Stock.

Straw as Cattle Food.

BY BERNARD DYER, F. C. S., A. I. C.

To form a strictly fair comparison between the different descriptions of straw, it would be necessary that each kind of straw should be cut at exactly the same stage of maturity. But, on the other hand, in practice we find that for the sake of the grain it is usual to allow one crop to attain a greater degree of ripeness than another. In the case of wheat, for example, it is better to cut the crop a little before it is quite ripe—and this is the custom of most good farmers. It is in this case quite feasible to take advantage of the superior conditions of the straw in a slightly unripe condition, without in any way injuring or deteriorating the quality of the grain. But barley is usually considered more suitable for the purposes of the malster when in a well-ripened condition, and barley is, therefore, usually allowed to stand ripening in the field for a comparatively longer period than wheat—and barley-straw is therefore usually riper than wheat-straw. Oats, again, are usually cut in an earlier stage of ripeness even than wheat, since the pendulous grain is liable to be shaken out by the wind and so lost, if the crop is allowed to ripen too much.

Wheat-straw, in an average condition, neither under nor over ripe, was found on analysis by Dr. Voelcker to contain between 1 and 2 per cent. of fatty matter, from 2 to 3 of nitrogenous compounds, about 4 to 6 per cent. of sugar and extractive and mucilaginous matter soluble in water, and about 20 per cent. of fibre in a sufficiently soft state to yield to the action of digestive liquids. Oat-straw is somewhat similar in composition, as far as the proportions of oil and nitrogenous compounds are concerned, but it contains more sugar and extractive matter, and a much larger proportion of digestible fibre. While in the case of wheat-straw rather more than one-fourth of the total fibre is digestible, in the case of oat-straw considerably more than one-half of the fibre is soluble in solutions corresponding in strength to the gastric juices. Oat-straw is, therefore, as a rule, superior in feeding value to wheat-straw, inasmuch as it contains a much larger proportion of digestible, fat-forming and heat-producing principles. Barley-straw contains more nitrogenous matter than either wheat or oat-straw, but in the ripe state, in which it is most often harvested, it contains but a very small proportion of sugar, more than nine-tenths of the fibre it contains being in a perfectly indigestible form. When less ripe, however, barley-straw is of a much more digestible nature, and on account of its superior value as a flesh-former it must, in that case, be considered as better fodder than wheat-straw. It is, however, rarely that barley-straw is harvested in such a condition as to be equal in feeding value to good oat-straw.

It is interesting to consider side by side with the straw of the cereals, the so-called "straw," or more properly speaking, the haulm, of peas. Pea-straw contains from 6 to 9 per cent. of nitrogenous compounds and about 2 per cent. of oil, about 8 per cent. of sugar and soluble extractive matters, and about 60 per cent. of fibre, of which nearly one-third may be regarded as digestible. Its composition more nearly resembles that of hay than does that of any of the common cereal straws, and it is a justly-prized article of food for both sheep and cattle.

The Choke Cure for Refractory Horses.

My method with balky horses—and I think it equally good in case of kicking or backing in harness, or running away—has proved very successful with my team, requires but a moment in its execution, and is not, I think, in the least inhuman. I take a strong string (three-ply broom twine is the best) long enough to reach from the horse's neck to the carriage, fasten one end around the horse's neck in a hard knot, so the loop will not slip, bring the throat-latch through the loop to prevent the string from working back on the neck. When the horse balks, do not strike or shout at him, but sit quietly in your seat and pull on the string until you choke him. If the horse is very stubborn you may have to choke him severely, but he will be willing to pull before he is choked down. Two or three chokings will render him afraid to balk. I tried this on my team last Fall, and have had no trouble with them since.—P.

Grades as Milkers.

BY PROF. LEVI STOCKRIDGE.

A recent writer suggests two very important questions, the facts in relation to which, and the principles controlling the case, should be well understood by all dairymen and breeders of dairy stock. His query is, "Do heifers from native or scrub mothers, by bulls of thoroughbred milking stock, make better milkers than their dams; and if so, why? Why take the qualities of the stock from the sire rather than the dam?"

It is an indisputable fact that many native cows are superior milkers and butter-makers, and this quality is transmitted to their daughters, in some cases, until a family exists of local celebrity. This characteristic, however, has generally been lost in three or four generations for want of care in keeping up the regular line, or by the yearly infusion of blood of base or unknown quality. It is quite possible that remarkable milking qualities in an individual native cow might be perpetuated to remote descendants, and even increased, by careful selection of sire and in-and-in breeding. But that is the method by which thoroughbreds are produced, and requires skill and intelligence of a high order, and years of observation and labor. With a good native cow as the basis or stock, much anxiety and time may be saved, by an immediate infusion of the fixed blood of a thoroughbred of the desired type, and the result will always answer the first query in the affirmative. The calf will be better than its dam in some respects, and worse in none. As an accident or sport, it is possible that the dam might be a better milker than the dam or breed of the sire, and the calf taking the type of the sire be inferior to her, but the rule taught by experience is the other way. In this case the characteristics of the offspring are determined by the long-known law—that the longer a class of animals is developed in a single line, the greater is their transmitting power, and with the more certainty do they impress their qualities on offspring. The blood of the dam having no line of descent, and no accumulated force, is overborne by the thoroughbred sire. Theoretically, the progeny of such a connection is more than half thoroughbred, and should develop more than half of the sire's stock qualities in milk and form. There is but little danger of reversion to original form if this method of breeding be adhered to; but even if there were, it is undoubtedly the cheapest, quickest and surest way to develop fixed milking qualities from native cows.—[Am. Agriculturist.

