

Dairy.

Black Pepsin in Churning.

Some time ago we received what purported to be a report of the South Australian Dairymen's Association. The letter that accompanied it was dated at Melbourne, and was signed by J. O. Ross, Secretary, but as it had been mailed in a cover bearing the impression of Pittsburg, P. A., and had a United States postal stamp affixed, our suspicions were at once aroused. The report contained an account of a supposed test with black pepsin conducted by that association, and it was highly recommended by what were doubtless fraudulent signatures. We had filed the communication for exposure in our columns, but we withhold our own comments to make room for a full report of a thorough test conducted by Prof. Dean, at the Experimental Dairy, Guelph.

To the Editor of the FARMER'S ADVOCATE:

DEAR SIR,—Most of your readers have doubtless read the article going the rounds of the press, which states that 150 per cent. more butter may be made by adding a substance called black pepsin to the cream. I sent to the Concord Chemical Company, New York, for a sample of the wonderful stuff, and received in a few days a small sample of a reddish looking powder, accompanied by a printed letter and two circulars. The letter stated that "the directions or receipt is copyrighted by Cloud Harlin, of Toronto, Canada, and cost \$30 per hundred, and retail at \$2.50 each." I wrote Cloud Harlin & Co. (?) November 5th, requesting further particulars and more of the pepsin, saying we wished to give the matter the fullest investigation. At this time of writing, November 19th, I have had no word from them, neither has my letter been returned. One of these circulars is headed in the following manner:—

A FORTUNE FOR FARMERS,

AND A GREAT CHANCE FOR AGENTS TO MAKE MONEY CANNOT \$32 A DAY BE EASILY MADE? Here are a few of the sentences:

"What could be more desirable for the farmer than to know how to double the yield of butter without additional expense or labor? Will not every person that makes butter pay \$2.50 for directions and the right to use them, as soon as they see that the yield of butter can be more than doubled by the use of black pepsin as directed? If as much butter can be made from five cows by using black pepsin as from ten cows without its use, can any person who keeps cows afford to be without it?" etc., etc.

"The trouble with most of people is they won't try, and consequently they can't expect to succeed. Don't be afraid to try. Don't hesitate. Don't wait. Go to work, and when you have accumulated a fortune you will point with pride to the time you acted for yourself."

All we ask you to do is, get some directions and try our business one day. We have never yet had a person try our business who did not succeed better than they expected. Remember the price of directions is \$30 per hundred, or fifteen directions for \$5, or \$2.50 for a single direction. Black pepsin is worth \$2.50 per box, and a box will make 500 pounds of butter. A dozen boxes are worth \$24.

Address CLOUD HARLIN & Co.,
Toronto, Canada.

The above is a sample of the tenor of the whole circular. The following are the

DIRECTIONS FOR MAKING BUTTER WITH BLACK PEPSIN.

Let the cream or milk stand until sour and thick, as you would for ordinary churning. Then heat the cream to 95 or 96 degrees, then let it cool to about 60 degrees, and then churn till the butter breaks. When you see the appearance of butter, stop churning. Now take two pounds of butter for each gallon you are churning, and heat it to about 100 degrees; add to this melted butter, one teaspoonful of dissolved black pepsin to each two pounds of melted butter. (The directions on each box of black pepsin tell

how to dissolve it.) Three gallons of cream would require six pounds of butter melted, and three teaspoonfuls of dissolved black pepsin; after you have added the black pepsin to the melted butter, while still warm pour it into the churn, and churn for eight or ten minutes, until the butter is like thick cream. Then draw off the buttermilk and pour in on the warm butter enough strong brine to cool and harden the butter; make the brine of salt and cold water—the colder the better. Churn the butter in this brine a few minutes, till it breaks in lumps as butter usually does, then take up, work and salt to taste. After deducting the weight of the melted butter you should have more than twice the butter you would in the usual way of churning, and it requires much less time to churn. The melted butter causes the black pepsin to assimilate (?) with the cream, and unites in the form of butter all the cheese, sugar and butter that milk contains. You can use strong butter, or butter that is off in color for melting, as the heating and the churning in fresh buttermilk will make the strong butter fresh, sweet and uniform in color. The more milk the cream contains the more butter you can make, so do not skim the cream close, but leave in plenty milk—the more the better. Remember this: "Leave in plenty milk, the more the better."

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November 7th we took 8.5 pounds of cream, testing 15.4 per cent. of fat, or 1.31 pounds of fat, which would make about 1½ pounds of butter. The cream was treated according to directions. When finished we had 3½ pounds butter, or no increase after deducting the two pounds of melted butter. The buttermilk contained .9 of one per cent. of fat. November 12th we divided equally 18 pounds of cream, which tested 17.4 per cent. fat. One half we churned in the usual way, and the other half was treated with melted butter and black pepsin. Result:—From pepsin cream we had 1½ pounds of butter, after deducting two pounds of melted butter; buttermilk contained 1.6 per cent. fat. The other lot gave 2½ pounds of finished butter; buttermilk, .4 of one per cent. We thus got no increase whatever in these two experiments, while the extra labor amounts to considerable. I may say that in the second experiment we added six pounds of skim-milk to the cream, thinking that possibly this might help, as they say the more skim-milk the better. The quality of the butter from the pepsin lot is inferior.

