

The Horse's Punishment.

A horse appreciates a comfortable fitting harness as much as he does a properly fitted shoe. The latter when set too tight, or with a nail driven into, or too near the sensitive tissues, produces positive lameness. Under this condition of things he is promptly taken to the shop for relief. But he may suffer nearly, or quite as much from the chafing of a badly fitted collar or a hard narrow belly band, drawn too tight. Or from a check rein shortened up so as to form of itself one of the severest of punishments. Either of these conditions will produce restiveness in the dulllest brute, and in the case of an animal of nervous temperament, and having a thin sensitive skin, he is liable to become frantic, the obtuse owner or driver seldom appreciating the origin of the difficulty.

No greater evidence can be advanced to establish a horse's entire submissiveness than his willingness to pull against the collar with a portion of the breast surface denuded of its skin, and showing the highest possible state of sensibility. The average horse will do this skringing at every step. A horse learns to dread the approach of the master or driver, with harness in hand, if this has previously been a source of torment, or even of discomfort. A horse properly handled for a period, in a well fitted harness, then chancing to fall into the hands of a bungler, will at once detect the undue tightness or looseness of the strap, and will not settle down to his usual gait, contentedly, while the irregularity remains. A spirited horse may, under such an irritating influence, do from downright fear what may be wrongly charged as viciousness. Heavy strokes of the whip may fall upon the irritated beast only to be followed by evil results.

Among the every day torments to which the horse is subjected, we will enumerate the following: 1st. Abraded breast. 2nd. Inflamed back from defective saddle or harness pad. 3d. Sore mouth from a too tight gag rein, a severe bit or both. 4th. A sore tail from too tight or illy made crupper. 5th. An abrasion under the body, caused by a too tight or badly fitted belly-band. 6th. Irritation of the eyes from blinders being strapped too close together, or on the other hand are allowed to swing around, first striking one eye then the other. 7th. Ears chafed by the brow band being placed too high, or by metallic rosettes with a sharp outer rim, the base of the ear pressing across this at every motion. 8th. The excessive fatigue of all the structures of the neck under the influence of the bearing rein. The bearing rein, if made taut, and kept so for any considerable length of time, is a source of great discomfort to all horses, and an insufferable torment to many. A taut rein can be used with entire propriety, on horses of fine easy up carriage, especially while in motion, but if the muscles and bony structure of the neck extend forward horizontally from an upright shoulder, rather than striking out from a slanting shoulder, then the most intense suffering will be inflicted by straining the neck up to an angle entirely unnatural to the animal, especially if this strain be long kept up. To strain a culprit up by thumbs, till only his toes touch the ground, is certainly one of the severest admissible punishments that can be inflicted upon mortal, and the check rein is undoubtedly akin to it, in its extreme application.—[Western Farm Journal.

Phosphates:

"Phosphates have been discovered in the rear townships (of Ontario), and large quantities conveyed to Brockville and Kingston, and thence shipped to Europe, but the price of the mineral having greatly declined, the enterprise has been suffered to languish, but it is hoped that better prices will soon be obtained, when phosphate mining will again be carried on with profit."—Report of Commissioner of Crown Lands.

The complaint should rather be that there is so little home demand for phosphates. The wealth bestowed upon our country in such fertilizers is shipped to Europe and the United States to enrich their lands, while if they were applied to the fields of Canada they would repay the cost many fold. Let us send our phosphates to Europe in wheat and barley and fruit, and in meat and cheese.

Dairy.

Ontario Dairymen's Association.

(Continued from March No.)

BEST METHOD OF MAKING CHEESE.

At the evening session, Feb. 19, Prof. L. B. Arnold, Ithaca, N. Y., gave an interesting account of Arnold's process of cheese-making. He said that in 1877, while at Little Falls experimenting to perfect a cheap and pure extract of calf's rennet, the fact was developed that both alkalies and acids affected rennet unfavorably, and that only neutral substances could be applied to it safely. He had often observed that when an acid was added to the steeping of a dried stomach coagulation was accomplished quickly, and more milk was curdled with a given number of rennets when used in connection with some acid than when used alone, and the inference was made that the two agents aided each other or worked well together. But upon careful investigation it turned out that the coagulating power of the rennet and acid counted together always fell below the sum of both, and that the strength of rennet had been injured by the added acid. The influence of acid upon the strength of rennet extract was different from that of the alkalies, as the latter was more rapid and destructive. A very concentrated extract of rennet would soon be entirely destroyed by making the liquid in which it existed even feebly alkaline. Acids, on the contrary, in most cases acted slowly, and a few wholly destroyed the rennet power by their presence. Generally they only abated its strength, but in no case, whether of animal, vegetable, or mineral origin, did they fail to weaken it. Several German chemists had noted similar results. Observations upon the use of acid cheese also made it very plain that the more acid there was employed in the manufacture the more difficult of digestion it was in the human stomach. The paper contained many scientific proofs of this assertion. Summed up in a few words the process by which he made cheese was to draw the whey before any acid appeared, and then throw the curds into the sink as quickly as possible, stirring until at a proper temperature to put to press. By this process the cheese could be made without any acid, and he claimed that it was better cheese than any other made.

