

set at right angles to the tongue, but slants so that the earth, as it is scraped up, works to one side.

The use of the road machine is also to be recommended, as by this means two men and two teams will do as much work in a day as would take them, with the ordinary implement, a week, and at the same time do it better. By means of this machine the surface can at all times be kept oval, smooth and level, with but very little labor.

STOCK.

FIRST PRIZE ESSAY.

Profitable Horse Breeding in Manitoba and the N. W. T.

BY W. L. PUXLEY, WINNIPEG.
(Continued from Page 178.)

The foal, with a good mother, should come along well its first summer—if foaled out of doors, say the last week in April, thereby avoiding the danger of blood-poisoning by absorbing the filth of the stable through its navel—learning gradually to eat grain with its dam, who, if she is working, should only be allowed to go to it when cooled down after work, the over-heated milk having a tendency to produce scours in the colt. I think it is a mistake, in the early months at least, to let the colt follow the mare at work, as the mare will probably have to travel further in the day than is good for the youngster. On the other hand, the danger of the colt taking her milk in large draughts at long intervals—the very reverse of nature's intention—is against keeping them long apart. The simplest way to overcome both these objections is to allow the mare and colt to run together on the grass during the early months of the colt's life. This will insure a larger flow of milk, besides allowing plenty of exercise in the open air at an age at which the healthy colt seems most inclined for it.

At weaning-time, if there are only one or two colts, and space allows it, I prefer putting them with their dams in loose boxes, turning the mare out during the day and feeding the colt inside. He thus becomes accustomed to her absence, and she, owing to diminished sucking and dry feed, soon goes dry. I think the plan of tying the colt in sight of its dam provokes a desire to suck, the inability to do which only frets him. Where there are many it is preferable to keep them all—or, at least, all of one size—together, and wean them at once, drying off the mares by hand. For, if they have been accustomed to eating grain with their dams, the change to dry feed will not be so sudden, and the company will largely compensate for the absence of the mares.

All I would do to the weaning colt in the way of training during his first winter is to thoroughly halter-break him, which should be done in a strong but pliable and comfortable halter before he is tied up at all, and accustom him to the handling of his legs and feet, and, in fact, his whole body. So many yearlings with bunches on their hocks attest to the disadvantage of too early training, that I should be inclined to leave this alone until the joints and ligaments were stronger, and, for the present, just let him grow; give him a good yard to run in during the day, fenced with rails, and see that none of the rails project to bruise or lame him as he skips around. Keep an eye to his feet, taking especial care that his toes do not become too long.

His second winter he may be gradually accustomed to the wearing of harness, and towards spring may be bitted. The making of the mouth by gradual pressure is a part of the breaking of the colt to which a great deal more attention might be paid, and which will be well repaid in any horse, but particularly in one intended to bring a good price. The kind of mouth that will allow you to "jest hang to it" is going out of fashion, and a pulling horse, besides the danger to its driver, if it should bolt, is so uncomfortable to ride or drive that no one will buy him who can afford to suit himself, and these are the buyers that make horse breeding profitable. The biting should be begun by putting on a smooth, straight bit, with large rings, allowing him to champ at this for an hour or so a day; later on gentle and gradually increasing pressure may be put upon the reins with the hand. The reins should not be buckled up to the roller until the mouth has lost its extreme sensitiveness, and, where the time could be spared to apply the necessary pressure by hand, I would not buckle him up at all in the stable, owing to the danger of toughening the mouth by the constant pressure. Take care that the mouth does not become sore, and if it should do so, drop the biting until it recovers.

It is, of course, impracticable to lay down any exact quantity of feed for the colt, owing to the difference in size and digestive powers of different individuals, but, when in doubt as to the exact quantity of grain, it will in most cases be best to risk erring on the side of liberality, provided that the maximum is reached by gradual increase from a small feed at first. If, however, a colt should at any time leave any of his grain in his box, a feed or two should be dropped and the succeeding feeds lessened in quantity. The grain ration should be

given in at least three feeds a day, and not in such quantity as to exclude the desire for hay, which may easily happen to some colts, and which will surely cause indigestion sooner or later. Keep the feed boxes clean and sweet, and don't forget a lump of rock salt in each.

It is most important that the colt should be well fed—always with plenty of out-door exercise on any but the stormiest days—during his first two winters, but it is also important that he should be well-fed and exercised in succeeding winters if he is to arrive at his highest development; so keep it up.

