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Agriculturist.

JOURNAL DEVOTED TO LITERATURE, AGRICULTURE, AND NEWS.

"AGRICULTURE THE TRUE BASIS OF A NATION'S WEALTH."

FREDERICTON, N. B., MAY 17, 1879.

VOL. II. PART 2.

Experiments in Feeding Cattle.

Wallace's Monthly for May contains reports forwarded to it by a correspondent of several experiments in the elementary principles of feeding and handling cattle which were conducted at College Farm, Hanover, New Hampshire. The following on "making milk" is important and suggestive:

I forward a statement of experiments in milk production. I reported to the trustees in the Spring of 1867, a set of experiments, continuing for three months, with much accuracy, by which it appeared that corn meal very much more milk than bran, made the animals in better condition. That corn meal should give a better increase of milk-flow, however small, was unexpected. Although carefully tried, I was aware that by an aggregation of facts alone can a matter of dispute in agriculture be considered as settled. Therefore, in the Winter of 1877 and 1878, I repeated the experiments, to note, at that time, only the relation of bran to milk-flow, regardless of the butter production. As matters were left to a third lot, I will allow the result to keep the company of this experiment.

The first period, lot 1 and 2 fed alike, to arrive at the relative food as the basis of the experiment:—

Lot 1, on bran, 6 pounds per day. Milk per day, average of 7 days, 28 1/2 pounds.

Lot 2, on bran, 6 pounds per day. Milk per day, average of 7 days, 27 6/7 pounds.

Lot 3, on bran and one peck of mangolds. Milk per day, average of 7 days, 27 pounds.

Change of food; period of feeding 13 days.

Lot 1, bran, 6 pounds daily. Milk per day, 27 1/3 pounds.

Lot 2, corn meal, 6 pounds daily. Milk per day, 27 10/13 pounds.

Lot 3, bran and mangolds. Milk per day 27 3/13 pounds.

Lot 2, put from bran to meal has suffered less than lot 1. Loss of lot 1, 1 5/8 per cent; loss of lot 2, 2 1/2 per cent.

If this change is the result of feed, then changing the meal cows to bran should give a loss, a gain, relatively, and changing the bran cows to meal would give a relative gain.

Change of food:—

Lot 1, feed 6 pounds of meal for 10 days. Milk per day, 27 10/13 pounds.

Lot 2, feed 6 pounds of bran for 10 days. Milk per day, 25 1/10 pounds.

Lot 3, feed bran and mangolds for 10 days. Milk per day, 25 4/10 pounds.

Loss of lot 1, 1 1/8 per cent; loss of lot 2, 5 3/8 per cent.

This experiment of the second winter gives the same result on milk-flow as the previous one. As the other covered a period of three months this was run for a short period to detect any mistake that might have previously occurred.

Third experiment on bran versus meal. It has been said that the tendency of meal is to fatten cows, if given in excess, and that bran needs to be given in excess, in order to overcome the disposition to take on fat, or to turn the food from milk production to beef production. In order to see what the result of heavy feeds of meal against bran would be, and to try for the third time the question, and thus aid in its settlement, I tried the following experiments commencing in the warm weather of last September. That there is no element of guess about it the reader will observe. The milk was weighed night and morning, ounces always being taken. The cows were weighed always before drinking in the morning, that as few disturbing influences may come in as possible.

Cows to grass, with hay night and morning. The amount given was 20 pounds of each food, or in meal 6 days daily. They were all fed alike, nine days on grass and hay before the experiment to obtain relative milk flow and to afford a just basis of comparison:—

Lot 1, two cows; yield per day on grass and hay, 22 1/2 pounds.

Lot 2, 3 cows; yield per day on grass and hay, 33 2/9 pounds.

Lot 3, 2 cows; yield per day on grass and hay, 27 2/3 pounds.

On grain per day for 28 days:—

Lot 1, feed 9 pounds of meal. Milk per day, 28 1/3 pounds.

