

ck Test.

depends upon the erefore, the profits y, as well as upon e cow. Since the ally as a basis for lk and since not d not to know the ws, more general ry. The following ear the process of ucts—milk, cream,

not be expensive. e apparatus needed m, which includes ttles, a pipette, an 2 to 1.83 specific ck tester.

if a proper sample verage of the whole is suspended in the ticles and is free to ssary to ensure an ished by pouring ng from each cow, d then immediately

e sample is a pro- m each of a series als needed in order preservative tablet rked bottles and a r testing this sample to 110 degrees and eegrees. A sample e kept for a period eading represents e time covered.

TEST.

two scientific princi-

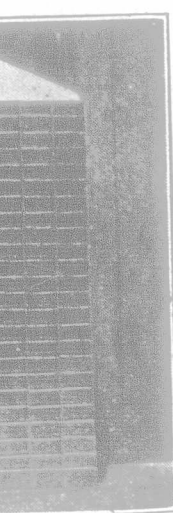
upon and dissolves especially the casein thus liberates the aration more easy. emical action, too, urther and be more

etween fat and the ein, and ash, is very gal force throwing tion and the lighter a liquid is whirled, rtrifuge or whirling ade use of in the

ILK.

erature between 60

e by pouring from



olding Tags.

entimetres) pipette, of the pipette, and bottle. Care must amount required to

.83 specific gravity emperature is then easuring flask and e neck of the test

n the acid and milk continued until all

entrifuge, and whirl he machine) for five

ater (180 degrees or bottom of the neck. again.

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THE FARMER'S ADVOCATE.

1381

9. Add hot water to float the fat in the neck between the lower and upper graduation marks.

10. Whirl again for two minutes.

11. Place the bottle in a bath of water at 130 degrees to 140 degrees Fahrenheit. Make certain that the portion of the neck containing the fat is immersed. Leave there for three to five minutes.

12. Immediately after removing the bottles from the bath, extend the points of the calipers from both extremities of the fat column. Transfer the calipers so that the lower point is on zero and without changing the extension of the points make reading, which will be given direct in per cent. and tenths of per cent.

13. A test of 3.5 per cent. means that 100 pounds of milk contain 3.5 pounds milk fat.

NOTES ON TESTING.

1. Government stamped glassware should be used.
2. Bottles must be cleaned immediately after use.
Use washing soda to remove the grease and rinse out with hot water.

3. Perform each test in duplicate to allow for any accident and to ensure accuracy. The check reading should correspond within .1 of one per cent.

4. A clear golden, yellow colored reading should be obtained. Light or cloudy readings result from cold temperature of acid or milk, weak acid, insufficient acid, improper mixing or too slow speed. Burned or dark readings result from warm temperatures, too much or too strong acid, direct falling of acid on the milk, or allowing the milk and acid to stand too long before mixing.

TESTING CREAM.

Since cream varies greatly in the amount of fat it contains, the weight of different samples differs and always is lighter than milk. A larger sample then is necessary. In order to ensure accuracy in obtaining the sample, actual weighing is essential. Manitoba legislation demands that any cream that is bought or sold according to the Babcock test must be sampled by weighing. Eighteen grams are weighed on a special cream test scale and delivered to a cream test bottle, which is graduated to read as high as 50 per cent. An 18 c.c. pipette will measure approximately the amount of cream used for a test and might be used by a farmer to get a fair estimate of the test of his cream; but in no case could he sell cream on this basis. Cream testing resembles in detail the test for whole milk, once the sample is properly obtained.

A little less acid is needed as a rule. Sufficient to give a rich chocolate color is plenty for the test. The reading, too, is a little different, and should be made from the bottom of the fat column to the bottom of the meniscus (the shadowed and curved portion representing the upper surface.)

SKIM-MILK, BUTTERMILK AND WHEY.

Skim-milk, buttermilk and whey, which might be

classed as milk by-products, can also be tested for fat by the Babcock tester. A minimum loss of fat in these is important, and the cream separator, the churning conditions, or the cheese making operations should be put to the test of efficiency and improvement made if necessary. The bottle for this test is double-necked and reads to one one-hundredth of one per cent. fat. Since skim-milk is high in curdy matter, a slightly larger amount of acid is required to dissolve the casein. Considerably less acid is used when whey is tested.—By Norman James and R. W. Brown, Manitoba Agricultural College.

