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## Agricultural Journal.

From the London Farmer's Magazine.  
ON THE FEEDING OF FARM HORSES, FOR THE PREVENTION OF COLIC AND INFLAMMATORY AFFECTIONS OF THE ORGANS OF DIGESTION.

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The horse is at once the best adapted and the worst requited animal subservient to man. Originally the most healthy, but now the most sickly of quadrupeds, its whole life is a series of incessant trials, all tending to the personal gratification and positive gain of the possessor, and its death is too often occasioned by wanton cruelty or actual neglect. Nor is this ill treatment confined to any particular condition of man or class of horses—the cart, the coach and the course annually consigning thousands of the noblest steeds to the dogs, at an early age, and under the most inexcusable circumstances. There is, however, one description of horses meriting particular attention, not only on account of its vast importance to the country, but also because of certain diseases to which it is much exposed, namely, *affections of the stomach and bowels*, to which horses employed in agriculture and heavy draught are well known to be more subject than any other class whatever. And this will doubtless appear to many the more surprising, seeing that husbandry horses are of all others least at home, and consequently less liable to be affected by the temperature of different stables, or change of food or keeping; and are generally supposed to be regular in their hours of labor and times of feeding. Nor is there anything in the grosser habit and muscular form of the common plough horse, compared to those of harness horses, sufficient to account for this striking difference of constitution, in the arbitrary distinctions of breeds under which they are severally classified. The cause of this anomaly must, therefore, be traced to some other source; and if the enquiry be fairly and fully prosecuted there cannot be a doubt that, in very many cases, those diseases will be found to originate in improper treatment of the horse under particular circumstances; and resulting from that slovenly indifference to, if not culpable ignorance of such matters, with which too many agriculturists, and their servants especially, are often chargeable.

To establish this point, as well as to form a right conception of the maladies in question, it is necessary, first, briefly to attend to the intestinal organism of the horse, as given by the highest medical authorities; otherwise it will be impossible to illustrate the facts of the case, or convey an adequate idea of the accuracy of the inferences deduced therefrom. Anatomy shows that—"Of all creatures the horse has the smallest stomach, relatively to its physical size. Had he possessed the quadruple stomach of the ox, he would not be at all times ready for exertion; the traveller could not have his steed, and resume his journey. The stomach of the horse is not so capacious even when distended, as to impede his wind and speed; and the food is passing onward with a greater degree of regularity than in any other animal. A proof of this is, that the horse has no gall bladder."

Another peculiarity with the horse, is the supply of fluid. When the camel drinks, the water is deposited in cells, connected with the stomach; but if the horse drinks a pail of water, in eight minutes none of the water is in the stomach, it is so rapidly passed off into the large intestines." Let it also be borne in mind, that the whole intestinal structures of the horse are of an equally peculiar form, and very sensitive in every part; that the stomach, moreover, rests upon the large intestines; its forepart is close to the liver, and its left side is in contact with the diaphragm, or midriff—one of the most important muscles of

the frame, and the principal agent in breathing, besides performing many other important functions, by means of its connection with the other intestines. And thus in whatever organ, or from whatever cause, internal inflammation may originate, the immediate connection or sympathy of parts soon conveys the disease throughout the whole intestines.

Such, then, are the peculiar intestinal structures of the horse; and so rapid is the progress of a pail of water from the stomach through all the convolutions of the small intestines, sixty feet in length, at a moment when these sensitive teguments, and all around, are probably at a temperature more than double that of the liquid they can contain. What but spasms, inflammation, and death can await the poor horse, unless very prompt and efficient remedies are applied? Wet, green food, given in quantity, under similar circumstances, will produce the same effects upon horses, heated and exhausted by previous hunger and fatigue. This almost every post-master and groom well knows, and studiously endeavors to avoid; and surely the farmer ought also to be equally aware of, and guard against it. Yet he complains of the loss of one and another of his best horses, by some hidden sickness, which he cannot account for; not, until too late, discovers that the horse, having returned from his last day's work covered with perspiration, or shivering under rain, was led to the water pond, plunged in, and drank his fill, then put into the stable, and served with such provisions as came to hand, fresh or fusty, and left for the night, without a single hair being touched with wisp or comb. The servant may also be young and inexperienced; but why is he intrusted with horses, or not properly instructed in the first principles of his duty towards them?