Lot 2, feed 9 pounds of middlings. Milk per day, 38 13/21 pounds.

Lot 3, feed 9 pounds of bran. Milk per day, 33 5/21 pounds.

Gain per cent in milk-flow:—

Lot 1, 22 1/2. Pounds of milk to make one pound of butter 20.1.

Lot 2, 16.0. Pounds of milk to make one pound of butter 26.8.

Lot 3, 21.8. Pounds of milk to make one pound of butter 22.7.

Change of food; amount given as before.

Lot 1, bran; pounds of milk per

day 23; pounds of milk to make one pound of butter, 24.

Lot 2, bran; pounds of milk per day 36.4; pounds of milk to make one pound of butter, 24.7.

Lot 3, meal; pounds of milk per day 31.5; pounds of milk to make one pound of butter, 17.8.

This fully corroborates thus far all previous experiments. Meal will make more milk than bran, I no longer hesitate to say. The change in the butter product is remarkable; in changing from meal to bran there is a change of 17.7 per cent in the butter producing capacity of milk; in changing from bran to meal there is a gain in the butter producing capacity of milk of 21.8 per cent. There is a substantial agreement in the two changes, for it is a matter of experimental observation that a good cow will make a greater change in change of food than a poor cow. Lot 3 was better butter producer than lot 1, and hence made a greater change from bran to meal, than from meal to bran. It may be said that this fact runs through all animal production, and its products, and is a point that demands the most careful attention of the breeder, and the dairyman, as well. The weights of the cows were kept. When I began to feed grain, lot 1 weighed 1,965 pounds; lot 2 weighed 2,996 pounds; lot 3 weighed 1,775 pounds.

Weighed before change of food, lot 1, 1,926; lot 2, 3,004; lot 3, 1,865.

Weighed at the end of third period, or after change of food, lot 1, 1,942 pounds; lot 2, 2,921 pounds; lot 3, 1,767.

These weights form an exception to previous experiments, bran and middlings keeping weight better than meal in this experiment. It is a chance result? or is it due to well-defined causes? I will not discuss it, but observe that it was not at the season of the year when a cow needs carbonaceous food to maintain animal heat; also the grass of our pasture was browned, and in different condition from June grass or properly cut hay.

Spring Backward.

The reports published in New England Agricultural Journals tell the story of cold, backward weather. At this time last year the season was much more advanced. Thirty miles south of Boston banks of snow were lying in the sun during the last week of April this year; the buds on the peach and cherry trees only swelled on the 1st of May; violets and May-flowers were scarcely seen; winter rye was then hardly forward enough for pasturing, whereas last year the cherry and peach trees were in bloom on the 22nd of April; the violets were abundant, and winter rye was cut on the 1st of May to feed cattle. An old farmer of New Hampshire, writing to the New England Farmer of 1st of May says:—"The spring months are upon us, but not much of spring yet. When it does come, we will be obliged to spring to it, and spring in our seed or it will not spring up and grow to our satisfaction. But the 'wise one above' orders all things aright, and it may be that by this late cold weather some farm pest is being annihilated. Who knows? In England the season is also backward, and its lateness is causing anxiety. The London Times of the 10th of May says:—

Attention has been drawn to the probable effects of the continuance of the cold northerly winds upon agricultural prospects, which already are sufficiently unfavorable. Unless a change occurs soon in the temperature there can be little or no fruit, and there may probably be a serious deficiency in cereal crops, which means larger payments than usual to foreign growers and eventually dearer money. Prominent among other prospective deficient yields on the continent is silk. The cold winds are keeping back the mulberry leaves upon which the silk worm feeds. The flow of silver to China and Japan probably will be increased from this cause.

We imagine that the farmers of New Brunswick are also laboring against the disadvantage of backward weather. But fortunately, a late spring does not always portend a bad harvest.