His third winter he will be fit to put to light work—at first by the side of some fast-walking, level-headed horse, who can take along the whole load and the colt, too, if need be. If the breaking has been gradually progressed with he will generally not give much trouble, and all he has to do now is to take in the sights of the city, electric cars, trains, *et hoc genus omne*. By training a colt gradually from the time he is weaned, he almost grows into harness, and is, therefore, not much alarmed at any time by it; whereas, if left to run at his own sweet will until three or four years old, he not only has greater objections to being harnessed, but also greater strength to enforce them. The harness used for breaking the colt should be strong and well-fitting, it being far easier to avoid habits of bolting or kicking in harness, so often acquired through defective harness or reins, than to cure them when formed.

The grain food this winter should be oats—ground, I think—and plenty of them, with occasional bran mashes, say once a week, but I fancy that at present prices, or at any time when the price of one bushel of wheat shall not exceed that of two bushels of oats, it will pay to feed it to colts, with care as to certain points. Chopped wheat should not be fed without bran, on account of the absence of hull making it less porous in the stomach, and consequently giving less chance to the gastric juice to mix with and act upon it. A mixture of two parts chopped wheat, two parts chopped oats, and one part bran is, I think, better than an exclusive diet of oats. Oats are, undoubtedly, the best *single* feed for all horses, and especially those at work, but, with the above precautions as to its mixture with oats and bran, I think much more substance can be got into our colts with wheat than with oats alone.

In the spring the colt will be three years old, and this is, in my opinion, the time to sell him to the dealer to finish. But if you decide to keep him, he can earn his feed on the farm for another year, besides increasing in value. Be careful not to let him get into that way-worn, broken-hearted style of going, which spoils so many farm-broken colts; leave some life in him for the man who will pay for it. Sell whenever you have a buyer at a fair price; the younger you sell your colts the more room you will have in your stables, and the more time to give to each.

Whatever you decide to breed, breed only the very best—the best is none too good. Don't pay for a pedigree without the good points which it should ensure, but if they are forthcoming, then pedigree is above the price of rubies. Don't expect something for nothing in a stallion. Be willing to pay a fair service fee. Refuse any but a sound stallion, or, at any rate, one free from hereditary unsoundness. Breed in pairs. There is no sense in changing a stallion which produces good colts from your mares just for the fun of experimenting; the fact of your having a matched pair will not make either worth less, and may make each worth more. Breed with an object constantly in view, and don't keep changing. If the making of pure-breds is fraught with uncertainty, how much more must the alternate mixture of different breeds embarrass the breeder. Breeding with a fixed object has evolved the special breeds and brought them to their present perfection. There is every difference between crossing distinct breeds with a view to securing the excellencies of both—when one particular line is kept to—and mixing up all the breeds together, so as to turn the mare's womb into a surprise packet. The latter course of breeding at random can only ensure a return to chaos.

I will not attempt to make an exact calculation as to the cost of raising horses, which is a matter on which each breeder has probably satisfied himself, the point I wish to make being that if there is a profit in horse-raising—and I am quite satisfied that there is—it will be found in raising the best types of those in the greatest demand, and raising them well. I will, however, give a rough estimate as follows:—

Hay, in four winters, 1, 1, 1 and 2 tons, respectively.	\$10 00
Grain, 2, 3, 5 tons @ \$2.00	10 00
Oats, 1, 2, 3 and 3 gallons, on a basis of 200 days, winter	15 00
total, 225 bushels @ 20 cents	45 00
Pasture, three summers @ \$5.00 per head	15 00
Veterinary attendance, say	10 00
Breaking	10 00
Service fee	25 00
Total	\$115 00

To this should be added about \$10 for losses. On the other hand, if the colt is broken by the owner, and earns his keep during his fourth year, his cost will be reduced by \$20, making the cost of a broken four-year-old, roughly, \$100.

As illustrating the prices brought by some of the classes referred to in the foregoing, I might mention that shipments of Ontario-bred horses have been sold in the last two years, by auction, in New York, at an average of from \$330 to \$365, which

is said to have netted the breeders \$300 per head. These were bred mostly from Thoroughbred sires, though some were of Hackney breeding. We are, of course, in Manitoba, farther from New York than the Ontario breeders, but the demand for this class of horse is spreading in the United States, and will soon be very strong in Chicago and other cities nearer to us. But, allowing for the difference in freight rates, the profit is still worth trying for. The buyers will come when the horses are bred; we cannot expect them to come sooner.