There are other causes of an opposite character, where, from the propensities of the servant, in mistaken kindness to the horse, or even with the consent of the inconsiderate master, horses are served with corn unseasonably, or in excessive quantity, or of unsound quality. *Stomach Stagnation* soon ensue, and instances might be related of horses dropping down dead in the yoke in this state—the stomach having become ruptured by the over distension or swellings thus occasioned, either from two full feeds of any kind, or partaking of food of an improper nature, or even drinking an excessive quantity of cold water, and then put to severe exertion. A case of this description came under the writer's notice very lately, where a valuable farm horse, in high health and condition, having, in the throop of seed time, been served at mid-day with a quantity of bean *heavings* (chaff), or a mixture of the bruised beans and leaves, of which horses are very fond, and, though naturally flatulent, are quite safe as an evening or an idle day's foddering; but being in this instance given immediately after a feed of oats, and the horse having thereafter obtained his pleasure of water on his way to the yoke, he had not proceeded many boutings with the harrows when he showed every symptom of excruciating pain, and, in a little more than two hours died in the greatest agony, of a ruptured stomach. And in another instance, a mare, with a voracious appetite, having been depastured the night in a field abounding in white clover, very ripe and parched with dry weather, on being next morning taken to a cold spring, drank a great quantity of water, was then put to the plough, where she shortly became very unwell, and on being taken to the stable was dosed by an ignorant blacksmith, with spirits, ginger, and pepper, until inflammation of the kidneys supervened, and death ensued. Horses have also been known to die of inflammation of the bowels, from eating new-washed raw potatoes, when warm from the yoke.

In addition, however, to such casualties as these, there are other latent sources of disease arising from the mode of keeping the natural, and preparing the artificial food of many farm horses, as well as the manner of supplying it. The

small farmer in particular, generally throws the straw into large mows or heaps, on low, damp floors, where it becomes musty; or stows in the confined lott of a crowded stable, where fawnigaled with the exhalation from beneath, the empoisoned mass is dealt out to the devoted animals, who thus become the innocent victim of various diseases, if not of subsequent destruction. Or, if a portion of the food is boiled or steamed, it often wants the most essential ingredient of the whole, a proper quantity of salt; so that the mess is probably sour ere it is administered, or immediately becomes so in the animal's stomach.

Then there is the half-rotted, frosty-cut clover, or aftermath at the close of autumn, so pregnant with danger to the farm horse, all of which dangers the harness horse escapes, by a more uniform course of keeping. The latter is chiefly fed on corn and hay, and is regularly supplied at intervals of three or four hours at most, according to his work or stages; while the farm horse has his consecutive yokings extending to ten or 12 hours a day, often more, with but little intermission for bating or rest: has less corn, and in general subsists nearly two-thirds of the year on coarse fodder (oat or bean straw), which fills the stomach without affording much real nourishment.

Let it not, however, be said that the fresh straw of the common crops of the farm, together with the customary feeds and mashes duly served, are insufficient, to maintain the horses in proper condition, under ordinary circumstances, without the aid of much or any hay. Nothing is so easy and obvious than to prepare the food of horses in a proper manner, although it certainly requires some care, activity and arrangement, on the part of both master and servant. If, for example, in commencing with the fodder of the new crop and until the system of steaming becomes more general, if the new straw were mixed with some sweet dry straw of the previous season, or sprinkled with a few handfuls of salt, as it comes from the thrashing floor, it would greatly promote the health of the horses, as well as of the other stock, and provident farmers always reserve one or two stacks of corn or pulse, for the purpose of being so mixed or used alone, till the straw of the new crop becomes seasoned by a few weeks in the stack—as peas or beans, beans especially, are very flatulent, if taken new or in a soft state, but excellent fodder thereafter, and are much relished by horses accustomed to it. And when the leaves, pods, and chopped stems, or chaff of beans and the tails, or small corn from the winnowing-machine, are mixed and boiled, or steamed, together with some turnips or potatoes seasoned with salt, and given lukewarm in lieu of oats to the jaded horses, as they return in the evening, the benefits are apparent in the plumper form and glossy coats. It is by means of such mashes, or by combining the corn with the chaffed hay, that old and weary horses are enabled to masticate so easily, and lie down more readily to repose; while others must stand several hours gnawing their ill-suited ration, or hastily swallow it in a crude state to stifle the cravings of hunger, and then lie down to die of colic.