KEEP YOUR COWS.—From experiments made in Stockholm it is shown that cows that have been large milk producers are more liable to become diseased, and that the meat from such animals is not so good as from such animals. It is also believed that such diseases may be conveyed to the human family by the use of meat or milk from cows so diseased. If this is the case, dairymen should not keep good milkers till they get old. Most dairymen keep the best milkers to the greatest age.

How and When to Plant Them.

Early Grass.

Very many farmers, and many other wise good dairymen, seem to think that they may save money by turning their cows upon the pastures on the first appearance of grass, and that thereafter all the feed given at home is thrown away. There is nothing more fallacious. If you have plenty of pasture and it will not poison under foot, give the stock a chance at it by all means, but do not fail to give the usual feed night and morning so long as they will eat. The young grass will tend to clear the system of humor; and act as an alternate to the other food given. It will also quickly improve the color and flavor of butter. If pasture is not plenty, it is far better to keep them in the yards until the grass grows to a fair bite. It is the worst possible policy to try and save hay and grain in the spring between fodder and grass. Such stock will show this false economy all through the season.

Another mistake is in supposing that cattle stabled all winter may be turned out in the spring and exposed to cold storms of wind and rain. Pull off your winter flannels the first of April, and see how it is yourself. Stock, especially dairy stock, and all animals giving milk, should be carefully protected from storms in the spring until the days and nights are warm. A cold storm will not only distress a milking animal severely, but the milk will shrink from a single exposure, often to such a degree that it will not be regained during the whole summer. It is far easier to bring the milk yield up to a maximum, than, once lost, to recover it. Therefore, give plenty of good feed and good shelter all through the spring.—Prairie Farmer.

LARGEST WHEAT FARM IN THE WORLD.—The largest wheat farm on the globe is said to be the Grandin farm, not far from the town of Fargo, Dakota. It embraces some 40,000 acres both government and railway land, and lies close to the Red River. Divided into four parts, it has dwellings, granaries, machine-shops, elevators, stables for 200 horses, and room for storing 1,000,000 bushels of grain. Besides the wheat farm, there is a stock farm of 20,000 acres. In seed-time, seventy to eighty men are employed, and about harvest 250 to 300 men. Sowing begins about April 9, and continues through the month, and is done very systematically, the machines following one another around the field, some four rods apart. Cutting begins about August 8, and ends the fore-part of September, succeeded by the threshing, with eight steam threshers. After threshing, the stubble ground is plowed with great plows, drawn by three horses, and cutting two furrows; and this goes on until the weather is cold enough to freeze, usually about November 1. There are many other large farms in the Territory and in the same neighborhood, and they are tilled in much the same manner as the Grandin. The surface of the land generally is almost level, and the soil is rich and black. The product of one field of 2,315 acres is 57,281 bushels—eleven and one-half tons. The average yield of the Dakota wheat farm is from twenty to twenty-five bushels per acre, and the corresponding testimony is that it is unequalled, as a wheat region in the world.

Young Heifers as Milkers.

W. J. F. a correspondent of the Country Gentleman, makes the following very correct statements in reference to the milking and management of young cows:—

A young heifer with her first calf to be milked as long as possible, for it will be difficult to make her give milk later at any subsequent calving. To secure a longer flow of milk she may go barren the following year and meanwhile be fed bran and roots rather than meal, so as to discourage secretion of fat. If heifers calve at ten to twelve years, as they should, the year after should be devoted largely to increasing the size of the animal. It is important while this is being done, that the growth of the milk glands should also be encouraged. In this way the cow will be as large as useful, and also be developed for her best capacity as a milker.

I am strongly inclined to think that the fall is the best time for a young heifer to have her first calf. This, of course, is only where warm basements are provided, with plenty of good succulent food the first winter. The first flow of milk may not be quite so large as it would be if she calved in spring; but coming to grass feed after being milked all winter, a continued largeness will be insured until summer. Then, with a little extra feed in August and later, she may be easily put in milk until cold weather comes, or a full year after calving. If a young heifer calves in the spring, this is much more difficult. There is always a good demand for new milk cows in the fall, and those which the farmer wishes to sell should be timed so as to calve then. The succulent food which cows get in summer is better for both cow and calf than the dry hay, straw and grain which are their usual winter rations.

