

The Horse.

KNEE SPRUNG.

Nearly everybody knows what is meant by a horse being sprung in the knee. For the information of those who are curious to know how this condition is produced, I will explain one of its causes.

The bones of the foot and pasterns of the horse do not stand perpendicularly above each other, but slope backward, a considerable portion of the animal's weight resting on the tendons that pass down the back of the leg; and hence the greater the slope, the more strain the tendons have to bear. If we put a horse to stand with his head up hill, more exertion is needed to sustain himself than if standing on the level. The reason is that the bones of the foot and pastern are thereby placed more obliquely, and more of his weight is thrown upon the tendons and muscles, and thus a wearied horse, if left to himself, always feeds with his head down hill.

But we often add to the slope of the foot and pastern the same by adding to the length of the hoof or unnecessarily lowering the heels; as by placing the horse's head up hill, and with greater permanency of effects, as we leave him no power to relieve himself. Often the two conditions are conjoined, the toes are injuriously long, and the horse is confined nine-tenths of his time in a sloping stall. Here the muscular exertion of sustaining his weight soon becomes irksome. He shifts from one foot to the other, but finds it only a temporary relief. The muscles connected with the tendons that pass down the back part of the leg to the foot soon begin to relax, till the weight falls upon the ligamentous straps, behind and below the knee. Then the bones of the foot and pastern become still more sloping, and to sustain his body perpendicularly above his feet, and still more to relax the muscles, the knee bulges out in front to a line with the projecting toe. This at first occurs only now and then, when the horse is wearied or forgetful, his pasterns becoming natural and proper when roused up. By and by, however, it becomes a habit, and the causes being permanent and constant in their action, the effects soon become the same, and we have the horse for life sprung in the knee.

Many a valuable horse, tottering on the brink of this condition, has been saved and brought back to usefulness by having his feet put in proper shape and putting on them high-heeled shoes, and letting the horse run at grass or stand in a loose box, while others on whom the torture of long toes and sloping stalls was preserved, will have become permanently useless.—*Western Farm Jour.*

WORKING CATTLE AND HORSES.

The following editorial, taken from the *Western Rural*, may throw some light on the question of "Horses or oxen for farm work."

The question is often asked, why do not farmers use cattle more for farm work, since they are kept at so much less expense than horses? The reason is, they are not more cheaply fed considering the amount of labor performed, and they are too slow to allow their use to become universal, when labor is scarce and consequently high. The horse consumes his feed, grinding it thoroughly, and it immediately undergoes the process of digestion, while at work; not so the ox. The food is roughly masticated, passes into the first stomach, is there still further softened and masticated and passes into the third stomach; true digestion begins, and, when received in the fourth the true digestive stomach, the process is continued by mixture with the gastric fluid from its walls, and is converted into chyme; it then passes out and enters the first bowel, where it receives the secretion from the pancreas and the liver and then becomes chyle. Passing along the bowels, the nutriment is constantly absorbed by the numerous ducts and by them passed into the blood, by which it is distributed to keep up the wear and tear of the body, and build up new structures, where the labor is not so severe as to constantly exhaust the food which is supplied.

From this it will be seen that, although the horse consumes more time in taking his

food than the ox, when once taken the animal is ready to labor until this sustenance is assimilated and the force given by it consumed. With the ox it is different. He must have time to re-chew his food, or ruminate. A slow work, if not exhaustive, this may be and often is performed while at labor, if of such a kind as to afford resting spells, but if this labor be continued and heavy, as in ploughing, etc., the animal is prevented from ruminating until at rest. For this reason an ox should never be employed for more than five or six hours each day in exhaustive labor, leaving three hours for gathering its food, if grass, add an equal time for rumination; this, with its labor, and twelve hours rest, occupies the twenty-four hours of the day; for the ox, unlike the horse, cannot rest without lying down.

The horse, on the other hand, when at work, is fed on concentrated food, oats and corn, with what may be necessary for a divisor to his food. The animal will require from one-half to three-quarters of an hour to properly masticate each mess of grain, the hay being principally consumed during the night, and early in the morning before feeding time. If fed only on grass, or hay, he will perform no more work than the ox, for nearly the whole time is consumed in gathering food enough to support the animal economy. The stomach of the horse is small, and eating and digestion go on simultaneously. Therefore in all new countries, where grass is plenty and grain is scarce, oxen are generally used; but as soon as the farmer is able to procure grain enough to feed horses, or mule teams, oxen are quickly abandoned for horses, except for slow work, as hauling fodder, carting manure, and other labor of that kind, for which they are always available.

If, however, cattle are fed liberally with meal or other concentrated food, they will be found to do nearly as much work one day with another at ploughing, harrowing, and other slow work as horses, for in this case so much time is not spent in rumination, and the food being prepared ready, so much time is not taken in eating. Indeed we have known cattle so feed for a considerable length of time, to perform fully as much work in cool weather at ploughing, etc., as horses, and then there is this additional advantage that when disabled for active work, they are fit for human food.

