FARMER'S ADVOCATE. THE

Grass Forage Plants — Prof. Fletcher's address on forage plants varied little from that given at the Stratford dairy meeting, already reported in the ADVOCATE.

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Cheaper Transportation.—Ex-Mayor Howland, President of the International Deep Waterways Association, placed before the Institute the needs of better transporting facilities. That Association is endeavoring to institute negotiation between the United States and Canada for the purpose of constructing a continuous watercourse from Chicago to the sea, having a minimum depth of twenty-five feet, so that it would be navigable by ocean vessels throughout the entire distance. Mr. John Brown, who also spoke on this subject, stated that \$3,174,-285 could be saved annually on six products of Ontario farms by shipping by water direct, instead of using our railroads as at present. It would also open up trade with the Maritime Provinces, and enable Toronto people to get Nova Scotia coal at 32.00 per top throughout the entire distance. Mr. John Brown \$3.00 per ton.

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DAIRY.

Feeding Turnips in Buttermaking.

We have always fed turnips in the fall and winter when making butter, and have sent our butter to Toronto, Peterboro and other markets, and have always obtained first prices for it, with the statement: "butter, first-class." Since your inquiry was made I have had the opinion of an expert on our butter, and he says if I want a certificate he will give me one stating that he could detect no turnip taint, that it was very fine in make and of first-class quality.

The manner of making is this : We are very careful to have the milking attended to so that the milk shall be clean and free from anything which could in any way taint the milk, as this would be retained in the cream. As soon as possible after milking, we pour boiling hot water into the milk until it attains about 125 degrees Fahr., then we set in the common creamers or pans. The creamers we run off every 36 hours and the pans every 48 hours, and as soon as the cream is ripe or turned a little sour, we temper it to 60 degrees, and about ten minutes before churning we dissolve a teaspoonful of pre-nared saltnetre in warm water and stin into the pared saltpetre in warm water and stir into the cream and then churn. We use the Dairy Maid churn, and as soon as the glass is clear the butter is all right and in granules. We let it stand a few minutes and then run off the buttermilk and wash the butter is clear the stand and wash the butter in the churn until the water is clear, and then salt with fine salt, one ounce to the pound of JOHN B. STONE & SON. butter.

As you request me to furnish your readers in formation as to the quantity of turnips fed, would sav that I gave each cow about half a bushel twice a day, fed after milking. I have an underground, stone milk-house with stone floor. The milk keeps sweet for three days in the hottest time in summer. We use mostly shallow pans ; skim every twenty four hours; pans kept well scalded and clean; churn in the fall from 60 to 64 degrees. If I were giving each cow two bushels a day I would dissolve some saltpetre and put in the ream. I knew of hundreds of tubs of butter made in the Old Country from turnips and straw, which brought the first price at that time in the English market.

Paying for Cheese-factory Milk. [From an address by Prof. Robertson, before the Western Ontario Dairymen's Association.]

Professor Robertson said Professor Dean's blun-

der in the official publication of conclusions before they were established by facts was, in his opinion, to he regretted, but it did not prevent a hearty appreciation of the good work Professor Dean had done and the better work he is yet capable of doing. He (Prof. Robertson) had found the Babcock tester and the percentage of fat in the milk as determined by it to furnish an equable basis for the valuation of milk of different qualities at cheese factories as well as creameries. Milk of average quality might he put as containing. qualit

| iuy miguu | 00 | puu | 000 | COL | roathing | • |
|-----------|----|-----|-----|-----|----------|----------------|
| Water | | | | | | 87.7 per cent. |
| Fat | | | | | | 3.5 " |
| Casein | | | | | | 2.4 " |
| Albumen | | | | | | .7 " |
| Sugar | | | | | | 5. " |
| Ash | | | | | | .7 יי |

100. Of these constituents the cheesemaker tried to retain in cheese the fat, the casein, and a portion of the water. Out of 100 lbs. of milk of such average quality, the cheesemaker might retain in cheese



