mouth instead of partly on the tongue. Such a bit is strongly recommended by Major Dwyer, and Mr. Sidney in his work draws attention to it. Even this, however, it will be very necessary to get properly fitted to the horse's mouth. An interesting fact is recorded by Major Dwyer as to the size of horses' mouths. He says that out of 400 horses belonging to certain squadrons of light cavalry, which he examined some eight or nine years ago, the width of the mouth was, for the smaller ones, exactly four English inches, and for nearly the whole of the remainder 4.2 inches, one or two only reaching 4.3 inches. What follows is also important, and applies with some force to the bits manufactured at the present day.—"A great number of bits," says the Major, "were put down for alteration as being a half to one inch too wide, and some thirty or forty went to the heap of old iron, as being useless from their immense size.

Let any cavalry captain in the British service take the trouble of ascertaining, which he may easily do, how many bits in the troop are half-an-inch, a full inch, or perhaps still more, too wide, he will probably then find a clue to many little annoyances he meets with during drill." The curb-bit is therefore the kind of bit recommended by the best horsemen of the day. It appears to possess all the essentials of a good bit, and if properly fitted to the animal's mouth will supply an easy and effective mouth-gearing. In the cases of horses that have acquired the bad habit—generally an incurable one with old animals—of getting their tongues over the mouthpiece, the action of the curb-bit is rendered occasionally somewhat uncertain. In such cases recourse may be had with considerable advantage to the snaffle for a time, after which a carefully-fitting bit should be secured.

CORN AND PORK.—For the benefit of hog traders, we give the following table, showing the quantity of corn required to produce a pound of pork, and the price of pork, which seemed to be governed by the relative price of corn: When corn costs 12 1-2 cents per bushel, pork costs 1 1-2c. per pound; corn 17c. per bushel, pork 2c. per pound; corn 25c. per bushel, pork 3c. per pound; corn 35c. per bushel, pork 4c. per pound; corn 50c. per bushel, pork 6c. per pound. Whether these figures are approximately correct or not, they will serve as a basis, at least for careful calculations.—*Colman's Rural World*.

HAY OR MEAL FOR COWS.—A correspondent of the *London Agricultural Gazette* traced the change of opinion with regard to hay in his own neighborhood: "Years ago the practice here was almost invariably to feed the milking cow on hay alone; then some few dairymen began to give those cows that had lately calved, two or three pounds of linseed cake per day; then some of the poor grass land on the dairy farms began to be broken up, and some mangles were grown. Now the rule is often to cut up straw and partly hay, and mix with pulped mangles, and give each cow four or five pounds cake or meal, or both."

HORSE FEEDING AT CIRENESTER.—An old student, signing himself "W.," thus relates the system of feeding of farm horses on the College Farm, Cirencester:—"First, with respect to last winter, thirteen horses were receiving weekly 30 bushels of brewers' grains, 20 bushels of oats given whole, 12 bushels of crushed Indian corn, wheat chaff (or chop) as much as required. The grains and corn were mixed with chaff in a conveniently-placed bin as required. The times of feeding, 5 to 7 a.m., 12 to 1 p.m., 5 to 7.30 p.m., and they were watered at 6 a.m., 12.30 p.m., and 6 p.m. No hay or fodder other than straw is given. In summer the thirteen horses receive among them weekly, 30 bushels of grains, 20 bushels of oats, and 6 bushels of split beans, with wheat chaff (or chop) as much as they require, and also as much green trifolium as they will eat. When on dry food they are found to consume about 5 bushels daily of the mixed corn and chop and brewers' grains."

FEED FOR SHORT-HORNS.—At a fine stock convention held recently at Vinton, Iowa, the well-known short-horn breeder and dealer, S. W. Jacobs, said the average weight of his short-horns at one year old was 1,000 pounds. He fed milk six months and grain six months, giving four quarts daily. He also said:—"I treat a calf kindly, give it its mother's milk only; at four weeks old it will commence to eat dry shelled corn. I do not measure the quantity, but let it eat what it will eat clean; feed three times per day; do not let it out in the hot sun to graze; curdy it sometimes; at three months old I feed some wheat, and about what will lay in my hand of linseed meal. That does not physick, and improves the hair and appearance of the head; and also, when an animal scours, give it oil-cake. For a large bull you want a double stall; half an hour of exercise by letting him run in the yard; water as often as he wants it. We water our stock three times a day. Feed a bushel of cut hay mixed with fifteen pounds of corn meal and three pounds of oil-cake."

BALKY HORSES.—The *Kentucky Home Journal* gives the following directions for breaking up the balking of a vicious stubborn horse:—"Put on your harness and hitch him to anything you desire, either single or double, as you feel disposed, and give him the commanding word to go ahead. If he goes, you have nothing to do or say but let him go on and do your work; but if he refuses to go, take him out immediately, take all the harness off except the bridle, and take a small rope the size of a plough line, and tie one end to the bit on the right hand side, and pull it through the ring of the left under the chop, pull his head around to his left side, and slip the rope under his tail like a crupper and make it fast, keeping his head tolerably close to his side. Now all is ready, so let him go, and take a good long whip and make him go, talking kindly to him all the time. He will travel like a dog after his tail, for he can travel no other way, but after a while he will fall down, when you will immediately let loose the rope and let him get up; now talk kindly to him and caress him. Your work is now half done, for you have only to tie the rope to the other side of the bit, and pull his head around the other way, and make it fast like a crupper, the same as before, and start him off again and let him go till he falls down a second time; let him get up immediately and hitch him up, and you will probably never have any more trouble with him."