

gether without hindrance in any of its parts. Three women or children will set an acre a day, and may cost 2s. to 2s. 6d.

The Veterinarian, for May. London: Longman and Co., Paternoster Row.

In the present number, a professional gentleman contributes an essay "*On the Diseases of Farm Horses, arising from Mismanagement,*" which will, when completed, contain many very valuable suggestions to the farmer and grazier. The writer remarks:—

This is an important subject for the farmer's consideration, for he frequently considers many of the losses he sustains in this respect as the consequence of natural causes over which there is no control, and which no knowledge can avert. I hope to be able, in the course of this essay, to convince persons entertaining such fated opinions, that thousands of horses annually perish from a neglect of the conditions required for their preservation in health and freedom from disease.

With respect to food, I shall prove that many dangerous diseases arise from improper regulations of diet; as to quantity and quality, and the times at which it should be given,—the rules for which are simple and easy enough, but are continually transgressed through carelessness or absurd prejudices.

Also, that excess of labor forms a prolific source of disease in both young and old horses, and the vigorous health of young ones in particular is often wasted and destroyed from premature work, which, if economically managed for a year or two at most, might have preserved them in health and activity nearly to the full term of the allotted periods of their lives, instead of being dissipated in the first six or seven years of their existence.

And, lastly, that insufficient shelter and exposure to wet and cold are very common causes of disease, the effects of which are certain to manifest themselves in some way or other on horses that have been exposed to their influences, though oftentimes obscurely, and at a remote period. Our patients, far more than those of the human practitioner, are exposed to the influence of physical agents. One-half of the diseases of the horse and of cattle are referrible to temperature—many more to the changes effected in the atmospheric air by respiration, perspiration, and the various excretions, and the greater part of the residue may be traced to some unknown, and not sufficiently appreciated, atmospheric agency.

These are the chief points to be considered in this essay; *food, labor and temperature*, agents that are continually acting on the condition and general health of farm horses, either for good or for ill; if properly directed, they produce in them strength and capability of enduring labor; but, misdirected, their beneficial in-

fluences are changed from ministers of good to insidious or manifest sources of disease.

INSUFFICIENT OR IMPROPER FOOD.

The purpose of food being the supply of materials which, when prepared by the process of digestion, shall repair the waste of the body, and maintain its growth and temperature, it must be evident, if this process is interfered with by the supply of articles of food such as will neither suit the powers of digestion or the wants of the system, that disturbances of some kind are likely to occur in any or all of the steps of the nutritive process, from the reception of the food into the stomach, to its appropriation and assimilation to the living textures. Accordingly we will direct our attention—first, to the diseases of the stomach, which are easily traced to errors in diet, and interference with the digestive economy.

Diseases of the Stomach.—The stomach of the horse is comparatively small, holding about three gallons, whilst the ox possesses four stomachs, the first of which is larger than that of the horse. This affords us a very important lesson at the commencement, that whilst the ox is so constructed as to consume large quantities of fodder at a meal, the horse, on the contrary, requires a more moderate quantity of a more nutritive nature, and to be fed oftener. To insure perfect digestion of the food, it requires to be first masticated with the teeth, and moistened with the salivary secretion in the mouth, which flows during this process in considerable quantities. According to Professor Spooner, the saliva flows during the time of feeding at the rate of two gallons per hour.* In the stomach, the food is further acted on in healthy digestion by the gastric juice, when it is converted into a soft pulpy mass called chyme, which passes as fast as it is formed into the intestinal canal. This part of the digestive process is very active in the horse; but it is sometimes interfered with, in consequence of devouring his food in too rapid a manner, without being either properly masticated, or mixed with the salivary secretion. This circumstance occasionally happens when the animal has been fatigued with hard work, and restricted from food for an improper length of time. In these cases, indigestion takes place, which is a very serious affair, for the life of the animal is in considerable danger. Fermentation of the food and disengagement of the gases quickly ensue, and as the horse can neither belch up the air, nor vomit up the food, distention of the coats of the stomach takes place, occasioning violent agonizing pains, spasm, and all the symptoms recognised in aggravated cases of

* "In injuries where the salivary or parotid ducts had been opened, he (Mr. Spooner) had observed no flow of saliva took place, except when the animal was feeding; and it then discharged itself in a stream, by weight, measure, and time, at the rate of two gallons per hour."—*Proceedings Veterinary Medical Association*, 1837-8 p. 102.