The remainder of the milk became whey. A less percentage of fat and casein of rich milk was lost The Babcock in the whey than of poorer milk. tester had made a change practicable to the paying for milk by weight and quality instead of by weight only. Weight multiplied by quality gave true value, for both milk and cheese. Two years ago he had continued experiments to determine the relation which the fat of milk bears to its real value for cheesemaking. His experiments, in the course of which 200 cheese were made, resulted in showing that the percentage of fat in milk was a correct measure of its value for cheesemaking. In these experiments it appeared that a larger quantity of ese per pound of fat in the milk was made from milk containing a low percentage of fat than from milk containing a high percentage of fat. If the weight of the cheese only were to be considered, then the percentage of fat in milk was not a correct measure, but when weight and quality of cheese were considered, then the butter-fat was a correct means of deciding its value. His experiments and examination of cheese showed him that, other conditions being equal, the market value of cheese made from the richer milk was higher than that made from poorer milk. The conclusions from tests of over 200 cheese made experimentally were that for every two-tenths of a per cent. of fat in milk, the quality of the cheese made therefrom was increased in value by one-eighth of a cent per pound. This applied to cheese made from milk containing three to four per cent. of fat. Taking two patrons, A and B, for illustration, the following table shows how close the distribution of money at a cheese factory, according to a percentage of fat, agrees with the real value of the cheese made from different milks. After deducting the expense of drawing milk and manufacturing cheese, eight cents per pound has been taken as the value of cheese, to be divided among patrons. The cheese made from milk containing four per cent. of fat is worth fiveeigths of a cent per pound more than the cheese made from milk containing three per cent. of fat.

Farm Buttermaking.

F. J. S.

MARCH 1, 1895

Where deep cans are used.-Strain and set the milk immediately after milking. To those who would make this work a success, this opening state. ment is not optional, since it covers to a greater or less degree the question of the quality and quantity of the resultant cream and butter. Do not put the cover on the deep can (also called a creamer can or creamer) as soon as the milk is put in it, but allow the animal odor to evaporate, and the milk to cool to about the temperature of the surrounding atmosphere before covering. Experience teaches us that about eighteen to twenty inches in depth and eight inches in width, inside measure, is about the right size of can, but of the bottom of the can we would speak more particularly. The majority of deep cans have a flat bottom, and are frequently without a faucet, being skimmed from the top; others have a faucet at the bottom, the bottom sloping slightly to this side, while still others have a flat bottom with a small groove across its centre which slopes slightly to the faucet. We are not in favor of any of these, because, first, if nice clean cream is desired, they must be skimmed by the use of a conical cream skimmer, which means an extra and unnecessary utensil, and, secondly, because of the extra labor due to the removal of the cans from the water and their return-no little work if many cows are kept. The best can we have used or seen has a conical bottom with the point of the cone in the centre of the can, and the faucet (a straight one, and thus easily cleaned) at the bottom of the cone. This can is screwed into the bottom of the creamer tank, enough space being left under the tank to set a pail to catch the milk and cream. In such a can the sediment, if any, in the milk will settle to the centre of the cone and draw off with the first skimmilk. A glass in the side at the bottom shows when the skim-milk is all, or nearly all, drawn off. The can is never removed from the tank, except for possible repairs, thus saving an immense amount of abor. It is on these latter points that we have objection to the Cooler system of creaming milk. With such a can and tank as we have described, a pint of milk may be drawn from the can without disturbing the remaining contents, or the contents of one can may be removed without disturbing the remaining cans.

The basis of success in deep can creaming is the temperature of the water in which the cans are placed ; 38° to 42° F. is perhaps best, but in no case higher than 45°. Four times as much loss in butterfat has frequently been known when set at 52° as against that set at 42°. It is thus readily seen that ice-water is absolutely necessary, except in some few cases, as where a cold spring is available, which may be made to run in and out of the tank con-tinuously. Lowering the cans into a well is very rarely satisfactory, neither is drawing the water and changing two or three times to be recom-mended; in fact, we never knew good skimming in such cases. To set in the open air in winter, or in snow, is not good; set in water always. The skimmilk should not show more than two-tenths of one per cent. of butter-fat in summer, nor more than three-tenths in winter. Eleven or twelve hours in summer and twenty-four hours in winter will raise all the cream if temperature is right; whereas, if the temperature is too high, greater length of time will not ensure good skimming. Draw off a portion of the skim-milk with the cream, as this saves a little n B. more butter-fat (skim-milk nearest the cream contains more butter-fat than that lower in the can) and the cream works better in the churn. The room where the cans are placed should be under the same roof as the ice, and if the churning is done here too, so much the better ; such a room, by a little skill, may be made almost perfect in its arrangements. An excellent storehouse may be made for the butter by building a small room in the ice-house, the door of which opens into the dairy; five or six feet in height and four or five feet square would be sufficient. A small coal or wood stove, at a cost not exceeding five dollars, will supply the needed heat during the winter months. The cream should be kept below 50°F. from time of skimming until time for ripening. Less exposure of milk and cream to the atmosphere; no sour milk nor cream in summer, with their attendent evils; more butter per hundred pounds of milk, and lessened labor, are advantages possessed by this system over the shallow pans. Be it remembered, however, that unless a temperature of 45°, or lower, be preserved during all the time of setting, the shallow pan will give better results than the deep can. The churning of deep can cream, making of the butter, etc., will be discussed in a later article.