Preparing Rennet.

It is always an advantage to the cheese that the rennet should be prepared some time before it is wanted for use; an English dairyman recommended that it be made in February or March, and that as large a quantity be provided as can be conveniently done consistently with the size of the dairy. They find large olive jars useful for steeping the rennet, some of which will hold thirty gallons. A hole is made at the bottom of the jar, and the rennet, and they think it much better to be drawn in this way, from the bottom, than disturbing at the top by dipping out. A wooden tap should be used, as the acidity of the liquid has an injurious effect on a metal one. They have a piece of board, with holes perforated in it, to put into the jar under the veils or rennets to prevent their getting to the bottom and obstructing the liquid running out, getting against the taps. The rennet is prepared by first making a brine strong enough to bear an egg. It is then boiled for half an hour, and, when quite cold, put into the jar. For every two gallons of brine six veils are added, and one lemon sliced. An ounce of saltpetre is also added to every two gallons.

They claim that rennet should always be prepared at least two months before using.—German Telegraph.

ASPARAGUS.—Every farmer might easily have a grand asparagus bed. Sow the seed this spring in rows, fifteen inches apart, in rich, mellow soil. Keep the bed free from weeds by the frequent use of the hoe. Next spring, set out plants in a deep, well enriched soil, three feet apart and two feet apart in the rows. It took me several years to learn how to raise good asparagus. The mistake I made was in setting out old plants and in setting them too thick. If I was going to set out a large bed for marketing I would mark out the land with a corn marker, three and a half feet each way, and set out the plants where the rows cross. The ground should be rich and mellow, and a little well rotted manure raked into each hill before setting out, the asparagus roots will be of great benefit. Keep the land entirely free from weeds by the frequent use of the cultivator and the hoe. The more manure you use and the cleaner you keep the land the larger and better will be the asparagus. An annual dressing of salt, say two pounds to the square rod, will be found beneficial.—Harris' Catalogue.

MILKING.—In milking do not seize the teat between the thumb and fore finger and drag down until the end slips from the grasp of the digits. Do not grasp, with the hand pressing the nails into the teat, with a squeeze and a pull. Grasp the teat with the thumb partly upwards, and the fingers in their natural position when closed, next the udder, and closing the fingers in succession, force the milk downward, with a gentle pull on the udder. So proceed alternately with each hand going farther and farther up into the udder as the flow ceases, until you have all the milk drawn. Thus you may milk easily for yourself and the cow; in fact, the cow soon comes to like the manipulation.

If a few simple rules founded upon common sense were observed in milking, instead of kicking cows and holding up of the milk, we should soon find our cows gentle to handle, and much vexation would be spared to the milkers. It should, however, be remembered that in milking cows gentleness is a cardinal virtue.

SALT FOR CATTLE.—I have been a dairyman since 1839. "Once a week was my rule for the first five years; then twice a week for five years more; then alternate days for about ten years; then daily for the last six years. In the winter season, when my herd are milked, and fed on coarse food, I salt three times per week. When dry, but twice. In the summer, I salt in the stalls, the first thing after stabling. I find in my animals a marked difference in their capacity, or appetite for salt. They all eat an allowance daily, with avidity—not one in my herd that will not consume three quarters of an ounce. My best milkers require the most; one will take at least two and a half ounces. I am satisfied with my present practice. I think I get more milk, and of a rich quality, since salting daily; my troubled less with garget, and my cows seem to be healthier. Some dairymen think salting a non-essential; I do not know of any non-essential in the care of dairy cows.

Farmers should not be in haste to give their milk cows a bite of fresh spring grass. It is better to keep such cows in the stable until there is grass enough to supply them. While a bite of grass may serve to gratify the animals, it will vitiate their appetites for dry feed and cause a shrinkage of milk.

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Prepared by ANDREW ARCHER, Editor

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