

Briefly described, the Babcock method of testing milk for butter fat is as follows: A carefully measured sample of milk is placed in a test bottle having a long narrow neck. Next an equal volume of sulphuric acid is added, and the bottle is placed in a wheel which is revolved horizontally from six hundred to eight hundred times per minute, for about six minutes. At the end of this time the fat of the milk set free by the acid has risen to the top of the liquid; hot water is poured into the bottle, partly filling the neck. On again whirling for a couple of minutes the fat will rise through the water into the neck, in a long column, where it is easily read off by graduations on the neck. By this method the fat in skim-milk, buttermilk, whey, cream, and even cheese can be determined. This gives the creameryman a means not only of dividing money for milk among patrons on the basis of fat delivered, but also of watching his separator and churn to detect losses heretofore realized but not accurately located. After the first cost of the apparatus the expenses of the test are small, the acid being the only item aside from the time required; a pound of acid, costing from two to four cents, will make fourteen tests. Dr. Babcock states that after the samples have been measured out, sixty tests can be made and the bottles cleaned, in two hours. The method is not patented.

Cost of Ignorance.

In no business perhaps does ignorance have to be paid for more promptly than in dairying. When we churn, if we don't know the right degree of temperature for the cream we may either waste many hours at the crank or else have the butter come too soon, with flavor and texture ruined. If we don't know how to feed our cows we may be wasting feed every day; we may be dairying with the wrong breed, and so on through the whole business, if we do not have the knowledge we are always in the way of making heavy losses. In the present state of dairy science it is inexcusable for any one to go blindly, about his work, when he, by a little reading and study, can be as fully informed on every dairy subject as the most expert.

Causes of Ropy Milk.

This is a matter that has puzzled many a dairyman and milk dealer, as well as farmer. Such milk is almost useless and unchurnable and yields a very small per cent. of butter, and it is well to know the cause and remedy, if any. Prof. F. G. Short, the State Chemist for Wisconsin, says this about ropy milk in the annual report of the Food and Dairy Commissioner for that state:

"Ropy milk is said to be produced by a variety of causes; illness of the mammary glands, inflammation of the udder, cold of the same organ contracted by lying down on the ground, atmospheric influences, fodder containing certain plants, distillery slop, unclean rooms and utensils, etc. The remedies are equally numerous. The alleged causes for ropy milk point to two assumptions: either the milk when drawn from the cow is infected with the ferment, or the milk is infected after it is drawn from the cow. No experiments have been made to prove or disprove the first assumption. That ropy milk may be caused by infection after it has been drawn from the cow has been proved by experiment. If sterilized milk be inoculated with ropy milk and kept at a suitable temperature, it will be observed that no cream rises to the top, and that the milk gets ropy within twenty-four hours. After forty-eight hours have elapsed, the milk is of such consistency that it will not flow out of the vessel containing it even if the latter be turned upside down. The most suitable temperature for this development is 86° to 104° F. The energy of the ferment diminishes with rise of temperature, and at 104° F. it is entirely destroyed. Freezing prevents the development of the ferment, but does not kill it."

The Farm.

A Model Subordinate Grange.

The Mutual Grange, No. 32, which meets monthly at Lambeth, Ont., is a model. We give a report of its last meeting that others may take note thereby. At their last meeting the election of officers took place; after the election and installation was concluded, the Black Knot and its destruction of our fruit trees was discussed, the subject being selected at the previous meeting. The discussion was heartily entered into by the members. Several remedies were mentioned and suggestions made, after which the following motion was unanimously carried:—

That we view with alarm the increase of what is known as the Black Knot in our plum and cherry trees, and, as symptoms of it is appearing in some varieties of apple trees, we would call the attention of the proper authorities to the fact, and think that the law should be more vigorously enforced.

A brother then gave a song, which was well received. After routine business, it was resolved that the subject for discussion at the next meeting be "Railroad Monopolies and How They Affect the Interests of the Farmer," to be followed by instrumental music by two members which were named.

For a time the Grange seemed to slumber; many of the Subordinate Granges ceased to meet; but we are glad to notice that a revival has taken place. The Grange is capable of being of great advantage to the farmers. The machinery for organization is very good and should be made use of.

The Permanent Central Farmers' Institute.