Before concluding this essay, I would put in a plea for better handling of the horse in sickness. If he is ailing and out of sorts, don't wait till all the amateur horse doctors of the neighborhood have combined to bring him to death's door—in futile attempts to expel bots, when the trouble may be only in his teething—before you send for a competent veterinary surgeon. On the ground of profit alone, it will pay to call him in early, as one good colt will pay for many visits, even if the comfort of the horse is not of much importance. Remember that the horse is by nature denied the chance allowed to man in the hand of quacks—vomiting—and his chief hope of relief is, therefore, in death.

In conclusion, there must always, no doubt, be an element of chance in this, as in all other businesses, but as men neither gather grapes of thorns nor figs of thistles, so by no combination of chances can saleable horses be produced from a plug mare and a scrub stallion on starvation diet, under the lee of a snow bank.

Chatty Stock Letter from the States.

FROM OUR CHICAGO CORRESPONDENT.

Top cattle prices, \$1.75, being 15c. lower than a fortnight ago, and \$1.60 lower than a year ago. Hogs, \$5.35, being nearly the same as two weeks ago, and \$2.40 lower than a year ago, when the great boom was still on. Top sheep, \$4.75, showing no change from two weeks ago, but \$1.50 below the prices of a year ago. So much for prices.

Supplies are running lighter than a few weeks ago. As compared with a year ago, weekly receipts at Chicago, Kansas City, Omaha and St. Louis combined show a decrease of 21,000 cattle, an increase of 37,000 hogs and a decrease of 45,000 sheep.

The quality of the cattle and hogs is very good. The cattle are better than are appreciated, as shown by the fact that buyers are paying about as much for 1,100-lb. steers as for ripe 1,500-lb. bullocks. The quality of the hogs is very good, though the weights are running lighter. Buyers complain of a scarcity of good thick fat 300 to 400-lb. hogs. The 200-lb. hogs, however, are more generally useful. The sheep are rather poor in quality, barring the remnant of the crop of fed Western wethers.

The bulk of the good 1,100 to 1,500-lb. cattle lately sold at \$1 to \$1.25; bulk of the heavy hogs, \$5.25 to \$5.35; light-weights, \$5.15 to \$5.25; sheep, \$4.25 to \$4.50; lambs, \$4.75 to \$5.

The visible supply of sheep at present is not as large as it was at this time a year ago. Texas is the only region that has a big supply of sheep, and the drought has kept them in such poor condition that they will not be fit to market till later than usual. The sheep exporters are still doing quite a fair business at some profit.

Baby beef is more than ever the watchword of Western cattle feeders. There is less demand for heavy cattle than for some time past, and producers are not enjoying the spectacle of ripe heavy cattle, fed on corn for a full year, selling for less per hundred pounds than "nice little" cattle that have only been grained a quarter of the time. A dozen butchers can handle the carcass of a 1,200-lb. steer, where there is one who wants one that scales 1,600 lbs. alive. The matter of early maturity, however, is a good deal of a craze, and is liable to have a reaction.

Some choice coach horses recently sold here at \$400 to \$1,000 per pair, but both supply and demand are limited when it comes to the extra good ones at fancy prices. Current Chicago prices are:—Extra draft, \$125 to \$250; common draft, \$75 to \$115; express, \$125 to \$190; chunks, \$75 to \$125; chunks (Southern trade), \$40 to \$60; streeters, \$75 to \$100.

A Dakota ranchman, A. S. Robinson, of Dickinson, N. D., was here with 20 head of Hereford and three Shorthorn bulls to take to his ranch. They cost an average of \$90. In a quiet way the market for breeding cattle is showing a stronger undertone. There are no fancy prices being obtained, but breeders do not find buyers quite so scarce as they were.

Ohio graziers have lately paid \$100 for 1,150 to 1,200-lb. steers in this market. They want cattle fleshy enough to make early beef on summer grass with some corn.

Distillery cattle are beginning to move to market with some freedom, but owners who are largely the big slaughterers seem disposed to hold back in the expectation that prices will shortly be higher. If the labor situation was in better shape, and fewer mechanics were striking for wages before they fairly got to work again, the live stock trade would be in vastly better condition.

Erratum.

In the report of the Agricultural and Arts Association annual meeting, appearing in our issue of May 1st, the name of Mr. J. C. Rykert was given as Secretary of the Ontario Association of Trotting Horse Breeders, instead of Mr. Boyd, of Simcoe.