

### Moss in Old Pastures.

A Scotch correspondent of the *London Journal of Forestry* in an article on "improving and laying down of permanent pasture," refers to the above subject as follows:

A still more formidable enemy to restrain and extirpate in old pastures is the encroachment of the mosses. They are to be found thriving more or less in almost all situations, and in every description of soil, but more particularly are they to be found in all their luxuriance on moist, inferior soils. Where it is inconvenient or undesirable to plough up and crop land thus overrun with coarse grass and moss, something may be done to eradicate them by going over the surface with sharp close-teethed harrows, crossing and recrossing till the moss is thoroughly scratched up; clean off the rubbish, and therefore apply a good top-dressing of lime, or lime compost. Unquestionably pure lime is preferable, and put on as hot as it can be conveniently applied, at the rate of from five to six tons per imperial acre. The month of February and up to the middle of March, would seem to be the best time for this occupation. After the lime has got a good shower of rain, brush or chain harrow it well into the ground, removing all rubbish gathered up by the harrows, refuse of the lime, &c.

In about a month afterwards, and not later than the middle of April, sow a mixture of the best permanent grass seeds, at the rate of from twenty to thirty pounds per acre, which can be obtained mixed and ready, and suitable to the nature of the soil, from the seedsman with whom you are in the habit of dealing. If there be any tufts or tussocks of coarse grass it would be well to root them out. Brush harrow again, and finish up by rolling with a heavy roller. On sheltered rich lawns, and parks surrounding mansion houses, where sheep only are grazed, and where from various causes, the pasture is not eaten sufficiently bare by the sheep, we have seen moss and decayed vegetable matter collecting on the surface to a depth of an inch and a half, the ground feeling like a Turkey carpet under the feet. To such a length does this sometimes go that sheep cannot be kept more than a couple of months upon it before every animal is affected by foot-rot. In the end of the year we have seen the expeditious tried of putting on for a few months an extraordinary stock of hardy wintering sheep, for the purpose of baring it down as far as possible. In some instances we have seen a crop or two of hay cut, the second year's crop being the heaviest, best quality, and easiest to cut. After the first crop has been removed a perceptible decrease in the thickness and sponginess of the surface will be noticeable, and if the second crop is a heavy one, and closely cut, all superfluous sward and moss will have disappeared. The following year the grass will be much cleaner and finer, and the sheep stock can be kept on throughout the season. We have seen a lawn so treated let for the season's grazing at an increase of one pound per acre, while the hay crop of the two preceding seasons yielded a profitable return. But, as our agricultural friends are aware, the best of these methods for improving permanent pasture are but half measures, and are not always attended with the desired results.

If old and worn out pastures are to be improved in the general sense of the term, wherever it is at all practicable to do so, we unhesitatingly say, plough up and give a systematic and thorough course of cropping. Plough in the autumn, and have it completed before the end of the year, so as to allow it to get as much of the winter frosts as possible, and rot the tough surface, which is turned down. See that the furrows are laid over firmly and in such a position that they will not open back, as old tough lea is liable to do, more especially where the furrows are laid up-hill or against the hand, and thus a quantity of seed would fall between, and to some extent be lost. In this, the western district of Pethshire, the rotation followed, is the five, six or seven years' course. We sow with oats for the first crop, and, if necessary, give along with the seed at the time of sowing a liberal application of guano mixed with dissolved bones; this insures a heavy crop, which chokes and destroys the weeds. After the removal of the crop, commence to cross-plow deeply, accompanied, if practicable, by sub-soiling, finishing and plowing as early as possible, for the sake of the beneficial action of the atmosphere on the soil. In spring, work up the land thoroughly, great care being taken that all noxious weeds of every description are gathered, and either burned on the ground or removed. A crop of turnips or potatoes

may then be taken, but the fewer of the latter the better for the land. Apply from fifteen to twenty tons of farm-yard manure, and three or four cwt. of artificial per acre. If farm-yard manure is scarce, apply less, and add more of the artificial, and if wholly sown with the latter, apply from eight to ten cwt. per acre, and if the quality is good (a matter at times open to doubt) and no other drawback occurs, a good crop of either turnips or potatoes may be expected.

### Horseshoes.

BY ALEXANDER HYDE.

To shoe or not to shoe is the question that is agitating horsemen nowadays, and it is one in which farmers should take an interest. We have long been convinced that our horses as commonly shod carry too much iron on their feet. To compel a horse to carry shoes that weigh from one to two pounds makes a great draft on his muscular power, especially as this weight is at the long arm of the lever. A few pounds, more or less, on a horse's back amounts to nothing. Not so with a weight at the end of his legs. To sympathize with a horse condemned to carry heavy iron shoes on his feet we must put ourselves in his place and consider how heavy a light weight becomes when held at arm's length, and how difficult it is to make a good day's tramp with thick-soled cowhide boots on our feet. To run a race with such boots is out of the question. When in our teens we undertook a tramp of 30 miles in one day, and it was a great relief in the after part of the day to get our boots off and go it stocking-footed the balance of the journey.

We are not, however, prepared to say, as some do, that horses can go barefooted in the highly artificial life which they lead on our farms and especially in our cities. On the sandy plains of Arabia a shoe may be unnecessary, but we need further observation to convince us that on our hard roads and paved streets light shoes, on the fore feet at least, may not be advantageous. True, a colt's feet are seldom hurt on our roads. We recently examined the feet of a colt 5 months old that had followed his dam that day on the road 24 miles, and his hoofs were as perfect as though he had lain quietly in the pasture. We should be glad to believe that a colt, when put to service, would retain the same perfect hoofs, but there is quite a difference between trotting along without a load and hauling a heavy burden, and between a soft summer road and the hubby icy one of winter.

