

the butter worker resulted in lack of uniformity in moisture. Having rollers out of alignment also resulted in improper working. When butter is in small granules it is washed to remove casein and enough water is used to float the butter in the churn. Butter is worked thoroughly and tested for moisture. If butter when first gathered is broken open it will show large drops of moisture. After more working the drops or tears will be small. If working is continued after moisture drops are about size of pin heads there is a tendency for butter to become pasty. Butter can be worked to death. Over-working was believed to be one cause of fishy or off-flavor butter. Good cream and proper working are essential to the making of high-quality butter. Many makers might well pay more attention to the working of their product so as to get greater uniformity of the moisture and salt content, and thus improve quality.

The discussion following Dr. McKay's address was led by Mack Robertson, President of Canadian Creamery Association. The speaker emphasized the importance of creamerymen exercising great care in taking samples and making tests. Using the scales in place of pipette for measuring samples was strongly advocated. The scales give a more accurate sample than can be secured by a measuring pipette. When but a small sample is taken from a can of cream it is important that accuracy be maintained. Control of salt and moisture content of butter were considered as points which should be carefully studied by creamerymen. It is not so much the amount of salt used as the percentage incorporated and retained in the butter which is important. Lack of uniformity of salting impairs the keeping quality of butter.

The Canadian Milk Products Co. of Toronto was represented by S. B. Trainer, who explained some of the processes through which milk passes in being reduced to a powder. Milk powder is a product in condensed form which can be stored and held and readily returned to its normal state. According to the speaker condensed milk has 28 per cent. of milk solids including fat, with 42 per cent. sugar added. Evaporated milk has 28 per cent. milk solids with no added sugar. The milk is put in containers and run into big retorts and steam cooked at a high temperature to destroy bacteria. The manufacture of milk powder is a continuation of evaporation until only solids remain. Milk contains around 87½ per cent. solids, the remainder being water. Milk powder is raw milk which has been pasteurized. The product is dried, and so long as it is kept dry bacteria cannot grow or multiply. If the milk is pure at the commencement of the process it is pure when placed in containers and remains pure if dry.

The first system of drying milk was the roller process. Two steel steam-heated rollers run together and the milk passing between them was pressed into a thin film and the moisture is turned into vapor, the dry material sticking to the slowly-revolving rollers from which it was scraped. This heating cooked the milk and changed its composition so that it could not be returned to normal condition. By the modern method of evaporating the water from milk, in the process of making milk powder no change in the milk nutrients takes place, so that by adding water to the powder the product is returned to practically its normal state. The milk must be up to certain specifications and is paid for on percentage fat basis. The milk is filtered and then flows into the pasteurizing and drying vats. Everything possible is done to turn out a clean product.

Ice Cream Considered a Food.

W. H. Foster, President of the Ice-Cream Association, went into the history of the ice-cream trade and outlined the method of manufacture of this product, which is termed a luxury by many. Improvement in methods of manufacture has tended to greatly improve the product, which in turn has increased the demand. While ice cream was sparingly eaten in years past it is now considered as a food, and medical men frequently prescribe it to convalescent patients.

J. Bingham, of Ottawa, speaking on the same subject, termed the ice-cream trade as the "safety valve for the city milk trade," as the demand for ice cream during the warm weather when the milk flow is greatest has furnished a market for the surplus milk and kept the price to the producer stationary.

D. McMillan, Instructor in Ice Cream Manufacture at the O. A. C., also discussed the ice-cream trade, and outlined formulas for manufacture of the product. The speaker claimed that there was difficulty in making an ice-cream of high fat content that would keep.

This was the first time representatives of various dairy interests had met in conference, and the general opinion of the meeting was that similar conferences might advantageously be held. While a provincial organization was not formed the machinery was set in motion, and in the near future it is believed that the organization will be effected.

POULTRY.

Egg Prices Firm.

