

it had much better go unwashed, than be put in water containing any foreign matter.

If water is known to be impure, it can be very easily and cheaply filtered. Changing the water two or three times will usually accomplish it; that is, it will wash the buttermilk from the outside of the lumps, but it will have no effect on the buttermilk contained in the lumps, the salt must do that, so that the less it gathers before washing, the less salt will work out with the buttermilk. Butter must be salted to suit the taste of the consumer, or buyer, and not to keep the butter, containing buttermilk, or butter that has absorbed any taint, at any time during its manufacture, even in its incipient state, milk, when first drawn from the cow; and no doubt that the taint, its germ of decay, is often taken into the cows' system by drinking impure water, or even from the smell of unburied carrion in pastures. Working butter requires great care; for not enough is bad, but too much is still worse, breaking the grain, or butter globule, thus making it salvy, or greasy, instead of waxy as it should be.

Working in the salt (say one ounce to the pound, by actual weight, and not by guess work) is usually sufficient for the first working. After standing twenty-four hours it is ready for the second working; which is best accomplished on an inclined plane, with a lever hung at the lowest point. A sponge wrung out in cold water, and wrapped in thin muslin, is a great help to take up the buttermilk that does not run off freely. The hands should never come in contact with butter during any stage of its manufacture; there is no one cold blooded enough to work butter by hand power, without more or less perspiration. Think of it once, and then use the ladle. Many still use the hands for working butter, because their mothers did, and who has ever eaten such bread, and butter, as our mothers made for us in childhood; not one of us.

It is an old and time-honored custom, but must give place to improvement. We are catering for a market already overstocked with inferior grades of butter, and, at the same time the best grades rarely pay for the making. But there need be no fear of overstocking this department. Good butter will always command a paying price. We have left the butter made, and worked ready to pack, which of course is not included in the manufacture, but we shall find it for our interest to pack, in the most thorough, and also, in the most tasty manner, as the surroundings of an article often go a great way in recommending it.

Taking into consideration the existing state of the markets, and the great amount of butter that is being made that is not 1st. quality, what are we to do in the matter; how are we to help ourselves? 1st. by making the very best article we can, and 2nd which is, in my estimation, a still better way, make all our butter on the cooperative plan, as in creameries. Almost every market report we take up, we notice creamery butter quoted, at from 5 to 7 cts. per lb. above the best dairy, and I candidly ask my brother farmers, if the question is not seriously staring us in the face; what shall we do to hold our own? Oleomargine, or artificial butter, has driven, and is still driving the poorer grades out of the market. Bakers and pastry cooks prefer it to poor butter, and they can buy it cheaper. There is no call for anything not first class, and that is a long way behind creameries.

Let us consider for a moment the advantages: 1st taking all the labor away from our homes; 2nd making all the butter in a neighborhood entirely away from the smell of cooking, and the various other occupations of a farm house; 3rd, making all the butter in a given section all of the same quality; 4th marketing the same to first hands, instead of depending on selling to middlemen, and be cued out of the profit. 5th the higher price to be obtained, besides

many other reasons that might be adduced, if space permitted. Who will take the initiative, and obtain facts, and figures, from the leading creameries, here in this country, and also, over the border?

This society would be doing its members, saying nothing about the county at large, an incalculable benefit, by taking the matter up, and placing it in a proper light before the people.

It is most assuredly a dull subject, with butter at its present price, for a man to rack his brains to write, or even think about; and were it not for the hope, that this might possibly meet the public eye through the medium of the press, and perhaps be the means of giving us the the first slap towards waking up, I should never have attempted it.

St. Armand East.

C. A. DEMING.

### PHOSPHATES.

Very careful and well conducted experiments on the relation value of dissolved and undissolved phosphate of lime have been carried on, during the last year, in Aberdeenshire, by the "Aberdeen Agricultural Association."

The report of the society has just been published; and from the statement made by the active and studious chemist, Mr. Jamieson, we can form some idea of the results brought out by the year's work.

"As to the effects of phosphates on the turnip crop, it appears that;

1. Phosphates of lime decidedly increase the turnip crop; but that farmers need not trouble themselves to know whether the phosphates are of animal or animal origin.

2. "That soluble phosphate is not superior to insoluble phosphate to the extent that is generally supposed."

3. "That nitrogenous manures, used alone, have little effect on turnips, but, when used along with insoluble phosphates, increase the crop; that the addition of nitrogen to soluble phosphates does not seem to increase the solids or dry matter in the crop; that there is no material difference between the effects of nitrogen in nitrate of soda and in sulphate of ammonia."

4. "That fineness of division seems nearly as effective in assisting the braird and increasing the crop as the addition of nitrogenous manures. Hence the most economical manure for turnips is probably insoluble phosphate of lime, from any source, ground down to an impalpable powder."

Again, Dr. Aitken, in his report of the experiments carried on by him, at the Harelaw experimental station of the Highland Agricultural Society, on the application of various forms of phosphatic manures to swedes, comes to these conclusions; that, comparing dissolved with undissolved phosphates, the former produced the larger crop, yet the increase was due to the greater amount of water in the bulbs, and that the total amount of solid matter per acre was, in reality, less where that form of phosphate was used.

A considerable part of that deficiency was borne by the albuminoids, and thus a marked diminution in the feeding quality of the bulbs was indicated. The estimation of the ash also showed that the decrease of animal food per acre was accompanied by an increased abstraction of animal matter from the soil; and it seemed as if the application of phosphates in the dissolved form to the turnip crop had the effect of hastening the impoverishment of the land without proportionately enriching the animals fed on it.

Now this is all very well, and good news enough for the owners of phosphate lands; but the next set of trials (those on barley) with different sorts of phosphates point to a diametrically opposite conclusion.

The barley was sown, at Pumpherston, the other experimental station of the H. A. S., on the 21st. of May, but,