Fall Treatment of Calves.

Calves require special treatment at this season of the year. Grass begins to depreciate in value when the first frosts occur, and as cold weather approaches, calves not unfrequently run down thin and weak, and are not prepared to meet the rigors of winter. There is no season of the year when extra care and feed are more needed than in the fall, before the animals go into winter quarters. Calves require to be kept in a thrifty, growing condition, and if checked in their growth during fall for want of proper nourishment, they will be apt to fall sick in early winter, and can only with great difficulty be kept alive. Winter is a very unfavorable time to resuscitate weak and sickly animals, and it is always better to guard against this trouble by care and good feeding during fall, for calves that are not allowed to lose flesh, and become weak at this season will, with fair treatment, go through the winter without trouble. It is well, then, to commence feeding calves a little grain or ground feed, pumpkin, the tops of turnips, beets, and carrots, when grass first begins to fall. Oats, either ground into meal or in the grain, make a good food for calves, and it is of advantage to teach them to eat extra food of the kind named early in the season, for later they will be more dainty in their appetites, especially if sick or debilitated.—[Rural New Yorker.

Good feed, whether it be good grass in summer or good hay and grain in winter, with pure water always within reach, will always give good returns, whether the outcome expected be butter, cheese, milk or meat.

In Youatt's famous book, "The Horse," printed under the superintendency of the Society for the Diffusion of Useful Knowledge, "Horses," says the writer, "will leave the best unsalted hay for that of an inferior quality that has been moistened with brine, and there can be no doubt that salt materially assists the process of digestion."

The Feeding Virtues of Bran.

In an article under this heading in the *N. Y. Times*, Alexander Hyde shows, from the analysis and manufacture of bran, that it is of very high value for stock feeding, and that Graham flour (that is, flour retaining the bran) is a more wholesome and nutritive food than flour when boulted. In concluding an elaborate article on the subject, he says:

The conclusion is irresistible that bran has not been sufficiently appreciated as food for stock in past times, and that Dr. Graham was right when he recommended unbolted flour as the best for bread-making. Graham flour is specially adapted for children, as it furnishes the material for making bones and developing good teeth. Some objection is made to the use of bran by farmers, as it has a laxative tendency. This is due to mechanical, not chemical, influences, the coarse particles, when fed alone, often irritating the intestines, especially at the first feedings, if given in large quantity. This may be obviated by feeding bran gradually at first, and in connection with hay. A slightly laxative condition of the bowels is far healthier than one of constipation, and if children are troubled with the latter, Graham bread is just the food they need.

One great recommendation of bran as food for stock is that it makes the manure-pile so rich. A large proportion of the inorganic matter (ash) in bran is composed of the various phosphates, just what most old soils need, these salts having been carried off in the milk and meat sold. We have seen wonderful changes produced on old farms by liberal feeding of cows with wheat bran. The pastures in a few years have renewed their age. Rye bran is not quite so rich in ash as wheat, but it makes an excellent food for producing milk, as it contains over 12 per cent. of protein compounds, just the thing for cheese-making, and over 2 per cent. of fats. Indeed, dairy farmers generally give the preference to rye bran, and one reason is that it is finer, and does not induce such a laxative condition of the bowels.

SHORTHORNS FOR THE DAIRY.—Mr. Harris Lewis says he prefers thoroughbred cows of the Princess family to any other or all others for the dairy. He summarizes the good qualities of the Shorthorns, saying that they have good teats and bags; are quiet and docile; utilize all food consumed; assume flesh when not milking; can be readily and cheaply turned into beef; yield a large quantity of milk well fitted for butter and cheese, and they are good looking.

TO PRESERVE BUTTER.—We add two teaspconfuls of powdered saltpetre and two tablespoonfuls of granulated sugar to ten pounds of good, well-worked butter, when we put it away in the fall to keep all winter. It will keep good and sweet without these additions so long as the weather remains cool, but it does not keep well after it gets warm in the spring.—[Cor. N. Y. Tribune.

The Scientific Farmer says that it is very important that we should pay more attention to the amount of lime supplied in the ration of growing animals, when fed largely on grain, and particularly on Indian corn; and with growing pigs kept in small enclosures, it would undoubtedly be an advantage to feed considerable young clover, which is rich in lime, and when this cannot be had, to mix with the feed daily from half an ounce to an ounce of prepared chalk for eight or ten animals. With calves and lambs, the administration of prepared chalk would also prove beneficial at times, but whether it would pay to make it a regular practice when feeding grain, can hardly be decided at present.

To prevent lameness and keep your horses' feet in good condition, stuff them frequently with linseed meal mixed with soft soap.

There is more profit in feeding calves liberally during the first year than later, inasmuch as early development is essential to full success in later growth.

Keep a barrel of gypsum in the stables where cows are kept, and sprinkle the floor with it after the stalls are cleaned. It is a valuable absorbent of liquid manure and an excellent deodorizer.