

"The Yellow Peril."

There is a "yellow peril" that threatens agriculture. It is not a possible or distant peril, but one that is now present with us. It is not constantly before us during a greater part of the year, but during the months of June and July its presence in many localities is painfully evident. We have been in the habit of designating this particular evil by the names of wild mustard and perennial sow thistle. In a vernacular savoring more of the oriental, and one that might associate the "yellow peril" of agriculture with its social contemporary, this evil might be designated as "Wee gain," or "We lose." Whatever it be called, there is by far too much liberty given to the propagation of these yellow-flowered weeds. Although quite dissimilar botanically and in general habit, they are quite alike in one particular, namely, they may both be destroyed by spraying with Bordeaux mixture. This advantage is possible because of the roughness and coarseness of the leaves of each of these plants.

Those whose farms are infested with either of these weeds need not be told of the immense injury they cause. What concerns them most is to secure a quick method of eradicating them, and so far nothing promises better for this purpose than spraying with a solution of copper sulphate, in the proportion of about ten pounds of copper sulphate to forty gallons of water, and at the rate of forty to fifty gallons per acre. The mixture is easily made and applied; it does not interfere with the growth of a grain crop, and its cost is a mere bagatelle. The solution also destroys many other weeds with which it comes in contact, such as bindweed, annual sow thistle, etc. To those whose farms are infested with these weeds the need of spraying is urgent, and should be practiced thoroughly just before the mustard blooms, when the plants are all above ground, but before they have developed their resistant powers or hardened their surface tissues.

DAIRY.

Canadian Butter in England.

Mr. J. B. Jackson, Canadian Commercial Agent for Leeds and Hull, Eng., writing on the subject of butter, under date of May 16th, says:

"The creameries of Canada should correspond with this office, as a large quantity of their butter could be placed in this district, and it would facilitate this trade if they would write direct and give quantities per month they are prepared to take orders from here for, together with the names of brands, if any.

"Farmers' Butter.—A large firm in Newcastle, doing a large business in farmers' butter from Canada, are very much dissatisfied with last year's result, owing to its irregular quality and excessive salt. They say: 'These butters are used, the best of them, for a cheap counter butter, the remainder for confectionery purposes. And they meet in competition on this market with the Siberian, a much more uniform butter in both quality and package.'

"Siberian Butter.—The Siberian butter is packed in either 56-lb. boxes or in Danish casks, principally the latter, and this package suits this market much better than the little 28- or 56-lb. tubs which the Canadian farmers use. Some of the farmers put no less than from one to three pounds of salt on the top of the tub, which is quite unnecessary, and it very often gets damp and discolored. One lot especially, we bought it for fresh-made butter in the best butter district of Western Ontario, sent it straight to the Toronto cold stores, brought it over in cold chambers, and when it arrived it was stale and off flavor."

"Just such occurrences as the above destroy our Canadian butter trade. The farmers must exercise more care in the making, packing and salting of their butter, and must use different packages, either 56-lb. boxes or 112-lb. casks, not tubs.

"The Canadian creamery butter is not uniformly as good as the Danish, it is softer, and has not the same grain. The Danish creamery butter is more like A1 farm-made butter, with a beautiful grain and excellent natural color.

"Process' Butter.—A large quantity of 'process' butter is sold here, and is a fairly good article, generally packed in 56-lb. boxes. The 'process' consists, I am told, in taking the different qualities of store butter and re-churning them with hot milk, and in this way getting a uniform product both as to color and flavor. I would suggest to the exporter of Canadian store butter that instead of shipping the original article direct, with its different colors and flavors, and nauseam, and only fit for confectionery purposes, that he 'process' it, and in this way obtain a fairly good cheap butter of uniform color and flavor, and a butter that if put directly into cold storage in Canada and shipped here in cold storage, would command a good price and a ready sale. Especially is this the case at present, as Siberia is our principal competitor in the cheap

lines of butter, and if the present war is prolonged this supply will be cut off and Canada will have a chance to supply most of the shortage."

