

Wyoming, and \$82.47 for Texas, to \$156.60 for Rhode Island, \$149.48 for Connecticut, and \$141.80 for Massachusetts.

Itemized, the cost is made up as follows: Service fee, \$12.95; value of time lost by mare in foaling, \$10.06; breaking to halter, \$2.22; veterinary service, \$2.04; care and shelter, first year \$4.98, second year \$5.86, third year \$6.35; cost of grain fed, first year \$4.98, second year \$7.14, third year \$9.56; hay, first year \$4.14, second year \$6.61, third year \$8.48; pasture, first year \$2.56, second year \$5.41, third year \$6.21; other costs, \$5.01; total \$104.06.

The total cost for all feed is \$56.30, being \$21.68 for grain, \$19.23 for hay, \$14.18 for pasture, and \$1.21 for other feeds. The total cost for care and shelter is \$16.69. Of the total cost, 54 per cent. is charged to feeds, 16 per cent. to care and shelter, and 30 per cent. to other items as enumerated above.

As more than half the cost of raising a three-year-old horse on the farm is chargeable to feeds, it is readily observed how important is the influence of variation in prices of feed-stuffs upon such cost.

Horse-Raising as a Side-Line for Fruit-Growers.

Editor "The Farmer's Advocate":

Up to the present the orchardists here have been paying very little attention to other phases of agriculture than the growing of tree fruits, such as peaches, apples, plums, cherries, etc. Marketing conditions have largely been responsible for this, also the fact that clean cultivation between the trees has been the custom adhered to in order that the trees might be forced to early bearing. Finding that too much clean cultivation has been promoting the spread of "black spot" they have begun the use of cover crops such as clover, timothy and alfalfa, raising colts upon the hay.

Many of the orchardists these last two years have devoted part of their orchard space to raising tomatoes, and requiring considerable horse work in the cultivation have invested in brood mares with the intention of raising colts and wintering them on alfalfa raised on their lot.

Last year we kept two mares, and have raised two foals sired by a valuable Thoroughbred. While we do not believe the light horses will prove most profitable, because they cater to such a very limited market, still our mares were small and with only the choice between a Thoroughbred or a Hackney sire, we thought speed to be preferable. This year, however, there is to be a splendid Percheron here, and as a heavy horse can be sold in any market, this fact has led us to decide in the future to raise stock sired by Percherons, providing our venture proves profitable.

This year we weaned the two foals above mentioned in September, and as we had cut some clover grown between the tree rows they fed at a stack of this at will until December 1st., at which time we "halter broke" them and commenced to feed them. We had no way of gauging the amount of clover they had eaten from the stack, as we were also feeding both mares from it. We have kept close track of the feed from December 1st. to March 31st., and find that during that time with hay, at \$23.50 per ton and oats at \$35.00 per ton, each foal has cost us \$15 plus \$20 service fee.

April 1st. they go to pasture where they can stay till Nov. 30th. without cost, and next winter we can place them in the hands of a rancher who charges \$6 per month for stack feeding on alfalfa.

On this basis it will cost us about \$90 to raise each foal to three years of age, at which time, bar accident, we should be able to market them at from \$165 to \$250, according to their weight, speed, etc. The general price paid here for animals of the style into which they promise to develop, is about \$200.

We worked the two brood mares right up to the day of foaling, principally at cultivation and delivery work with some plowing, only losing about ten days before they were back in harness. Both foals are fine, sturdy animals, and one promises to be an exceptionally fine mare.

This year one of the mares is with foal to a Hackney, as he was the only horse available. The other we sent away to a rancher's and is with foal to a Percheron. This spring we will use a Percheron only, and as that has always been our ideal, we hope we shall be able to keep to this class of sire.

We have come to the conclusion from observation, reading, and the opinion of horsemen here that it does not pay to frequently change from one breed to another; that a heavy horse need never hunt far for a market, while the lighter breeds often do. Besides this, a poor animal from a light breed is practically a loss, while a poor animal from a heavy breed is al-

most always worth at least his cost of raising, merely on account of his weight, if for no other reason.

A rancher here told us of his experience in the changing sires. He and his neighbors had been for some years breeding Clydesdales, having bred up from cayuses (wild western ponies) until they had some fillies almost fit for registration. A horseman came in with a Thoroughbred sire and persuaded many of the ranchers to go over to the Thoroughbred. One man said that by figuring out his actual loss that he "dropped at least \$2,500 in that one year", he had neither speed nor weight in the stock he got, and a very unshapely bunch of colts.

It is doubtful if many orchardists here in this valley could make it pay to raise colts to a workable age unless they are willing to take the chance of loosing them, and turn them out to roam over the mountains as many of the ranchers do, but they could put them through one winter and leave themselves a good profit. We are situated differently from most orchardists, having a pre-emption of 320 acres above the water line (land that can not be irrigated profitably) upon which to range our stock so it costs nothing for pasture. With hay and oats at the price they are I doubt if it would pay to raise them on a fruit lot for three years, for the hay that it would be necessary to feed them could be sold for the same price as it must be bought for, so that one must charge it up against the colts at this price.

Oat hay is used here to a very great extent and is a good diet, selling baled at \$22, and timothy at from \$24 to \$28. The figure quoted above is the average we paid for oat and timothy hay this winter. Next winter we expect to have enough hay on the lot to winter the two mares and their colts, as we intend to devote only half our lot to small fruits and vegetables.