Carrots and Swedish turnips, well cleaned and dry, may safely be given in an unprepared state, when the horse is cool, and not attenuated with warm food; and the second crop of clover, if early made into hay, and slightly salted, with or without a mixture of old hay or straw, might be made greatly more available for all kinds of stock instead of remaining uncut till late in the season, bleaching under every change of weather, and then given to the horses in a half-rotted green state.

These remarks may suffice to show that the causes here assigned, as inducers of the maladies referred to, are not gratuitously assumed and that the subject really claims the immediate attention of all interested in the preserving the health of the horse. The means of preventing such diseases are therefore the more obvious, inasmuch as the cause and ef-

fects are thus placed in juxtaposition; *pari rationi*, the remedy must be apparent, and prevention more meritorious than cure. In place then, of presenting a pail of cold water to a warm horse, a little tepid water should be substituted—the mouth being previously washed, and freed of coagulated saliva, with cold water, and the horse stripped of every encumbrance, carefully rubbed down, and allowed to stand picking at dry hay or straw till cooled, before any cold water or corn is given him, or he be turned out to pasture. For not more grateful is a change of raiment to the dripping teamman himself, on escaping from the drenching rain, than is a thorough cleaning from mud and sweat to his smoking steeds, just relieved of their weary draught. Yet in nothing are farm servants in general, more negligent; nor are those men otherwise to be taught but by the watchful superintendence and strict discipline of the master, seasonably enforced—not merely in the uniform treatment of the horse, in and out of yoke, but to the state of the stable, which can hardly be too clean or over ventilated—a point almost wholly overlooked on many farms. How many districts may be traversed without seeing a single roof-ventilator, or even a hole in the wall of the stable or cow-house! It is well to have separate houses for the provender, as contiguous as possible to the stable, but not connected with it by any party door, or hatch, which never fails to act as a conductor of the heated atmosphere of the stable into the connected apartment, in the same way as it passes through the racks and crevices into the stable loft, which is often hotter than the stable itself, especially under a tile roof. Such a plan would supercede the use of high racks, so awkward and unnatural to the horse, and so wasteful of his food; while he, with much greater convenience, could feel either standing or lying, from a manger or sparred crib, in one angle of the stall, with a corn box in the other.

Of the best mode of curing inflammatory complaints, it were superfluous here to treat at length, as it manifestly must tend to a still greater aggravation of an evil already far too extensive, were every farmer in each intricate case to become his own farmer, without any tuition, and but in possession of a few recipes, or certain potent medicines, the properties of which he neither understands nor can properly administer. And grievously, indeed, would the patronage and funds of the Highland and Agricultural Society be wasted, in the establishment of a veterinary college under an able professor, should any one, farmer or not farmer, decline the inestimable boon of obtaining the assistance of a competent veterinarian provided for them, and now in progress of being placed within the reach of the remotest cottage in Scotland. No; the farmer has suffered enough from his own apathy, and the quackery of common blacksmiths who must needs pretend to the veterinary art, and whose pharmacopœia almost exclusively consist of stimulating drugs. Every disorder was termed "*lots*;" and *worms*, *lots*, and *colic* were confounded together and treated alike.

Science, however, has now happily expunged "*lots*" from the vocabulary as perfectly innocuous, and found other and safer vermifuges than these formerly resorted to.

Let the farmer then, simply attend to the first symptoms of disease, and minutely investigate every particular relative to the animal's situation, work, food, and drink, during the preceding day or night. A knowledge of all these is indispensable to a discrimination of the complaint; and if servants will tell the truth, or whether they will or no, the real cause may frequently be discovered by the farmer himself, and thereby greatly facilitate the cure. Meantime, if need be, four to six quarts of blood may be taken, according to condition, from the horse, in almost every case of sudden indisposition; or, should it prove to be a spasmodic colic, two to three ounces of oil of turpentine, added to a pint of warm ale or gruel, will generally afford instant relief. But farther than this no one should venture