

ness. Any sudden changes of diet or conditions are dangerous, and should be avoided, but the regular performance of daily toil or regular work, so long as the mare's physical strength does not suffer, conduces to the welfare of the natural functions. The writer knew a race mare well that changed hands, and was pregnant without the purchaser's knowledge. She was raced severely during several months, and as she commenced to show "heavy," which was naturally accompanied with an increased appetite, the mare was muzzled daily to prevent her eating her bedding. Later, unmistakable evidence of pregnancy led her owner to take her from the track, but she was jogged up till foaling time, and produced a strong foal as active as need be, and it grew up to be a good horse. The condition of maternity in any domestic animals demands for a strong issue that the mother be treated in a natural manner, rather than pampered, so that it is wise to keep the in-foal mares at work during the fall and winter months, and at the same time keeping up their condition with liberal, nutritious and moderately succulent food until near the foaling time.

Feeding Farm Horses.

Following is a summary of the results of a series of experiments, covering two years' time, conducted under direction of Chas. W. Burkett, Agriculturist at the New Hampshire State Agricultural College:

1. More working units of horse power are needed for the improvement of our soil.
2. Pure-bred sires of coach and draft breeds are necessary for the improvement of the farm-horse stock of the State.
3. Various kinds of foodstuffs can be used to advantage and with economy in feeding horses.
4. There is no so-called "one ration for horses."
5. Any foodstuff or combination of foodstuffs furnishing the desirable nutriment at least cost should be considered in preparing rations for horses.
6. A mixture of bran and corn, half and half, is a good substitute for corn and oats for feeding work horses.
7. Corn stover is a good substitute for timothy hay for winter feeding of horses, because of its feeding value, the yield per acre, and commercial value.
8. A change from a grain mixture, consisting partially of linseed-oil meal, slowly or abruptly, does not cause a decrease in weight in horses if a proper substitute ration is fed.
9. Feed influences the quantity of water drunk by work horses.
10. Labor influences also the quantity of water drunk by work horses.
11. The individuality of the horse has greatest effect on quantity of water drunk.
12. The quantity of water drunk by the five college-farm horses varied from 25,895 pounds per year to 32,997 pounds.
13. The average total cost per year for actual food supply per horse was \$74.32.
14. The average cost for feed per hour's work done during two years was 3.4 cents.

FARM.

A Farmers' Institute Library.

Owing to thrifty management, successful excursions to the O. A. C. and other points, and the Government aid received, many Ontario Farmers' Institutes have accumulated surpluses after meeting all their ordinary expenses. Out of these funds some of them are now beginning to encourage useful features at the local fair exhibitions, and most of them have rendered valuable service to their respective districts by encouraging the circulation of good agricultural periodicals like the "Farmer's Advocate." The North Bruce Farmers' Institute has gone a step further in promoting useful reading by the purchase of an excellent agricultural library, in the procuring of which the "Advocate" was enabled to render them some assistance. This library will, we presume, be in charge of the Secretary or some one centrally located and specially designated for the purpose. While the number of books chosen from lists which we were able to furnish, together with those suggested by Prof. Reynolds' excellent leaflet on the subject, was not large, it is fairly comprehensive, and can readily be added to from time to time. As the library should be made as generally beneficial and interesting to the community as possible, we would suggest the propriety of adding a few volumes of more special value to the wives and daughters of the locality, such as works on various phases of domestic economy or home life. It is a most hopeful sign that the intelligent farmers of North Bruce should lead in a movement of this character, and it speaks hopefully for the agricultural future of that part of the country. It is a movement of a self-helpful character, based on the diffusion of useful knowledge—the safest of foundations. We hope to see the idea very generally adopted. Many so-called Mechanics' Institute

libraries have been established in villages and small towns, to which farmers and their families have access, but we regret to say that a good many of them are selected without much regard to literary merit or general excellence, and are filled with fiction of a very trashy character, the promiscuous and exclusive reading of which tends to impair the mental faculties and gives no good return for the time spent. It becomes simply a form of mental dissipation, which affords the reader no aid or benefit whatever in the business of life. If people would only make the trial, they would soon find that many volumes of a really useful character are quite as fascinating in their nature as works of fiction. It is very largely a matter of cultivation, and our North Bruce friends are on the right track. Their initial list of books is as follows:

