

The Month.

The weather has been favorable for saving the crops. On the whole, we have good crops to be thankful for, although the threshing machine in some localities shows rather a smaller yield of wheat than was anticipated, judging from the appearance of the standing crops. In some localities the crops have been better than for many years past; in others they are not much to brag about. Spring wheat is generally deficient, but we shall have much more to dispose of than we have had for several years. Cereals will bring fair prices. The great call for bread ensures a good market for our surplus, as the supply must go principally from this continent.

The pastures and root crops have much required rain in Ontario the past month; at the same time the farmers in New Brunswick were complaining of too much.

The British farmers have suffered serious losses from over-abundance of rain. The Western and Northern States have a most bountiful harvest. It is now estimated that England, Austria and Germany will require nearly forty million pounds worth of wheat.

THE CHEESE MARKET

has been depressed throughout this season, and the prospects for improved prices are not very encouraging. Many will lose this year, and some will be inclined to go out of the dairy business; but we do not advise this course to be too hastily pursued. Productions are apt to be diminished, and a more general demand for cheese awakened by its cheapness; thus higher prices are sure to follow.

Talks with Farmers.

Mr. Millegan, of Markham, informs us that he does not approve of the advice given in this journal in regard to the late sowing of fall wheat. He thinks that a heavy blade in the fall is more to be depended on for a crop than a small plant, and is less liable to be injured by the Hessian Fly.—Opinions will differ. Perhaps a medium course is best.

Mr. L. B. D. Lepierre, of Paris, says that he does not approve of pasturing clover for fall wheat, but he prefers to take one crop off and let the second grow for plowing under. It will give a better growth for plowing under, after being cut, than when left after feeding the first crop off.

The Waterous Engine-Works Company have turned out 207 of their agricultural engines, the "Fire-Proof Champion," which are now all in use in the Dominion, except a few shipped to other countries. No fire has taken place from their use, neither has a boiler burst nor a flue given out. There are other manufacturers who can report as favorably of their engines in use. In the hands of a careful farmer to manage an engine, we do not consider there is as much danger or liability to accident as in threshing by horse-power. The saving of grain and of horses, and the steadiness of the work, are the great advantages gained. Wherever these engines are obtainable, farmers will not have their work done by horse-power.

A solution of one part of carbolic acid in 300 parts of water is recommended as effective for scab in sheep. A strong decoction of tobacco is a wash well known to shepherds. We should be glad to know if any of our sheep growers have combined the two with effect, and in what proportions.

The heaviest bunch of black grapes ever recorded, was raised in the winter of 1877, by Mr. Roberts, of Tullamore, Kings Co., Ireland. Its weight was 13 lbs., 5 oz.; length 24 inches, and width across the shoulders, 22 inches.

Dairy.**Rennet and its Preparation.**

WRITTEN BY PROF. L. B. ARNOLD.

The decoction obtained by steeping the dried stomach of a calf, or other animal, in some liquid is a *sine qua non* in cheese-making. The gastric agent thus obtained is used by the cheese-maker to coagulate his milk into curd, and to separate the curd from the serum, or whey, as it is called. Usually he has no thought of further effect from it than the separation of the curd from the whey. But this is only the beginning of its action. If its whole efficacy consisted in curdling milk it would be an easy matter to find a more agreeable substitute for that purpose. Acids, alcohol, alum or other astringents may be used for that purpose with more convenience and at less cost. The great importance of rennet does not consist so much in its ability to curd milk as in its further effect in converting the curd into cheese. This is a step toward digestion which can only be accomplished by some digestive agent, such as exists in the gastric agency derived from steeping the dried stomach of the young calf. It is a defect in the use of acids, alcohol, &c., that they lack the digestive power existing in the steepings of rennet. Their efficiency for good ends with their chemical action in producing coagulation. They fail in contributing anything toward inducing the change from curd to cured cheese, and whoever employs acids or other chemical agents as substitutes for rennet in cheese-making, either wholly or in part, will fall short of perfection in the cheesing of his curds, according to the extent of that substitution.

MODES OF PREPARING.