[NOTE.—Mr. Jackson, acting for the Department of Trade and Commerce, is hunting up some useful information for our dairymen and others, but he should be made aware before giving the foregoing advice, that under the Adulteration of Butter Act, the manufacture, importation or sale of "process butter" is prohibited in Canada. But it is evident that if butter has been going forward from Canada as described by Mr. Jackson, then there should be some more efficient system of inspecting exports of butter, or the reputation of Canadian butter will be ruined.—Ed.]

Overrun in Buttermaking.

During the last year at the Iowa station we have been conducting experiments on the question of overrun. We have also been carrying on an educational scoring contest, making complete analysis of each sample of butter sent in each month.

These analyses have revealed to us some startling facts on the reason why one creamery is able to pay more than another. In some of these analyses we find a difference of fifteen per cent., or in other words, we find that one creamery makes fifteen pounds more butter from one hundred pounds of butter-fat than another.

We have makers exhibiting in this contest, who have a reputation for paying extreme prices for butter-fat, and their butter-fat has invariably shown three or four per cent. increase over the average.

While we have not completed our contest, the indications are that the average water content for butter will run about twelve per cent., but the water content alone does not entirely govern the overrun. We find the amount of casein runs from 7 to 3.27, and the amount of salt from 5 to 4.5.

We also find that the butter high in casein will keep about as well as the butter running low in casein, or in other words, the amount of casein butter contains is not always an indication of its keeping qualities. It depends more on the condition of the casein or on the condition of the cream, or, possibly, on the kind of wash water used in washing the butter.

For instance, we had one sample of butter containing about thirteen per cent. of water, 3.06 of casein, and 2.95 of salt. This butter, after being exposed to a warm temperature for eight or ten days, and then shipped to New York, scored within two points of what it scored at Ames, scoring ninety-four at Ames, and ninety-two in New York, by Mr. Healy. No criticisms were made in either case on the amount of salt.

In this case the butter would have an overrun from the chemical analysis of almost 23.5 per cent. Now, if this maker had incorporated fifteen per cent. of water, he would have had an overrun of 26.5 per cent.; that is, based on the chemical analysis.

Undoubtedly, however, there would be as much as three per cent. loss in the skimming and churning process, which would, of course, have to come from the 26.5 per cent. We have no methods to determine how much loss is sustained in the process of manufacturing, we can only approximate this by general good workmanship.

Usually, the maker of good butter does good work along other lines, such as close skimming and good churning, but because a man wins a gold medal or makes high-flavored butter, it is no indication that he is getting a large overrun. I believe the American buttermakers are pretty weak on this particular point.

The chemical analysis of Danish butter shows about fifteen per cent. of water, while the American and Canadian butter shows about twelve per cent. Thus, we find that the Dane is making about three pounds more butter to the 100 pounds of butter-fat than our American buttermakers, providing he has the same amount of casein and salt present in his butter. —[Prof. McKay, Ames, Iowa.

To Dilate Constricted Teat.

The question of hard milkers came up the other day, in the presence of a dairyman who had "travelled" considerably. Says he: "Very likely there's a difference in causes, as you say; nevertheless, my plan has never failed me yet, and if there is anything I dislike in dairying, it is those hard milkers. But, I go for them, and in two weeks I have a cure. Just get some slippery elm, you know it is worse than basswood for swelling, make a round plug as thick as a match; make it have a swell-head, so that it will not come out. Wind some silk thread around it. As it swells in the constricted part of the duct, it dilates the teats. Let it stay until you want to milk, then a tug at the silk thread brings it out. Dip the plug in carbolic acid, and then in water that has been boiled, before inserting." The use of a slippery elm plug is preferable to any other kind of wood, for the reason that it swells so gradually the cow is not made uncomfortable, which she would be were a large and less expansive plug of fir, or pine, inserted.—[Jersey Bulletin.

Butter: From the Stable to the Table.