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Scotia Jan. 2 in its parts o the As The As ment, l School kind ir in pres ter co marke ciation Station ing th numbe The preser plums, the pop Valley Nonpa Emper size of yellow This cl fluence A colle by Pro Canad was th Prof. I which mens etc., w "Pe

sevent been g creasin basket in lig shelter In spra be giv tender out tre come b varieti prover Crawf Rivers "M Faville view o last. differe by soil tated t adjace best. top-we

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ROBERT WARK.

"Beautiful butter" can be made if the cows are allowed only a very small ration of turnips after they are milked, at first, gradually increasing the quantity. The milk was set in pans, and two or three quarts of ice cold, pure water put in the pan and the milk strained into it. The butter was beautiful; not the least unpleasant smell or taste of turnips was noticeable

S. M., Blackwood, Assa.

The New President of the Dominion Short= horn Breeders' Association.

Mr. Arthur Johnston, Greenwood, lately elected President of the Dominion Shorthorn Breeders Association, began breeding Shorthorns in 1867. Importations from Great Britain were commenced in 1874. Up till the present about 100 head have been brought across the waters by Mr. Johnston; also about forty head of Clydesdales, and many Cots-wold sheep and Berkshire pigs. Mr. Johnston has held the office of Vice-President of the Association, of which he is now the honored President, during the years 1893 and 1894. He has also been a member of the British-American Shorthorn Association and Dominion Shorthorn Association since their inception. During the years 1853 and 1894 Mr. Johnston was Vice-President of the Clydesdale Association, all of which indicate the esteem in which he is held among his fellow-breeders. He has done a great deal for the breeding interests of Canada, and we look for an era of continued activity in the Short-horn Association during his regime.

he distribution of procee milk to two different patrons, A and B, are in the two columns:

| Pa | tron A. | Patro |
|--|---------|---------|
| Percentage of fat in milk | 4 | 3 |
| Lbs. of cured cheese per lb. of fat. | 2.5 | 2.8 |
| Lbs. of fat in 5,000 lbs. of milk. | 200. | 150. |
| Lbs. of cheese in 5,000 lbs. of milk. | 500. | 420. |
| Fotal amount of money to be divided - \$73.60. | | 1=01 |
| Share to each patron, when divided by | | |
| weight alone | \$36.80 | \$36.80 |
| Do., when divided by weight and value of | | |
| cheese actually yielded | 41.50 | 32.10 |
| Do., when divided by percentage of fat in | | |
| milk | 42.06 | 31.54 |

31.54 By the division of proceeds according to the percentage of fat, the patron who supplied the rich milk receives 56 cents only on 5,000 lbs. of milk more than the exact share, as an encouragement on the production of fine, rich milk. It is necessary to bear in mind that the value of milk and cheese is determined by both weight and quality. The mistake in Prof. Dean's bulletin was in shifting the measure of value from weight of milk only, which all recognize as faulty, to weight of cheese only, which is also faulty. Weight multiplied by quality gives the real value of cheese, and when both of the factors are taken account of, the percentage of fat in milk is a fair and practicable measure of its value for the making of cheese.

A dispatch from Brighton, Mass., says : "There was a practical demonstration of the unreliability of tuberculin at the abattoir here. Ten of the animals of the lot condemned by the cattle commissioners as tuberculous were slaughtered, and of the ten, two were undoubtedly tuberculous. Four are in doubt, and suspected parts of their internal organs go to the chemist for the final decision. Four more were perfectly sound, and were released by the commissioners conducting the post mortems. They will be sold as beef, and full value will be paid to their owners. Consequently it is no surprise that the commissioners returned to Boston in a sober and thoughtful frame of mind, it being felt that tuberculin had "got a black eye."

Occasionally we meet very fine hedges of various evergreens, thorn. locust, Russian mulberry, etc., but alder and fancy hedges are comparatively scarce. We must bear in mind that this is a new country. People have been intent here mostly to get a home before they could ornament it. The hedges we find, such as Osaga orange, locust, etc.. have usually been planted with an eye to practical usefulness, as line fences, stock fences, etc., rather than for their ornamental feature. As the country grows older, more attention is being paid and will be paid to hedges for ornament.—[T. Greiner.