As there have been several inquiries in reference to black pepsin from druggists and others, I would advise persons to spend their money in something more profitable than in buying a compound that will only delude. As a matter of fact, no compound can increase the yield of butter 150 per cent. It is possible that a substance may incorporate more of the solids of milk than is obtained by making butter, but such a compound would not be butter, but something that more nearly resembles cheese.

The following is given as the average composition of milk: Water, 87; fat, 3.6; albumen, 0.7; casein, 3.3; sugar, 4.7; and ash, 0.7 per cent. There is thus about 13 per cent. of solid matter in milk. In buttermaking we want but one of the solid constituents, and as little as possible of the others. It has an average composition of fat, 84; water, 11; salt, 3; and curd, 2 per cent. In cheese-making we make use of more of the solids. A cheddar cheese consists of water, 31; fat, 31; curd, 31; sugar, etc., 3; ash, 4 per cent. Now, we may discover a new method of manufacturing cow's milk, but the produce will not be either butter or cheese, but possibly curdo-butyrim. If such a compound can be made wholesome for food, and made from cow's milk, all dairymen will welcome it as a new feature of this already great industry—dairying.

[Just as our forms were closing, the following additional information was forwarded by Prof. Dean: "My letter to Cloud Harlin & Co., Toronto, has just been returned from P.O. Dept., stamped as follows: 'Suspected to be of a fraudulent character within the meaning of the Post Office Act.'"]

H. H. DEAN,
Ont. Agri. College.

Work Outlined by the Western Ontario Dairymen's Association.

The Ontario Dairymen's Association was organized in 1867, and the fruit of the then small beginning can be seen in the present world-wide reputation of Canadian cheese. In 1876 the work of this Association had assumed such large proportions that it was found advisable to divide the work, and the Eastern Association was formed. After this the Western division carried on the work with increased vigor. By thus organizing a step in advance was taken and much good work was done, still the Association did not reach the most important part of the dairy community, the patron; for, no matter how expert the cheese-maker is, it is impossible for him to make a first-class article unless he has the milk supplied in the proper form. The Association has long seen the importance of conveying to the patrons such practical information as will aid them in the proper care in the handling of milk for cheese factories. In order to do so, they have appointed a Secretary, with a thoroughly practical knowledge of dairying, who will devote his whole time to their work. The Secretary was instructed to visit the various Dairy Boards of Trade and as many annual meetings of cheese factories as possible, and also to arrange for a series of meetings of farmers and patrons of factories. The subjects which are recommended to patrons for discussion at these gatherings are:—The production and care of milk; the proper disposal of the whey; the growing of corn and the preparation of ensilage; the winter dairy movement; the improvement of factory buildings; and the work of the Association, and its importance to the farmer. It is to be hoped that the Secretary will meet with the hearty co-operation of the patrons in this new step; and, if we may judge by the resolutions adopted at the Boards of Trade meetings at the different towns which have been already visited, where they unanimously approve of this work, we shall hear good accounts of progress in the future. Representatives of factories who have not yet placed themselves in communication with the new Secretary are urgently requested to do so as soon as possible, so that no delay may occur in the arrangements for meetings. His address is J. W. Wheaton, box 346, London, Ont. The twenty-fifth annual convention of the Association will be held in London during the second week of January next.

Creameries vs. Private Dairies.

To the Editor of the FARMER'S ADVOCATE:—

No doubt the establishment of creameries is the surest and quickest means of securing lasting improvements in butter-making. A number of creameries have already been established in Manitoba and the Northwest, but, unfortunately, very few have so far met with success. Many have failed through the want of the main factor required for their existence, that is, milk or cream. A number of cheese factories have met with the same fate. It is easy to trace the cause of such failures. In some cases the factories are over-burdened with municipal taxes and insurance rates, the population is too scattered—milk transportation is, therefore, too burdensome and too costly, the herds are too small, and a goodly portion of our farming community is adverse to the milking of cows. Under the present circumstances we are looking to the establishment of well regulated and properly equipped private dairies, and also of minor creameries, as the only possible means of securing improvements in dairy work. The centrifugal cream separator, driven either by hand or horse-power, will no doubt play a great part in the accomplishment of our purpose. A number of these separators are now being successfully operated in Manitoba and the Territories. Although some kinds of these separators are very easily driven by hand-power, the saving of labor being so desirable on most of our farms, manufacturers and dealers are aiming at the use of horse, ox and even bull power to drive the separators, by placing before the public small creaming outfits, consisting of cream separators, friction gears and horse gears or powers, and others of such appliance required in dairy farm-