The representatives of the county institutes to the above held their session in Toronto from February 3 to 5, inclusive. The attendance was larger than in any previous year, and a number of new faces were to be seen, and among these we noticed many young men of the country. Doubtless these were selected on account of their knowledge of the requirements of the sections of country from which they were elected. Like the former meetings, the proceedings occupying much of the time partook too strongly of the character of the county institutes, which is to be lamented, and this must be ascribed to the executive committee, on whom depend the selection of the papers read. It is all very well, and a profitable time to those who have the good fortune to attend; but this can hardly be the object sought by those who founded this representative body: that more widely reaching information that could be carried from this to the branch institutes is what is required, such as experiments illustrated by specialists in some line of agricultural work. It is impossible that sufficient able men, qualified to teach the better informed and most advanced agriculturists, can get all over the Province of Ontario in a few weeks that are devoted to institute work; and to keep up the interest, new ideas should be advanced. At the past meeting most interesting addresses were given by Hon. John Dryden, Prof. Wm Saunders and others, while President Awrey added much to the life of the proceedings by the admirable manner in which he conducted in his official capacity. We hope to give proceedings later.

The Local Legislature, as before intimated, has elected Thos. Ballantyne, Esq., Stratford, as Speaker. This is another move in favor of agriculture. The present Speaker is not only farming himself, but is qualified to know what is required for the benefit of this, the largest interest of our country, as well as any of his colleagues.

Varieties of Seed.

In view of the varied results which must always attend the growing of all crops, arising from climatic differences and variety of soils, it is most desirable that every farmer should test a few of the best and newer varieties of seed each year on his own farm. This practice would not only enable each person to derive the greatest benefit from the valuable work done by the experimental stations, upon which the home-testing should be based, but would give facilities for becoming acquainted with the characteristic habits of new varieties, and also provide reliable seed at the lowest possible cost. If careful selections were made in this way, not in all cases of varieties giving the largest yield, but of those which combine the greatest number of desirable qualities established by exhibitions of well-doing, the benefits resulting could not well be over-estimated. The summary of tests made with different varieties of oats and barley at the experimental stations in several states during the last few years show the following yields:—

OATS.	Maine.		Pennsylvania.		Illinois.		Wisconsin.	
	Bush.	per acre.	Bush.	per acre.	Bush.	per acre.	Bush.	per acre.
White Scotchman	51.		31.9		82.7			
Clydesdale	47.3		33.8					
Wide Awake	42.6	79.38	28.6		82.5			
Texas Rust Proof			55.9		47.8			
New Race Horse	46.6		24.4		76.4			
Improved American		88.44	85.3					
Improved White Russian			25.6		89.5			
White Defiance			81.1		76.8			
Welcome	48.	50.93	38.4					
White Wonder		49.38	35.6					
White Centennial	23.3				50.5			
Canadian Black								
Texas Red			49.7					
Virginia Winter			20.					
Hopetown	25.33		35.9					
BARLEY.								
Mansbury	26.6	31.49	73.4					
Scotch		31.91	70.1					
Imperial	30.6				50.6			
Black		23.09						
Champion Two-Rowed	55.6				44.0			
Chevalier	33.3				55.3			
Nepaul	39.6							

Below are the results of tests made at the Ontario Agricultural College respecting the comparative yields of spring wheat, barley, oats and peas which have succeeded best with them:—

VARIETY.	Where obtained.	Bush. per acre.	Lbs. per bush.	Tons of straw per acre.	Date of maturity.
Herison Bearded	France	37.2	64	1.80	Aug. 8
White Fife	Ontario	29.9	60	1.39	Aug. 14
Bart Trimenia	Greece	26.3	64	1.06	Aug. 10
Rail Russian	Ontario	22.1	57.4	1.91	Aug. 11
Rail Farm	"	21.9	60	1.18	Aug. 11
Chevalier (two-rowed)	Germany	45.5	62.4	2.13	Aug. 6
Empress (two-rowed)	France	45.4	51.4	1.92	Aug. 6
Oder-rucher (six-rowed)	Germany	43.8	54.4	1.42	Aug. 1
Early Black (six-rowed)	Germany	44.4	52.4	1.61	Aug. 1
Early Black (six-rowed)	Ontario	41.7	54.4	1.27	July 31
Scotch Improved (two-rowed)	"	40.1	51.4	1.29	Aug. 9
Gaquette Black	France	40.1	51.4	1.29	Aug. 9
Hoodan Black	"	39.1	51.4	1.29	Aug. 9
Oderbrucher	Germany	38.6	51.4	1.29	Aug. 9
Darabroy	"	38.6	51.4	1.29	Aug. 9
Sherida	France	38.6	51.4	1.29	Aug. 9
Swedish	England	38.6	51.4	1.29	Aug. 9
Early Race Horse	Ontario	38.6	51.4	1.29	Aug. 9
Mummy	England	38.6	51.4	1.29	Aug. 9
Early Britain	"	38.6	51.4	1.29	Aug. 9