Agriculture (three volumes).....	Storer.
Fertility of Land.....	Roberts.
Soil.....	King.
First Principles of Agriculture.....	Vorhees.
Agriculture.....	James.
Chemistry of the Farm.....	Warrington.
How the Farm Pays.....	Henderson.
Soiling, Ensilage, etc.....	Peer.
Horse Breeding.....	Saunders.
Light Horses.....	Vinton Series.
Heavy Horses.....	" "
Sheep.....	" "
Cattle.....	" "
Pigs.....	" "
Feeds and Feeding.....	Henry.
Cattle Breeding.....	Warfield.
Shepherd's Manual.....	Stewart.
Harris on the Pig.....	Harris.
Study of the Breeds.....	Shaw.
Veterinary Elements.....	Hopkins.
Farmer's Veterinary Adviser.....	Law.
American Dairying.....	Gurley.
Milk and Its Products.....	Wing.
Modern Dairy Practice.....	Grotenfelt.
Practical Poultry-keeping.....	Tilton.
Poultry Manual.....	Root.
A B C of Beekeeping.....	Cook.
Manual of Apiary.....	Green.
Vegetable Gardening.....	Rexford.
Flowers and How to Grow Them.....	Bailey.
Principles of Fruit Growing.....	Bailey.
Bush Fruits.....	Card.
Spraying for Profit.....	Weed.
Hedges, Wind-breaks, etc.....	Powell.
Plum Culture.....	Waugh.
How to Make the Garden Pay.....	Greener.
Pruning Book.....	Bailey.
Bulbs, etc.....	Allan.
Landscape Gardening.....	Maynard.
Story of the Plants.....	Allan.
Insects.....	Saunders.
Diseases of Horses.....	McIntosh.
Land Draining.....	Miles.
Book on Silage.....	Woll.
Barn Building.....	Saunders.
Weeds.....	Shaw.
Fences, Gates, etc.....	" "
Winter Care of Horses.....	Terry.
History of Shorthorn Cattle.....	Saunders.
Dairy Calf.....	Hardin.
Biggle's Cow Book.....	Biggle.
Poultry-keeping as an Industry, etc.....	Brown.
Success with Poultry.....	" "
Rankin's Duck Culture.....	Rankin.
Injurious Insects.....	Smith.
Birds that Hunt and are Hunted.....	" "
Moths and Butterflies.....	Dickerson.

[NOTE.—Having selected their list of books, the Institute Executive ordered them through this office.—Ed.]

Battling with Bindweed.

To the Editor "Farmer's Advocate":

Sir,—Permit me to give my experience with bindweed. On one patch in a pasture field I salted the cattle, using about a gallon to the square rod the first time, and repeating it with a smaller quantity every time the weed made its appearance, about five times in all. This was in 1900. Last June the bindweed came up again, but only about half as thick, so I repeated the salt and used the spade on each plant when it showed up. After the first of August there were still some roots left, but at this date, Sept. 30, I do not see any, although I shall keep an eye on it for some time to come.

The second patch was in mangels last year, and I hoed it six or eight times and pulled the mangels on the patch early, so as to see if the weeds came up. The field was plowed about the 25th of October, when I did not see any of the roots. In the spring it was sown to barley, and in June up comes my old enemy again. I am thinking of making a manure pile on that spot and trying to rot it out. Another patch I treated with a coat of straw and fired it, then plowed in fall and sowed to oats in spring. I believe it came up thicker than ever. Next year I am going to try turnips on it.