Eggs are selling at an unprecedented price for this time of year. According to the Egg and Poultry Markets report for the week ending April 9, eggs were selling at country points for 38 to 40 cents per dozen. The lowest price was in Manitoba, where 32 to 34 cents was the price given. At the above mentioned price the retail trade is asking around 50 cents; in fact, in Montreal, Ottawa and Vancouver as high as 55 cents was secured. With the approach of warm weather and the hens getting on free range, it is but natural to expect that receipts will increase rapidly which will no doubt cause prices

to drop somewhat. There has been no surplus so far for storage purchase, but it is expected that some will go into the coolers in the near future. The export outlook is giving the trade some concern, as they do not know whether they will be allowed to ship direct to their customers in Great Britain or if they will be compelled to sell to the Allied provisions buying Commission, and if so what will be the price paid for Canadian eggs as they are more favorably thought of by the British trade than the American eggs. The receipts of live and fresh-killed poultry have never been known to be lighter for the season. The market is firm and everything is picked up on arrival.

The Egg and Poultry Markets report also gives the gist of the regulations respecting the inter-Provincial and export shipments of eggs, which are as follows: "Regulations have been passed by Order-in-Council to become operated under the provisions of the Live Stock and Produce Act" respecting the grading and marketing of eggs. These will apply to all eggs for export for which they become operative immediately, and eggs for domestic consumption intended for shipment from one province to another in lots of 100 cases or more, on and after May 1, 1918. Provision is made in the regulations for fresh eggs with the grades, specials, extras, pullet extras, No. 1's or firsts, and No. 2's or seconds; for storage and preserved eggs with the grades, extras, extra firsts, No. 1 and No. 2, and for cracked and dirty. The marking of export cases in accordance with the class and grade of the eggs is provided for; also the packing and material to be used in the cases. Inspection will take place at point of shipment, but before the Government mark is placed on any case. Inspectors charged with the enforcement of these regulations will draw samples from at least five per cent. of the cases to be marked and examine at least one-half of the eggs in each case.

HORTICULTURE.

Study the Spray Calendar carefully (it appeared in the issue of April 11) and follow instructions closely.

A good vegetable garden will help wonderfully in the conservation of those foodstuffs badly needed overseas.

In spite of the cost of labor and material, it will pay to spray all orchards or plantations that are operated for commercial purposes.

Don't plant scabby potatoes without first treating them. Before cutting immerse the potatoes for two hours in a solution of one pint formalin to thirty gallons of water, then dry and handle as usual, being careful not to allow the sets to come in contact with infected barrels, bags or baskets.

Arsenate of lead paste purchased last season, but unused, should be all right this spring. If the moisture has evaporated from it, mix to a paste again with water and use in slightly larger quantities than usual. For instance, where 2 pounds are ordinarily used put in 2½ pounds of the held-over material.

Trees that have been ruined by mice or rabbits should be replaced and all gaps filled in. An orchard of any kind to be profitable must be complete. There is an under-current of feeling that better times are coming for the enterprising fruit grower, and to share in this we must be prepared.

Aphids on the Apple.

Aphids do considerable damage in apple orchards, and preparations should be made to combat them from the very first. Because they are so small, they are frequently overlooked early in the season, but after the leaves are out and the young insects have multiplied to enormous proportions it is then usually too late to do anything with them. They curl the leaves around them, and it is very difficult to strike them with the spray, which must be done in order to destroy them. Most of the damage is done on bearing trees on the lower branches. The tender twigs and fruit are attacked, the leaves are made to curl, turn yellow and often die. The fruit becomes dwarfed, woody and pitted. Little clusters of small, deformed apples are frequently seen attached to the lower branches. Such fruit is the work of aphids, and is altogether unfitted for sale. Young trees and nursery stock often suffer severely since the foliage is very tender. When badly infested the growth of the tree is retarded and little preparation is made for the next season.

The eggs are laid on the bark of small branches and water sprouts. The hatching of these is usually completed in the spring, usually about the time the leaf buds have begun to burst. An examination of the buds just as they are bursting will often reveal these minute insects making their way towards the green tip of the bud. They multiply in enormous proportions, and to combat them effectively it must be done before any great amount of leaf development is shown. In some orchards they are seldom abundant enough to do much injury, while in orchards in different situations the loss is considerable every year and should not be minimized.

As a means of control it is recommended that the regular dormant spray be postponed until the buds are beginning to burst, and then add to the mixture a tobacco extract, either Black Leaf 40, or Nicotine-sulphate 40 per cent. This material is purchased in cans, with instructions as regard to quantity to be used printed thereon. The spraying, of course, must be thoroughly done, and every bud must be covered. These tobacco

extracts seem to be the most effective, and it is possible to control the aphid with them.