Mr. Robert McAdam, of Rome, N. Y., spoke at length on the benefits derived from Dairymen's Associations, Boards of Trade and Dairy Fairs, by bringing together from time to time the dairy farmers and factorymen, and the buyers and sellers of their produce, to mutually discuss the qualities and conditions, the merits and defects of the dairy produce which is offered for sale. He proceeded to say that there was a difference of opinion as to the relative merits of the different kinds of cheese which are produced. Tastes differ in these points, but individual taste and preference cannot form or control the general recognized standard of quality. The criterion for arriving at a correct solution of this point must be the market value of the commodity. In the production of cheese there were different methods pursued with more or less success in each. He referred to the Cheddar, Dunlop, Lanchashire, Leicestershire, and other systems of making cheese. He strongly advocated the Cheddar system of cheese making, in which the acid was developed in the whey, and strongly opposed Prof. Arnold's theory of sweet cheese making.

Considerable discussion ensued upon the comparative merits of the Arnold and Cheddar systems of making cheese, when a committee was appointed to examine a cheese made under each process in order to see which was the best, and report thereon.

The following table shows the comparative daily rate of increase in the younger classes for steers in the Shorthorn, Hereford, Sussex and Devon breeds of cattle, exhibited at the Smithfield Club Show of 1879:—

Classes for steers not exceeding 2½ years old.	
Shorthorns, 7 animals average	2.06 lb.
Herefords, 8 " "	1.91 "
Sussex, 7 " "	1.88 "
Devons, 7 " "	1.52 "
Classes for steers not exceeding 3½ years old.	
Shorthorns, 15 animals average	1.79 lb.
Sussex, 6 " "	1.72 "
Herefords, 12 " "	1.70 "
Devons, 9 " "	1.27 "

The Production of Milk.

Mr. Sheldon, writing to the London Times, says:—"Not only does the quantity of cream vary in the different breeds of cows, but also in that of different cows of the same breed. . . . That the composition of milk will change with the changes in the composition of the fodder which the cow eats is a principle fully demonstrated, and within certain limits the milk may be made poor by inferior or over-succulent food, and rich by concentrated food; and it would appear that while the proportion of casein remains fairly constant under increased food, insufficient food having a tendency to decrease the casein and substitute albumen, the character of the food influences more or less the proportion of butter. But to whatever extent food may influence the butter in milk, so far, at all events, as quantity is concerned, the breed of the cow influences it still more. It would appear, as the result of some careful researches, that the composition of dry substance in milk remains the same for the same cow, whatever may be her food, so long as it is healthy food; but this conclusion is hardly correct, for extended experiments go to prove that an increase in the food of both nitrogenous and non-nitrogenous matters does, within limits, increase the yield of milk and the proportion of dry substance in it, yet at the same time the proportion of fat in the food bears no special relation to the proportion of fat in the milk, but an increase of fat in the food goes rather to increase the production of milk as a whole.

"It is no doubt true that milking three times a day influences favorably both the quantity and the quality of the milk, and the shorter the time that has elapsed since the last milking the richer and fatter is the milk; but it must be borne in mind that this result makes an increased demand on the strength of the cows, and must be compensated for by a corresponding amount of nourishment; and while it is doubtless an advantage to a deep-milking cow to be milked thrice instead of twice in the twenty-four hours, particularly in the early period of lactation, this additional milking employs additional labor—a factor which a dairy farmer cannot afford to ignore."

Oleomargarine.

I have examined a large number of specimens of oleomargarine, and have found in them organic substances in the form of muscular and connective tissue; various fungi, and living organisms which have resisted the action of boiling acetic acid; also, eggs resembling those of the tapeworm. I have them preserved, to be shown to any one who desires to see them. The French patent under which oleomargarine is made requires the use of the stomachs of pigs or sheep. This is probably the way the eggs get in. I have specimens of lean meat taken from oleomargarine. There can be no question that immense amounts of oleomargarine are sold and used as pure butter. I regard it as a dangerous article, and would on no account permit its use in my family. I do not dare to use the sirups commonly sold in our markets, and I use but little sugar, as I believe them nearly all adulterated. In regard to glucose, I am informed and believe that seven-eighths of all the sugar sold in Chicago is made of, or adulterated with glucose. I have made more than a thousand microscopical examinations of milk in this city. I think that not over ten per cent. of the milk sold here by dealers is wholesome and unadulterated.—[Cor. Rural World.

Thirty Philadelphians have been arrested for selling oleomargarine for pure butter.

KEEP YOUR SHEEP.—There is likely to be, indeed there is now, a sharp demand for store sheep which enables farmers to dispose of what they have at prices which they little thought of getting six months ago, but if we owned a thrifty flock we should hold on to them for the present. The wool business has picked up wonderfully of late, and the demand has practically cleaned out all the stocks on hand, so that the clip of next summer is sure to be taken as soon as sheared at good prices, not at inflation prices, but at those which will make sheep as profitable as any other stock. This will in turn make a good demand for store sheep and lambs next fall, and we can see no reason for fearing that present prices will not be maintained. At any rate, if we were in the business, we would risk it.—Ex.