In our list of costs we are not charging up the rope halters the colts chewed to amuse themselves, nor the saddle cinch one of them made a meal of, for which I had to pay the harness maker \$1.00 to replace, nor yet the shaft loops on a set of harness that one of them devoured one afternoon, and we got a bill for same a few days later for the new pair. We couldn't put a price on the mare's mane; but one of the little scamps chewed that for a few days since she couldn't get at the blankets a second time. Such things as these we charged up to experience, and now tie them with chains which they can't eat, but even then they taught us that we had to have a swivel on these or they would twist them up and break them. We thought we had "put them through their paces" when we came to halter break them, but looking back over the incidents perhaps some of the laugh is on us.

We had some very valuable experience at halter breaking, one of them gave in with about fifteen minutes coaxing, but the other at the end of five hours good stiff fighting was still unconquered, and we had to put her through another three hours the next day before she would lead.

However, the venture looks good, and we will keep at it till it proves less profitable than other side lines in the orchard business.

British Columbia.

WALTER WRIGHT.

Clipping to Prevent Sore Shoulders.

No doubt many horses will suffer from sore shoulders ere the spring and early summer work is over. Any hints as to methods of prevention and cure are valuable to all those who work horses. A writer in "The Farmer's Advocate" and "Home Journal", Winnipeg, Man., recommends clipping all the hair from the shoulders. This is his experience:

"Some years ago I had trouble every spring with horses getting sore shoulders, especially colts and horses that had not been worked all winter. No matter how much I cleaned them it seemed impossible to get all the dust out of the hair, and as soon as the horse started to sweat the old hair would loosen up and become matted with dust and sweat, and a scalded shoulder was the result.

"After some experience of that kind, I tried washing the horses' shoulders with salt and water every night for a few days before work started, and while this helped some, it did not prove a complete remedy, as the old hair would come loose and gather in little wads under the collar. At last I decided that if the shoulders were clipped it would end the trouble, so I got a pair of hand clippers and clipped the shoulders a couple of weeks before work started.

"That ended the trouble, and for the last six years I have never had a horse with a sore shoulder except one I bought three years ago that had a bad sore on the point of each shoulder when I got him. I fitted him with collar and felt sweat-pad and cut holes in the pad to fit over the sores, and in a few weeks had them healed without leaving a scar. I rubbed in a little vaseline on the sores every night, and

wiped them off with a soft rag in the morning. The horse has never had a sore since, although there is a calloused spot under the skin on each shoulder that will swell up as big as an egg if he is worked for half a day with a bare collar.

"I find it a good plan, when buying new collars, to get a good snug fit with the collar buckled out wide, and when the horse is put to work and begins to shrink the collar can be gradually tightened up. It does not seem to make much difference whether bare leather, cloth-faced or collar and sweat-pads are used, as long as they fit well.

"A collar to fit properly should come close to the sides of the neck with just room to shove your fingers in between the neck and collar at the bottom. For a horse that has a very thick neck and gets sore at the top of the shoulders, I take a collar and after oiling it well to make the leather pliable I fit it on a block of wood that will spread it in the right shape, buckle up tight and leave for a couple of days when it will keep that shape."

Care of the Stallion During the Stud Season.

The potency of a stallion is largely dependent upon his care, not only during the stud season, but also between seasons. The stallion that is regularly worked or driven, and kept in only moderate condition between seasons makes a more successful sire than the one that spends his time in idleness, notwithstanding the care and attention he may receive in other ways.

Thoughtful and observant breeders have noticed that the strength and vitality of the foal when born, is, to a great extent, in proportion to the strength and vitality of the parents at the time of service. Hence, the produce of a stallion that, either from want of exercise and over-feeding, or underfeeding, or as the result of over-work, disease, accidents or other causes, is deficient in muscular, respiratory, nervous or sexual energy cannot reasonably be expected to be as satisfactory as that of one in whom all these organs are vigorous. Probably the weakest point in horse-breeding in this country is the shortness of the "stud season," it being practically but two months, May and June. During this period most breeders breed their mares and it is not unusual to hear a stallioner boast that his stallion was bred to 125 or 150 mares. In some cases the statement may be correct, but if a record were kept, it would, (in most cases,) be observed that a small percentage of the mares have conceived, while if the season were extended to four months the percentage would be much greater. These conditions obtain principally in sections where the number of popular stallions is not in proportion to the number of breeding mares. In sections where the stables of extensive breeders or importers are situated, owners always have a number of sires in the stud. The season may be said to be continuous to breeders who are willing to take their mares to the establishment to be bred. Breeding stallions should be kept in only moderate condition and, as stated, should be given regular work or exercise. Stallions kept in show condition seldom prove as potent as those in only fair condition.

The sire that stands for service at his own stable if in a town or city, seldom proves sure, but if in the country he is usually turned out into a large paddock for a few hours daily, and, especially during the season, will take sufficient voluntary exercise to keep him in proper physical condition.

But we wish to speak especially of the stallion that is on a given weekly route, spending certain hours of certain days at certain points. In such cases, the horse is usually in charge of a hired groom or stallioner, whose chief ambition is to keep him looking as well as possible, and to breed him to a great number of mares. Under such conditions the health of the horse is in greater danger than that of the one which remains at home. There is a greater or less change in the quality, and sometimes in the kind of food and water. The groom cannot always get what he wants to feed and he knows that the horse should have to eat. The stallion en route gets sufficient exercise (in some cases too much.) He should be well fed, especially on grain, with only a reasonable quantity of hay, especially in the morning and at noon, but should be given all he will eat at night. The grain ration should be oats. On general principles we prefer rolled oats, but as it will doubtless be impossible to get them in many cases, it will be better to feed whole oats in order to avoid changes. In addition to oats he should be given a little linseed meal or a feed of dampened bran at least twice weekly, or a regular addition of a little bran in his oats, and as grass can usually be obtained he should be allowed to crop a little each day. While hay and oats are depended upon to produce the necessary energy the additions mentioned are needed to avoid digestive trouble. Water conditions are