The best method of preparing rennets for use is, after obtaining the strength in the form of steepings, to treat the liquid with such harmless agents as will solidify and precipitate the mucous and other objectionable animal matters which always accompany the steepings, leaving only the coagulating agent in a pure and clear liquid. This work the dairyman can hardly be expected to perform; it belongs to the chemical laboratory, and can only be accomplished by a few chemists who have made the matter a special study. But the finer results in quality and convenience which follow the use of a pure and clean extract of uniform strength are so marked that the future cheese-maker will demand it and will be satisfied with nothing else. Such a preparation is already before the dairy public and is gaining in favor every day.

PREPARING IN BRINE.

The next method in point of excellence consists in soaking the dried rennets in brine. To do this successfully also requires some skill, but nothing more than any fairly intelligent and attentive dairyman can accomplish. The mode of proceeding is as follows: The rennets are carefully selected—a great deal depends on this. None but pure, sweet-smelling, clean, well dried and preserved stomachs, should be used. All objectionable parts, such as bunches of fat, the small end of the sack, and the third stomach (known by its leaf-like folds, if it happens to be on) should be trimmed off, so that there shall be nothing attached that will deile or taint the steepings. Then soak in a pickle made with one-half pound of salt to a gallon of water. When they have become soft turn them inside out and rub well for several days. If the weather is cool, this will be all that is necessary to get the strength out. If it is warm, this pickle will not be likely to keep long enough. In warm weather keep them in the pickle and rub well for only *two days*, keeping the jar in a cool place. Then turn off the liquid in an

other vessel, and salt it with all the salt it will dissolve, to preserve it. Put them in a new pickle made as before with a half pound of salt to a gallon of water, and in this let them be frequently rubbed for *three days more*. Then throw the rennets away and turn the two steepings together, and salt with all that the liquid will dissolve; it will then keep sweet and be ready for use by stirring every time before taking out. While this is being used another batch should be soaking in the same way.

This weak brine is used, not with any fear of injuring the rennet (for it is not known that brine of any strength does any injury to the strength of rennet), but because a stronger pickle than described prevents the strength from steeping out of the rennet-skins. There is often complaint of trouble and loss when soaking rennets in brine. The trouble comes not from the use of brine, but from injury to the rennet before soaking, by bad curing. Rennets which will not keep sweet by treating as described are faulty to begin with, and should not be used.

TEST OF WATER FOR MAKING THE PICKLE.

The water for the pickle should be pure, as it will be liable to taint if it is not. Rennets are often spoiled from this cause. To determine whether it is fit for use, fill a clean pint-bottle with the water and put into it a teaspoonful of granulated or loaf sugar and shake it up, cork tightly and set it where it can be observed. If, after it has stood a few days, it remains clear, it is fit for use. If it becomes turbid, it is bad, and must be heated boiling hot and cooled before using.

PREPARATION WITH WHEY.

The more common way of preparing rennets in this country is to soak them in whey. This is very objectionable. It invariably carries an infection into the milk which makes its mark in the quality and keeping of the cheese. It seems very strange that factorymen, who otherwise appear to be sensible men, should persist (as so many do) in following such a deleterious practice. It is so strangely inconsistent as to be amusing to see factorymen insisting with the most rigid exactness that patrons who carry whey in their cans shall thoroughly wash and scald and scour their cans (which is all right enough) lest their milk should be spoiled by the least speck of whey adhering to a can, while they (the factorymen) themselves will put whey into their milk by the gallon, and often by the pailful, and that, too, after it has stood longer and smells worse than the whey in the tank. Can it be possible that they suppose such sour and putrid stuff loses its power of infection by passing through the rennet-jar? Consistency is a jewel which it would be very gratifying to see more of in connection with the preparation of rennet. The excuse for using whey commonly is that rennets taint if soaked in brine; but the fact is that usually the whey only becomes a cover for hiding the defects of rennets unfit for use, the stronger odors of the whey covering up the incipient taint in faulty rennets.

A large per cent. of the rennets I find in factories is unfit for use in any mode of preparing. This is especially true of rennets preserved in pickle, but defective samples are quite common in those preserved by other modes. Those which have not been dried always impart a strong odor to the steepings and never yield their whole strength. Faulty rennets become doubly worse when treated with whey, even in its best state, but more especially so when the whey becomes sour and stale, as it soon will if not scalded and skimmed. This will obviate much of its ill effects. Among the many ways in which the quality of our cheese could be improved a more careful selection of rennets holds a prominent place. But no one thing that I know of would be likely to produce a more marked effect than to banish, at once and forever, the preparation of rennets in whey.