We think that, on the majority of farms, one yolk of cattle might be profitably employed to each two or three pair of horses, for there is a variety of work that they may perform to good advantage; but, if so kept, they should be liberally fed, for any animal forced to perform labor at the expense of flesh and muscle already laid on, does so at a loss to the owner.

BOTS IN HORSES.

The complete inefficiency of the various popular panaceas for bots in horses may be better understood when we come to know something of the nature of these persistent parasites. They are not worms, but larvae of a fly, and are possessed of remarkable powers of endurance under adversity. The most sinuating substances are but as milk and honey to them, and in an instance recorded, a colony of them attached to the stomach of a dead horse were in no way inconvenienced by an hour's exposure to a bath of spirits of turpentine. But when whale oil was poured upon them they let go their hold and died almost instantly. Now, whale oil being thus indicated as an effective dose, and being aperient in its action upon the horse, would seem to be the remedy that should be chosen before any other. At least it might be well to have some experiments made and the result carefully noticed and made note of.—*Practical Farmer.*

WATERING HORSES AFTER MEALS.

A full drink of water, immediately after being fed, should never be allowed to horses. When water is drunk by them, the bulk of it goes directly to the large intestines, and little of it is retained in the stomach. In passing through the stomach, however, the water carries considerable quantities of the contents to where it lodges in the intestines. If, then, the food of horses' stomachs is washed out before it is digested, no nourishment will be derived from the feed. In Edinburgh, some old horses were fed with split peas, and then supplied with water immediately before being killed. It was found

that the water had carried the peas from fifty to sixty feet into the intestines, where no digestion took place at all.

Mr. Cassie is quite correct in the views set forth regarding the injurious effects of large quantities of water swallowed immediately after eating. A small quantity of fluid swallowed along with, or immediately after dry food, beneficially softens it and assists in its subdivision and digestion. An inordinate supply of water, or of watery fluid, on the other hand proves injurious. It dilutes unduly the digestive secretions; it mechanically carries onward the imperfectly digested food, and thus interferes with the proper functions of the canal and excites indigestion and diarrhoea. These untoward effects are especially apt to occur where horses freely fed and too liberally watered, are shortly put to tolerably quick work. There is no more infallible method of producing colic, diarrhoea, and inflammation of the bowels. The horse is not peculiar in this effect; dogs, and even their masters, similarly suffer from copious draughts of water immediately after eating much solid food.—*N. Y. Herald.*

A writer in an exchange paper says truly:—"Many good horses devour large quantities of grain and hay, and still continue thin and poor. The food eaten is not properly assimilated. If the usual feed has been unground grain and hay, nothing but a change will affect a considerable alteration in the appearance of the animal. In case oil meat cannot be obtained readily, mingle a bushel of flaxseed barley, one of oats, and let it be ground into meal. This will be a fair proportion for all his feed. Or the meal of barley, oats and corn, in equal quantities, may be first produced and one fourth part of the oil cake mingled with it, when the meal is sprinkled on cut feed. Feed two or three quarts of the mixture three times daily, mingled with a peck of cut hay and straw. So long as the animal will eat this allowance the quantity may be increased a little every day. In order to fatten a horse that has run down in flesh, the groom should be very particular to feed the animal no more than he will eat up clean and lick the manger for more."

WALKING HORSES.

Walking is as valuable a quality in a good horse as speed—and a horse that walks strong and fast is a valuable horse for all general uses, and especially for farm work and heavy teaming. Among our farmers but little attention is given to the development of this quality, but those who have valuable team horses which are employed much on the road in the drawing of heavy loads, take great pains to have them walk well. We know of one man who has a very valuable pair of five year old horses, which have never trotted a step, and he says he would not have them trot for any sum.

He is teaching them to be good walkers, and as they are used entirely on the road, he justly deems this quality one of much importance. They are never urged forward by the whip, but are well fed, reasonably loaded, and are always ready and prompt to do whatever is required of them. This gentleman, who has had a long experience among horses and cattle, says that a nervous, uneasy man, who is always urging his team forward and constantly keeping them strained up to a high tension, does not get as much work from them in a day as a man who is more quiet, who gives them more freedom, and who does not himself get fidgety or uneasy. All who have the care of team and work horses should bear this in mind.—*Maine Farmer.*

A NEW HORSE DISEASE.

Stable keepers are again alarmed by a contagious horse disease which appeared in some of the sale stables last winter, and has since been spreading at the South End and Roxbury. The symptoms are the loss of appetite and weakness, followed by a slight cough and discharge from one or both eyes, and from one or both nostrils. Sometimes the case ends here and disappears in a few days. Then again it manifests itself by a sudden closing of one or both eyes, or severe swelling of the legs or sore and ulcerated throat, or with an eruption all over the body similar to the hives in a human being. The horse becomes drowsy and shows a strong disinclination to move. These symptoms all yield readily to proper treatment, and as the symptoms vary so exceedingly no specific remedy can be set down. A fatal result is rare, yet at the present writing there are over one hundred horses at the Highlands, N. J., that are afflicted with the disease, which is increasing.

