

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

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DOMINION.

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sugar beet, it is all cane sugar. It must follow that the sugar in one is as sweet as the sugar in another, for they are the same chemical compound.

The purity of the sugar is another question. Sugars may differ in the amount of moisture and other foreign matter contained in them; they may be 96 or 99.6 per cent. pure—that depends upon the grade and the manufacturer. Examinations of the refined sugar made in Ontario from sugar beets, and that sold as made from the sugar cane, showed practically no difference in purity, both being within three or four tenths of one per cent. pure.

Regarding the use of the two sugars in preserving fruit, experiments have demonstrated, what must be evident from the above, that one sugar is just as efficient as the other. Thus, in chemical composition, appearance, and sweetening quality, the sugar from the beet and from cane are identical. Any difference there may be in the appearance of these sugars, as size or blueness of crystals, is made in the refining, and may be varied at any time to suit the demands of the market.

R. HARCOURT, Chemist,
Ontario Agricultural College.

On Dit.

Chas. Oldfield, Richmond, Que.—I like the paper very much, and greatly appreciate the change made during the year.

R. R. Gamey, Manitoulin, Ont.—Let me say I enjoy your paper very much, and would not care to be without it.

John McDiarmid, Elgin, Ont.—I am well pleased with the change to a weekly, and I think it is a step forward.

George Tupling, Simcoe, Ont.—I have taken the "Farmer's Advocate" for several years, and like it splendidly.

HORSES.

Dietetic Diseases of Horses.

With the exception of dogs, it is probable horses suffer more from dietetic diseases than other classes of domesticated animals. A dietetic disease may be defined to be a morbid condition of the body, produced by food or water deteriorated in quality, insufficient or overabundant in quantity, or containing some ingredient directly poisonous or injurious to the animal economy. In many cases the susceptibility of horses to many diseases of this class is influenced greatly by exercise or want of exercise. Certain dietetic diseases, which we will discuss later on, appear only after a period of idleness, while others, when the causes are present, will appear notwithstanding regular work. In order that the health of the animal may be maintained, it is necessary that the various kinds of food should be sufficient in quantity and undeteriorated in quality. It is also necessary that the food contain at least three classes of constituents, each of which plays an important part in supplying the various wants of the economy. These constituents are, first, nitrogen, which nourishes muscular and other albuminoid tissues (on this account the substance containing it is called "nitrogenous food"); second, hydrocarbons, substances defective in nitrogen, and having an excess of carbon or hydrogen. These supply material which undergo combustion in the body, and assist in maintaining animal heat. If this hydrocarbonous element also contain fat, in addition to maintaining animal heat, it assists in the assimilation of the nitrogenous compounds. Food must also contain, third, saline materials, in order that the solid structures of the body be built and maintained in health. These also assist in the processes of assimilation and elimination, or carrying new materials into the system and old materials out of it. If these materials, or any of them, are absent or present in undue proportions, health cannot be maintained, and experience has taught us that animals are kept in the best health when fed on a mixture of food.

Although chemical analyses have enabled us to determine the quantities of nitrogen, carbon, etc., contained in certain foods, it does not follow that the food which contains these constituents in the greatest abundance will produce the best results. Digestibility, readiness of assimilation, an absence of unduly heating properties, and many other qualities are needed in order to make a substance possessing the necessary ingredients available as food. A substance may possess the desirable amount of nitrogen, carbon, etc., to make it valuable, but these ingredients may be in such a form that they cannot be readily digested or assimilated, or there may be other ingredients in the food that makes it undesirable. Chemistry is a valuable, but not an infallible, guide, and its indications require to be tempered by the test of experience. The most satisfactory food for horses has been proved by experience to be hay and oats. These appear to possess in proper proportions the three ingredients noted; at the same time, it is not wise to feed solely on these substances—a more or less regular supply of other food, as bran, roots, linseed, etc., should be given, not so much to supply nutrition as for variety. Horses enjoy variety of food as much as man, and while we depend upon hay and oats to produce muscular and nervous energy, it would be unwise to make them the entire ration for any considerable length of time. The amount of grain required to maintain health depends greatly upon the amount of muscular exertion the animal undergoes. Horses should be fed in accordance to the labor performed.

EFFECTS OF OVERFEEDING.—Too much hydrocarbonous food favors the development of fatness and obesity in any animal. This is seen in pet dogs and cats, which get little exercise, and are fed largely on cream, sugar, and titbits of various kinds. These animals die at comparatively early ages from fatty degeneration and infiltration of the heart, liver, etc. Old favorite horses, when pampered and fed on carbonaceous food and allowed to live in idleness, die from the same cause. Accumulations of flesh-forming elements in the blood, and their non-elimination, cause the development of many blood diseases. The nitrogen of the food is not all assimilated in the system, and a large portion passes off in the excreta. Should anything occur to interfere with the functions of the excretory organs, the nitrogenous compounds accumulate in the system, and there is set up a variety of diseases more or less grave.

