

spent in the purchase of the fertilizers required. The profit in feeding bran depends largely upon the quantity of the rich manure saved from waste.

Care of the Feet of the Horse.

The foot is one of the most important and complicated members of the horse economy; moreover, it is a member more liable to injury and disease than any other part of the animal. And yet how many of the readers of the *Rural* are there that ever give any special attention to the condition and care of their horses' feet? Many appear to believe that the only attention the feet of a horse require is to be re-shod whenever a shoe becomes loosened or lost, whether it is in one or six months.

While bad shoeing is undoubtedly the most prolific cause of diseases of the feet, due largely to the deplorable condition of our present farrier system, still there are many other matters in the care of the feet that every farmer can and ought to look after. Through this carelessness and inattention, and I may say ignorance, especially on the part of the average farrier, more horses are either blemished, permanently injured or ruined than by any other method. An occasional systematic inspection of the feet and limbs should be made, to see that they are being kept in the proper healthy condition. This will enable the owner to discover any slight injury or disease in the earlier stages, when treatment is comparatively simple, and recovery much more certain. It will also cultivate a habit of observation that will be invaluable to every horse-owner.

Whether at work or standing idle, all dirt and manure collecting in the shoe should be daily removed, preferably at evening, with a blunt-pointed iron instrument. If allowed to remain it dries, retains or increases the heat of the foot, and tends to drying and brittleness of the sole. During the winter there is very little danger from drying and contraction, but during the heats and droughts of summer the danger is greatly increased. Horses that are constantly kept on dry roads, or paved streets, or dry stables, are quite liable to suffer from over-drying. Simple contraction, however, must not be confounded with the contraction which so frequently results from various diseases of the feet. The former occurs only occasionally, but the latter very frequently. One of the most common causes of contraction from drying is the prevailing custom of farriers to mutilate the hoof by excessive rasping and paring. In their opinion, an animal is not properly shod unless a large part of the surface horn—the great safeguard against excessive drying—is removed. The progress of contraction can very readily be seen by observing the heels and frog. As contraction goes on, the heels approach each other—"turn in"—and the frog becomes dry, hard and diminished in size. An excellent method is to keep accurate measurements of the feet, taken when they are in good condition. These can be used as a ready means of comparison, and will indicate the degree of contraction at any time.

Wetting the feet frequently, especially when heated, while answering a very good purpose in many cases, is a questionable practice. Better to allow the horse to stand for several hours daily for a few days in a puddle of clay or a water-bath just deep enough to cover the hoofs. Turning the horse on a wet pasture for several days, pasturing at night, or even for a few hours in the morning where there are heavy dews, are all beneficial. It must not be forgotten that after

such soaking or moistening, the hoofs are, for a time, even more susceptible to drying influences than before; so that to counteract this tendency, a suitable hoof-ointment should be repeatedly applied after the soaking. These hoof-ointments can very frequently be employed to advantage to prevent excessive drying, not only after soaking, but whenever the hoof is drying from other causes, and especially after the hoof has been unduly rasped by the farrier. An excellent simple ointment for this purpose is a mixture of equal parts of the best pine tar and vaseline, to be applied daily as long as required. A horse should not be allowed to stand on or near heating manure, in urine, or on any decomposing substances. It injures the quality of the hoof, rendering it dry and brittle.

In recent bruises, pricks, strains, or other injuries to the feet where inflammation is liable to result, cold water is one of the best of applications to keep down the inflammation. Loosely fasten a piece of old blanket or sacking about the injured foot, and keep it saturated with cold water until the inflammation is reduced. In very severe cases, or in those not promptly attended to, a warm poultice may be more soothing.

Rest is an all-important part of the treatment. If this is neglected, and the animals kept at work, or if it is not promptly and properly treated, structural changes may soon occur, which will render the case very difficult to cure, or perhaps altogether incurable. Too much importance cannot be given to the *early*, proper care of all injuries and diseases of the feet. Rest, without treatment, is usually better than treatment without rest, but to secure the best results the two must be combined.