The argument of the advocates of non-shoeing is that the expense is great, that horses are more damaged than benefited by shoes, and that if accustomed to shoeless feet from colthood they are more sure footed, are seldom lame, can travel faster and further, and are sounder every way. As to the expense of shoeing there can be no doubt. The blacksmith's bills testify conclusively on this point. We are not so certain that all the diseases of horses' feet and legs are to be attributed to wearing iron shoes. That their sharp calks cause many wounds; that blundering smiths often make lame horses; that the weight of so much iron causes a great strain on the muscles and sinews of the legs, and that the wear and tear of horses, stables, grooms, and everything connected with horse-keeping, is aggravated by the common mode of shoeing we have abundant occasion to know. That a horse can travel further and faster on a smooth road without shoes we do not doubt. Still we need further experience before we can adopt the theory of shoeless horses.

This subject was discussed at the last public meeting of the Massachusetts Board of Agriculture, when Mr. J. E. Russell, of Leicester, who has made horseshoes a special study, read a paper on "The Management of Horses," and thus gave vent to his views: "Our greatest folly in the management of horses is in submitting their feet to the clumsy handling of a stupid, ignorant, and often drunken mechanic, to have him shod. I will not here contend that horses should not be shod at all, because shoeing, though an invention of barbarians, is, when carefully used, an assistance in utilizing the powers of the horse in his artificial life; but in the common way of doing it, it is the most onerous tax imposed upon mankind. A horse condemned to wear heavy shoes to which heel and toe calks are affixed begins to fail from that moment. At the age when he should be in the fullest enjoyment of his strength he is called old. And few of our horses live out half their days, the

great cause of their decline being from diseases of the feet, all of which are caused by ignorant shoeing. In the management of colts on a farm, they should not be shod until they come to rapid and long-continued labor on hard roads, and then the lightest possible application of iron should be made. The safest way is to let the hind feet be bare, and shoe the fore feet with tips or crescents of iron that only cover the toe. It must be borne in mind that the frog is the natural level of the horse's foot and the hoof must be trimmed keeping that ever in view."

In the discussion which followed the reading of Mr. Russell's paper it was generally conceded that shoeing of horses is a necessary evil, at least so far as the fore feet are concerned. One gentleman testified to having a mare 8 or 9 years old that had never had a shoe on her hind feet, except in special icy times in Winter, and that he had never known her to make a misstep when her shoes were off. Mr. E. F. Bowditch, of Framingham, who has given much attention to this subject of horse-shoeing, expressed himself thus: "A horse's foot in a state of nature, when it is worn down properly, is wide at the heel and the toes are worn down, the bars are in perfect condition, and it has a wide and elastic frog which takes all the jar from the foot. The cause of heat in a horse's foot is, no doubt, the jarring of the laminae of the foot. The outside of a horse's foot, as we all know, when it is hot, is very sensitive, and causes the horse acute pain. Why has his foot got into this condition? It is because, in shoeing, the frog, which nature meant to take the jar of the foot, has not been allowed to come on the ground, and it becomes a dried, shriveled-up little thing of no great use at all. I have no fear of hard roads and no fear of pavements, if a horse's foot is kept in proper condition. My way of shoeing is to get a level bearing on the horse's foot, and keep the frog on the ground. Never have a heel or toe calk except when it is absolutely necessary in winter. The last winter I rode my saddle mare (and of course my neck is worth more than anything else I own) on glare ice, with a small bit of iron about four inches long curled around her toe, and with a very small toe-calk. I recollect galloping out on the ice where the men were at work cutting it, and I had no fear of her slipping, although the horse did so that was marking the ice and had calks on two inches high."

The French farriers have studied this matter of horse-shoeing more carefully than our common smiths, and their aim is to put just as little iron on a horse's foot as possible, whereas it is seemingly the purpose of most of our smiths to put on as much as they can, and it must be confessed that they work generally according to the instructions of the farmers, many of whom think they do not get their money's worth unless their horses are shod with a large amount of iron. The favorite system of shoeing is the Charlier. "The Charlier shoe is just a little rim of iron put about the hoof set in a groove, so that the whole bottom of the horse's foot comes directly upon the ground when he is travelling, the frog, bar, sole, and the whole bottom of the foot, just like a barefooted horse. It is only the rim of the foot that is protected." We fear it will be some time before our farmers and blacksmiths will be convinced that so little iron as this is all that is necessary to protect a horse's hoof.

The agitation of this question of shoes or no shoes has had very much the same effect on farriers as the question of total abstinence on the temperance cause; if it has not done away with the use of iron on horses' feet, it has greatly diminished its consumption in this form. Mr. Goodenough's patent shoes are in fashion, and are very light, and this shoe carries out the principle which Messrs. Bowditch and Russell advocated before the Massachusetts Board of Agriculture, of keeping the frog down on the ground. We are by no means certain that time and trial will not decide that iron and steel are not more necessary for the protection of horses' hoofs. Should it be so, the horses will rejoice, for there is no question that they suffer immensely from being rough-shod. We remember putting calked irons upon our shoes when we were young, so that we might stand up on ice. They answered the purpose for which they were intended, but they made us lame after a short time, and we have no doubt that much of the lameness of horses is attributable to their calked shoeing. The conclusion, so far as experience now shows, is, that if horses must wear shoes, let them be made as light as possible, and so made that the frog may always touch the ground.—*N. Y. Times.*