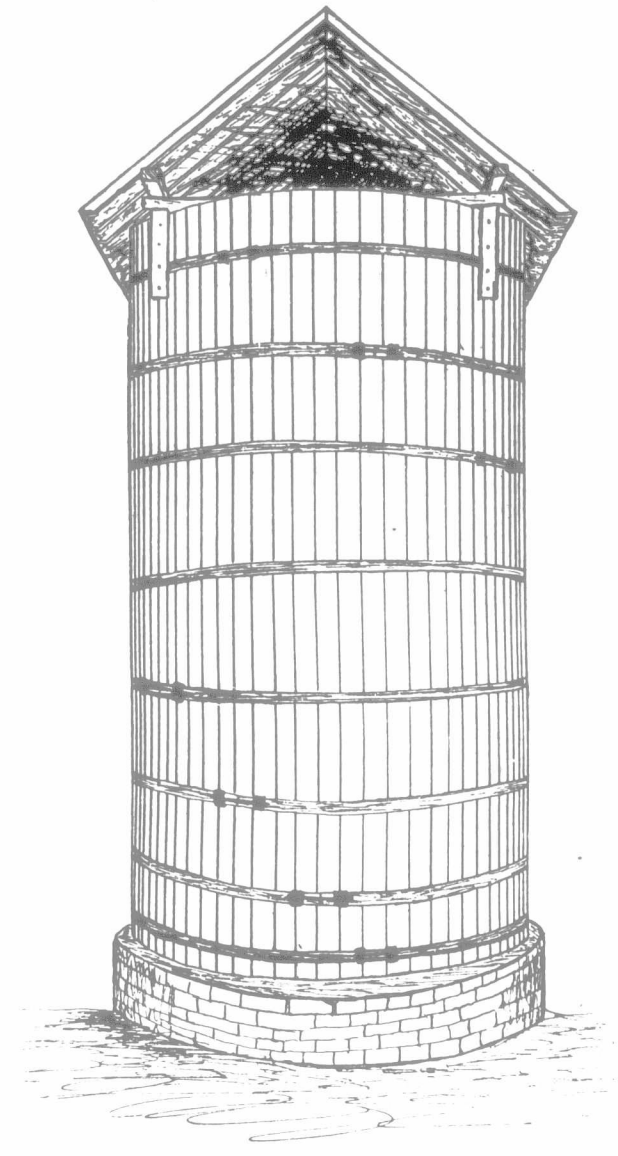
Now for the other side. A couple of small patches were cut in June with a thistle spud, and were weakened by dry weather and a heavy crop of oats, followed by a heavy crop of wheat. I could not find them in the wheat stubble. Another small patch was in peas in '99, and was cut with the spud in June. After harvest the pea stubble was gang-plowed, given a heavy coat of manure, then plowed and sown to wheat, which was an extra heavy crop. The wheat stubble was gang-plowed as soon after harvest as possible, and left till about the 1st of October, when it was plowed. This piece was in roots this year, and only a couple of plants showed up, and were promptly hit with a hoe. In conclusion, I would say that any crop with a heavy leaf growth is to be preferred to one with fewer

leaves, as it tends to smother the plants out; also that half-way measures will only aggravate the matter. I am also sorry to say that this weed has got a strong foothold in this section amongst the ignorant as well as among the "know-it-all" class.
G. A. SMITH.
Waterloo Co., Ont.

Roofing the Silo.

While a roof is not an actual necessity for even an outdoor silo, it gives a more finished appearance and adds to the comfort of the feeder. A single-sided roof made of boards resting on plank set on edge and graded to throw off the rain that falls upon it may be made to answer the purpose.

For silos that are located quite near to the stable, a roof may be made as shown in Bulletin No. 167 of the Cornell University Experiment Station; that is to say, it may be made as follows: Four scantlings suitably placed on the outside of the silo may be bolted to the staves of the same. They should extend downward some distance from the top of the silo and upward some distance above it. The pair nearest to the stable should be higher than the outer pair. Other scantlings to serve as plates or supports to the roof are then spiked across the top of each pair of uprights. A third support in the same line of ascent is then fastened to the side of the stable. Over these supports a roof of boards is constructed, the cracks of which are battened.



EXTERIOR VIEW OF STAVE SILO WITH ROOF OF SIMPLE CONSTRUCTION.

Disposing of Inferior Pea Straw.

To the Editor "Farmer's Advocate":

I notice in your issue of October 1st, an enquiry by "Subscriber," Simcoe Co., re plowing in dry pea straw. Now, I have had some experience in this line, and it might be of value to "Subscriber" or someone else. We put a coat of dry straw on pea stubble which we were manuring for fall wheat (being short of manure). But instead of plowing in the straw, we burned it and plowed in the ashes, and from the time the wheat came up until it was harvested, it was plain to be seen where the ashes were plowed in, the wheat being stronger than where it had a good coat of barnyard manure. Of course, the burned straw does not have the lasting effect upon the soil which a good coat of manure does, but it pays well for the trouble of putting on, besides getting the straw out of the way if one has no other use for it.
W. N. C.

Huron Co., Ont.

Halter Pulling.

Buckle or tie a long halter-strap around the horse's fore leg just above the knee, pass strap through one ring of the bridle and tie the other end to hitching-post. I have never seen a horse that would pull more than once when thus tied. After a time they may with safety be hitched in the ordinary way.

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