In the case of strains or sprains, the animal should be allowed to rest for several days, or in severe cases for several weeks, after an apparent complete recovery, otherwise a return of the lameness in an aggravated form frequently results. In all cases of wounds that are discharging, a free opening should be made for the discharge of the pus; the cavity should be thoroughly swabbed out with some astringent antiseptic wash (as sulphate of copper or zinc, carbolic acid, etc., one dram in a pint of water), and dressed with tar. Perfect cleanliness should be observed; all wounds should be carefully cleaned and the foot bandaged, when necessary, to retain the dressing and keep out the dirt. During the enforced rest the animal should be kept on a restricted laxative diet; when again put to work, it should be gradual, until there is no danger of a recurrence of the injury.—[Dr. F. L. Kilborn, in *Rural New Yorker*.]

The Effects of Age, Exercise and Other Influences on the Production of Milk.

There is a period in every cow's life when she reaches the height of her milk development. This age varies with the breed, the individuality and the care, but usually after the sixth or seventh calf, if she breeds regularly, the flow begins to decrease; early mature, early decay. But the effects of age upon the quality of the milk have not been investigated with satisfactory results. There is also little definitely known as to the effects of sexual activity on the yield of milk. It often happens that the flow perceptibly decreases when the cow comes in season, but increases all the more afterwards; the milk then also being in an abnormal condition, as will be

observed in skimming, churning and cheese-making. These peculiarities, however, are usually the exception and not the rule. One instance is recorded in which the milk of a cow in season showed a specific gravity of 1.0983—the normal specific gravity of milk is 1.0315—and the percentage of solids rose to 14.78.

The spaying of cows has a peculiar influence on the secretion of milk, as they keep up the flow long after they would otherwise go dry. Some cows have been known to remain in milk several years after ceasing to breed or being spayed.

Exercise in the fresh air, by increasing the general health of the cow, is favorable to increased milk production. This duty should never be neglected. In some countries cows are made to do light work, which has a beneficial influence in the production of milk; but in such cases extra food must be given, and the work must not be straining. Immoderate exercise or work diminishes the flow, decreases the percentage of solids, especially the fat, and the milk becomes abnormal—such as being curdled by heat.

The temperature of the stable should be kept normal, about 48 to 50 degrees. A low temperature is wasteful of the extra food consumed, while a high temperature disturbs the organs and the milk vessels, causing them to relax, which acts injuriously to the production of milk. Proper ventilation must also exist.

The condition of the weather has also a peculiar effect on the yield of milk, especially sudden changes, when the cow is on pasture. Meteorological conditions produce less marked effects when the cow is stalled. During raging storms cows have been known to fall off very suddenly in the quantity and quality of their milk.

Prof. Knapp, in the *Iowa Homestead*, says:

"Clover is a wonderful feeder; it greedily devours barnyard manure and ashes, and has a special liking for gypsum. As a grain food it is not necessary to find a better. Placing a bunch of red clover, when about seven or eight inches tall, beside a similar bunch of alfalfa, orchard grass, Italian rye-grass, etc., and allowing cow, sheep and pig to decide the question of relative palatability, in every case the pig and sheep took the clover first, and in most cases the cow did the same. An acre of good clover will produce in one season twelve tons or more of green food, containing two and two-fifths tons of dry matter, equal to ninety bushels of corn, and more than its equivalent for food. Red clover when young has a nutritive ratio of one to two, which shows that it is nearly equal to oil-meal for growing young animals. As the plant approaches maturity the water, the ash, the fats and the albuminoids decrease, and the carbohydrates and crude fibre increase till in full the nutritive ratio is one to three—excellent food as hay, but not so strong in flesh-forming material as earlier."

Of the 83 horses for the Imperial Army, purchased in Canada by Col. Ravenhill, 80 arrived safely in England, and were inspected by a large assemblage of military authorities. Great satisfaction was expressed at their appearance. The Colonel stated that he could not obtain the 1,000 suitable horses in Canada without great difficulty and delay, owing to the fact that large numbers had been shipped to the North-west ranches, and Canada was not yet prepared for such drafts from its horse markets.

An American writer thinks that the U. S. Government should be protected from the "veterinary experts."