There are two methods of creaming milk, the natural or gravity method and the cream-separator method. As the former is the older method, we will consider it first. We do not advocate the use of shallow pans, only in cases where one or two cows are kept, or in the spring and fall, when the ice supply has given out. Strain the milk into the pans as soon as possible after milking, using a fine wire strainer, with two or three thicknesses of cheese-cloth fastened over the bottom with a tin hoop, so as to be easily removed, for the cloth must be well washed and scalded each time after using. Keep the milk in a cool, well-aired room, free from odors. The milk should stand twenty-four hours in summer, and from thirty-six to forty-eight in winter, and the cream should always be skimmed off before the milk thickens. . . . Where ice can be procured, or where there is a cold spring, the deep pans are a great improvement over the shallow ones. You may use a box or barrel; the only essentials are to keep it sweet and clean, and use plenty of ice. Strain the milk into cans as soon as drawn, and place immediately in the water. To obtain the best results, the milk should be quickly cooled to forty-five degrees or below. When the milk has cooled, cover the cans. Avoid disturbing the milk while the cream is rising.

The ideal method of getting the cream from milk, however, is by the cream separator. A separator, if properly handled, should mean more butter, better butter, more young stock, and less labor.

PASTEURIZING.

Pasteurizing is not necessary if good-flavored butter can be made from the raw cream, but if flavors due to the presence of undesirable germ life, or to cows getting turnips, weeds, etc., are present, pasteurizing will ensure getting good-flavored butter with increased keeping qualities. Keep the cream sweet until sufficient is collected for a churning, then pasteurize it in this way: Place the can holding the cream in a vessel of hot water. Do not have the water rise to over 180° F. or the cream will have a cooked flavor. Heat the cream to 160°, stirring very frequently. Remove from the fire, and let stand twenty minutes. The cream is now a clean seed-bed, into which, if we wish it to ripen quickly, we must put a starter. A good starter may be obtained by filling a sterilized Gem-jar with milk from a healthy, fresh milch cow. Set the jar of milk in a warm, clean place to sour naturally. When sour it should have a clean smell, and a sharp, pleasant, acid taste. The amount of starter to use depends on the length of time the cream is to be held, the weather, and the kind of cream. The amount may vary from five to fifteen per cent. In winter, when the cream is to be churned next day, ten to fifteen per cent. of starter is not too much.

If the cream has been pasteurized, when it has cooled to 80 degrees put in the starter, stir well, cool to between 60 and 70 degrees, then stir occasionally to insure even ripening. When it has a slightly acid taste, cool further to 55 degrees, or lower, and hold at that temperature till churning time. It is well to have two cream cans, as there is always a skimming which should not be added to the can before churning time. No fresh cream should be added to the ripe cream for at least twelve hours before churning time. The cream can should be well washed, aired and scalded each time used. If the cream is not to be pasteurized, to the first skimming may be added a pint of the sour cream on hand. This acts as a starter, and controls the flavor. Stir well each time fresh cream is added, and keep in a room where the temperature is from 55 to 65 degrees. Separator cream should be cooled before being added to the can. When the cream is ripe enough, it should be of the consistency of syrup, and when poured should have a smooth, velvety appearance, and an agreeable taste and smell. Holding the cream too long gives a bitter flavor. Cream should not be allowed to freeze.

CHURNING AND WORKING.

Before starting to churn take the temperature. If it be too cold, place the can in a pan of hot water and stir. Try not to have the cream so warm that it has to be cooled, as it is likely to give soft butter. As to temperature, the poorer the cream, the higher the temperature; the less cream in the churn, the lower the temperature. Where cream is properly cared for, the temperature in winter will vary from 56 degrees to 62 degrees, and in summer from 54 degrees to 60 degrees. Avoid having too much skim milk in the cream, and too much cream in the churn, as these are the two chief conditions that cause long churning. The churn may be either round or square, but should have no dashers inside.

Scald the churn and rinse well with cold water. Strain the cream into the churn through a perforated dipper. In winter, it is necessary to use a little butter-color of a reliable brand—a teaspoonful to four gallons of cream is sufficient. Measure the color, and pour directly on the cream. Put on the lid, and revolve the churn 70 or 80 revolutions to the minute, drawing the plug occasionally to let the gas escape. When the butter has broken, add two or three quarts of water, the temperature of which will depend on the condition of the butter. If it has been quick in coming, have the water 52 to 54 degrees in winter, and colder in summer. If you have been a long time in getting butter, do not add the water until you have