While overfeeding leads to the development of disease, deficiency of food leads to no less grave results. This deficiency may relate both to quantity and quality. A deficiency in nitrogenous material leads to the breaking up of the animal frame. While it is essential to health that food should be sufficient but not over-abundant in quantity, and that the quality should be such as to supply all the wants of the economy, it is a fact that the lower animals will live for a long

period on very common fare, provided it is sufficient in quantity, and they are not subjected to either muscular exertion or extremes of weather, but to have health, energy and condition, it is necessary that both food and water be of good quality and sufficient in quantity. We will discuss in future numbers some of the more common "dietetic diseases of horses." "WHIP."

A Serious Disease of Mares and Stallions (MALADIE DU COIT).

The above is the name of the serious disease which has appeared in some horses in the Lethbridge district. It has also been termed "covering disease," or "dourine." Capt. Hayes says "dourine is a specific disease, which appears as an inflammation of the surface of the genital organs, and which causes grave alterations in the nervous system of the attacked animal. It runs either an acute or chronic course, the former being the more common. Mares are more liable than stallions to the acute form. It is a purely contagious disease, and under ordinary circumstances is only transmitted during the act of mating. The infant matter may remain apparently latent in the system of a horse for more than a year. Recovery is rare, and the duration of the attack may be from eight months to one or two years. The mortality is at least 70 per cent., and is greater in stallions than in mares.

The symptoms are as follows: About eleven to twenty days after a stallion has been mated with an infected mare, there is a swelling of the penis, so much so as to prevent its return to the sheath. The swelling spreads to the sheath and scrotum, and the testicles and glands of the inside of the thighs also swell. Some time later there may be red spots, blisters and ulcers on the outer surface of the male organ, and the opening from which the urine is discharged is red, swollen, and shows a slimy discharge; the patient suffers difficulty in passing water, and from sexual excitement. It falls away in condition, and becomes tender in the region of the loins. In the female, the external genitals are swollen, thickened and studded with red spots, blisters and ulcers, and is often covered with a muddy, orange-colored secretion; the mare suffers from excessive sexual excitement and difficulty in urinating. She discharges urine frequently, and in small quantities, and also sticky secretion; is constantly in season, whisking her tail, and is very ticklish. The urine and other discharges from the genitals foul the tail and thighs, causing sores on the parts they touch. The swelling of the vulva often extends along the belly. Between the fortieth and sixtieth day, the stallion affected shows symptoms of a sort of nettlerash, consisting of elevations on the skin, varying in size from a twenty-five cent piece to the size of one's hand. This rash is not constant, and varies in location frequently. They are usually found on the neck, shoulders, chest, belly and croup. Sometimes the skin gets excessively itchy, causing the animal to bite and rub itself so that sores appear. White spots are to be seen on the mucous membranes where ulcers were formerly; this symptom is seen in both sexes. The lymphatic nodes become swollen, and the animal becomes lame behind. Affected mares abort; stallions lose power behind; paralysis sets in, followed by death.

In the early stages, castration is said to cure in the stallion. This disease is too serious to permit any animal once affected, to be again used for breeding purposes. An affected stallion can spread the disease over a big stretch of country, hence all suspicious discharges from or swellings of the genitals, in either mare or horse, should be looked upon with suspicion. It would be well if every owner of a mare demanded that the stallion owner or groom produce a veterinary certificate that the said horse is free from such a serious venereal disease, in addition to being free from any hereditary disease.

This serious disease (maladie du coit, dourine) exists in the Dakotas, where numbers of horses are quarantined by the B. A. I. The bunch referred to in Southern Alberta have been quarantined by the Veterinary Director-General, and are under the supervision of his officers.

Maladie du coit may be considered as an incurable disease. Stallion men should refuse to breed their horses to any mares showing any discharge from the genitals, and all stallions showing any venereal disease, such as swelling of the testicles, or such symptoms described above, should be at once taken off the route until pronounced recovered by a competent veterinarian.

Mr. Spark Leaving Canada.

Mr. W. S. Spark, of Canterbury, England, who has been employed in the Dominion Department of Agriculture since last fall, is going to Argentina the next week in July. His primary object in going is to judge at their immense annual horse show at Buenos Ayres, but it is his intention to remain in the country and engage in the live-stock industry. Mr. Spark will be remembered by those who attended the various winter fairs, where his addresses on the "Breeding, Care and Management of the Horse" met with universal appreciation. Mr. Spark has been in this country but a short time, but he has won a host of friends who will wish him well in his new sphere of work.

In about notgi though Britain the ad and Q making world, has be rulers well, I of Que Victori VII., a the ho horses spent f country of fact only w the mo is aid passed and che horses in look VIII. is tion of the law caped, I of hors What I Dominic hand th ment, a ment, a passed service, horse st business Advocat success Kent C

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