Some Different Opinions.

Some difference of opinion seems to exist in regard to spraying operations in Ontario and Nova Scotia. There has been a feeling in the Annapolis Valley for a few years that many crops, or a part of many crops, have been sprayed off with lime-sulphur and now Bordeaux is coming back. The growers there are manipulating their sprays so as to overcome the russetting that Bordeaux causes, and at the same time they will attempt to conserve what set of fruit they get and not endanger it with lime-sulphur sprays late in the season. Ontario growers have been pretty successful with lime-sulphur, and see little danger in it similar to that experienced in Nova Scotia.

Again, in regard to insecticides, the Annapolis Valley growers are quite successful with arsenate of lime and are using it extensively. Experimentalists in Ontario do not consider it safe as yet, and will not take the responsibility of recommending it without certain limitations. It is undoubtedly a cheaper insecticide than arsenate of lead, but if it is not thoroughly reliable and trustworthy in Ontario the growers would be wise to use it more in an experimental way.

These differences are, no doubt, due to conditions, which vary considerably, even within one province. Ontario and Nova Scotia are widely separated, and what applies in one place may not in another. Growers, however, should take an interest in such matters and do some experimenting on their own account.

FARM BULLETIN.

Successful Seed Fair and Short Course.

EDITOR "THE FARMER'S ADVOCATE":

A very successful Short Course and Seed Fair has just been concluded at New Liskeard, Temiskaming District, and it is thought that a brief account of the proceedings might prove of interest to many. The seed exhibits included several varieties of oats, including O. A. C. 3 and 72; Banner and Abundance. There were also shown Marquis and Red Fife wheat; O. A. C. 21 barley, and some splendid samples of peas, potatoes and clover. Many of the grain exhibits would be a credit to any agricultural district, and demonstrate in a practical manner the possibilities of the Northland. The course of instruction lasted three days, covered a wide variety of subjects, was well attended and appreciated. Part of the first day was occupied in the judging of the various exhibits; this was performed by Dr. C. A. Zavitz of the Ontario Agricultural College, and following the judging Dr. Zavitz delivered a lecture in which he enumerated his reasons for so placing the awards, pointing out the defects of some grain, and the merits of others.

Mr. Nixon, Superintendent of the Monteith Demonstration Farm, lectured upon Soils, and stated what was in his experience the most expedient methods of working the soil of the North.

The second day was occupied in part by an extremely interesting lecture and demonstration on the Judging of Horses and Cattle.

The speaker was W. J. Bell, B. S. A., and he gave a practical, instructive address; suggested the type of horse that the farmer should aim to secure; explained the proper conformation of the true dairy cow, and showed wherein she differed from the true beef animal.

On the evening of the second day, a well attended meeting was held, addressed by A. H. McLennan, B. S. A., his subject being "Backyard Gardening". His lecture was illustrated by means of the cinematograph, a feature that was highly appreciated and one that should prove of real assistance to agricultural lecturers, a feature worthy of further development.

A picture was also shown illustrating the process to which cream is subjected at the Ontario Creamery, New Liskeard. This creamery is meeting with great success, as it satisfies a long-felt want of the farmers here. The institution presents an outlet for dairy produce, and offers an incentive to engage more extensively in the dairy business.

Mr. Bell, again interested a large audience on the morning of the third and last day. His subjects this time were sheep and hogs, and a very profitable time was spent listening to the description of what constituted a good brood sow, and observing the method to be followed when judging sheep.

I would like to say in passing that I consider Mr. Bell to be an ideal type of lecturer, whilst pointing out all the desirable features that should accompany the perfect type of animal, he realizes the difficulties that attend such an attainment; he presents his points in an interesting manner, devoid of technicalities, and adds the convincing testimony of practical experience, either his own or gleaned from prominent breeders of the best type of stock. The Department could utilize more lecturers of the type of Mr. Bell.

The balance of the last day was occupied by a lecture by L. A. Zufelt of Kingston, his subject being Dairying. Mr. Zufelt showed the advisability of encouraging the growth of the cream industry, explained some of the causes for variations of the cream test, and enlarged upon the advantages of centralized buttermaking.

The management expressed themselves as well satisfied with the exhibits and attendance, and propose to stage a larger and longer course next year.

New Ont.

NORTHERN SCRIBE.