It lasts from three to ten days. A veterinary surgeon, says that all animals troubled with the disease should be kept to themselves and particular attention given to proper ventilation and cleanliness, as experience has shown that in the cleanest and best ventilated stable the illness has shown itself in its mildest form; yet these have not been exempt from the disease, as it has manifested itself in pastures outside the city limits.—*N. E. Farmer.*



AGRICULTURAL.

A GERMAN FARM.

The farm of which we are about to speak is a fair average representation of German cultivation of the soil and the carrying on of mixed husbandry. It lies by the Oder, in the vicinity of the walled town of Custrin, which received some of the first French prisoners during the late Franco-German war, and is about forty miles east of Berlin, in the Province of Brandenburg. The country is rolling, but not hilly, and the soil is a productive sandy loam.

This farm consists of 160 acres, most of which is upland, but some of it is in the fertile valley of the Oder, and this latter has not been so long under cultivation. The upland was once a pine forest, and was first cultivated the year 1552. Mine host, Mr. Leidecke, whose pride is the thriftiness of his acres and stock, and the well being of all around him, is the tenth man that has owned these possessions.

Although the land has been in cultivation 320 years, a judicious system of cropping, rotation and manuring has preserved its virgin fertility to a wonderful degree. The farm has 150 acres under cultivation; 16 is meadow, and the rest is occupied partly by buildings, but most of it is raw land in the valley, which yields some pasture and also some turf for burning. There are 40 head of cattle, 100 sheep, 7 horses and some swine upon it. Fifteen of the cattle are being fattened for market.

The rotation extends over a period of eight years, and is as follows:—

1, Potatoes, well manured; 2, Barley; 3, Clover; 4, Rape, well manured; 5, Wheat; 6, Rye, and one-half potatoes or oats; 7, Peas and green fodder, well manured; 8, Rye.

The farm is thus in eight years well manured (the manure being spread mostly in the winter season), besides the good that is effected by the rotation, which yields a proportionate amount of articles for the market and for the necessities of the people. Another rotation that is used by many in the vicinity is also thought to be good. It is as follows:—

1, Potatoes, well manured; 2, Barley; 3, Beets, well manured; 4, Barley; 5, Oats; 6, Clover; 7, Rape; 8, Wheat.

Clover does well the first year, but not the second, hence it is plowed under after one harvest. Rape, which is grown principally for the oil, brings a round price in the market. Beets are grown to some extent for production of sugar.

The first thing that an American notices is the absence of fences and the almost universal manner of the farmers and laborers congregating and living together in small villages, and their not large farms extending out all around, and perhaps an avenue of poplars extending through the centre leading to another village or city. The house is of brick, with tile roof, scarcely ever more than one or one-half stories high. It fronts on a street of the village, and is surrounded on the other three sides by a similarly constructed building, save that it is much larger, and which encloses also a yard with the dwelling. This latter building has several apartments for horses, cattle, sheep, swine, geese, grain, and sometimes for laborers. Geese, which are much reared in Germany, and whose flesh constitutes an article of much interest in the hotels and restaurants, are often herded by some urchin upon the stubble and other out-of-the-way places. The cows and sheep are also herded, but everything is under roof at night.

Hand labor is cheap and workmen are plenty, hence labor-saving machines and rapid working are little known. Most of the

plows are inferior, with two small wheels. Much of the plowing is usually three together, rope traces that are board or iron that are above the eyes. But many of the fields are year. Some are shallow, and again deeper, but in the s. Weeds are seldom sown. Mr. Leidecke has paid yearly, besides \$25 to \$50, according to the quality of the cattle are mostly of are moderately good and well adapted for tending of So. Horses are universal and well kept. But praised.

The Germans do to contend with as to do not have s in general, though laudably of German general information, praise the practice laborer, nor the be. *Prairie Farmer.*

Of the various from town besides are in a concentrated pile with manure hops are worth about of stable manure leaves or some mi soda, it makes an beds in which to seeds which cannot least crust. Wh had, this is excell beds, &c.

Slaughter-house &c., by diligent of have applied fresh once plowed under jury to the crop. obtained by comp with fresh stable pile with sod a co then can be applic astonishing results cabbages and pot

These are rarely amounts, but then tility to be had in in every town—b "hankerin" for t ties piled up in th half a dozen strai quire—"What ur them?" We d them while the w boys stop work simply this:—

We break them or sledge, and th block and crush pound weight, w pole. They are one quarter to bones, alternating stable manure, a of inches of soil. at any time in th is pressing.

Usually, by th rotted, the parti and make a serv as permanent ma a garden soil for quarter inch lay value than the s does not appear whole is mixed fresh manure, a be sufficiently c plant food.

For two seas with bones coar alternate layers and kept damp, usually the bon and finger, Wh sing for needy ally spread aro hood or racked an important p results of lim will pay to emp stable manure Roof, in *West*