HORTICULTURE.

Fruit Crops and Conditions in the Niagara District.

About ten days ago a representative of "The Farmer's Advocate" spent a day visiting sections of the Niagara District with a view to ascertaining the state of the fruit crop and conditions generally. On the whole there is no discount for the size of the crop; almost everything is good from grapes to peaches. One need not particularize as to the various fruits to any extent, because with only minor exceptions crop conditions are entirely satisfactory. The growers of whom we enquired made few or no distinctions in their remarks about the quantity likely to be harvested of the various fruits. Some older patches of red raspberries were severely injured by the winter, and consequently have small crops, while blackberries are also light as a rule, and for the same reason. Black currants are light all over, and in this case no one seems to know just why. Grapes are a first-class crop, although not perhaps quite so good as last year, which was exceptional. Plums are very heavy, and some growers are beginning to be rather anxious as to how the market will turn out. Cherries were universally good, and more than good. Sweet cherries having done extraordinarily well while there is a good crop of sour. Peaches, too, are heavy, and there are few sections where poor orchards can be found in any numbers. Elbertas are beginning to drop some, we were informed in the St. Catharines district, but there is sufficient crop to make a good deal of thinning necessary for best results.

Prices, too, have been good, and one very successful grower said, "We never had such a crop (of fruit generally), and prices have been extremely satisfactory." Whether or not this sentiment would be echoed by the majority of smaller and perhaps less successful growers we cannot say, but we did not hear any complaints at any rate. Sweet cherries were just going at the time of our visit, and in spite of a heavy crop and the sugar

scarcity the price rose instead of lowering as the picking progressed. Canning factories this year have played the part of a dog in a manger, and growers have not known to the slightest extent in what direction factory prices were going to jump. The factories seem to have been very consistent in refusing to tell growers whether they were going to can or not, much less offer a fair price for raw fruit. The canning factory in the district is so well established as a market for a great deal of the fruit, and so many of them are controlled by one firm that perhaps this firm does not feel it need concern itself about the grower. Wisdom even in moderate quantity might well remind it of the time-worn phrase that "pride goeth before a fall." It is inevitable that the farmer's share in the delivery of canned goods to the consumer must ever be the largest, and that, therefore, he has the most at stake, and can never be treated indifferently by any set of persons for any great length of time. The fruit grower is more important to the canning factory than the factory is to the grower, and when anyone walks into one's house and makes himself at home without invitation, it is about time for an understanding all round. The difference between the grower and the canner or any other distributor of food products is that the former is in business because someone must supply food for the nation, while the latter is permitted by both producer and consumer to engage in his business so long as he behaves himself reasonably well. If he forgets his place in the community there are ways of providing discipline just as effective as the discipline provided for children in the home or unruly members of society generally.

The chances are, however, that any organization that practically controls an industry over a wide area can continue to fool all of the people all the time so long as the latter continue to market their products individually to one big company.

The basket problem is the biggest immediate problem facing the grower to-day. Probably because baskets are so difficult to obtain, those who are fortunate enough to have a supply on hand will be able to market their peaches and other fruits to good advantage in spite of the high price of sugar. There seems to be sufficient sugar in the country, but it is held at exorbitant figures. Another reason for high fruit prices is probably the reduced acreage. This holds true particularly of small fruits which require a lot of labor to grow them successfully. Even the tree fruits, such as peaches, have not been planted in the recent years in anything like the usual quantities, and the result is a firmer market.

Just what the condition of the tender-fruit industry is in the Province is hard to estimate. A few growers at best are making money at a goodly rate, but there are many complaints from others who have bought at high prices that the fruit industry is not on the whole a very profitable one.

A Clean Crop of Apples in a Bad Season.

IN the early nineties C. M. Ruscoe began setting an orchard near Centreville, in the Annapolis Valley, Nova Scotia, and all the encouragement he received from the apple enthusiasts at that time was the local opinion, verbally expressed, that it would land him in the poor-house. Had Mr. Ruscoe respected neighborhood customs and traditions, and only set about five acres of orchard, he would have had the good will and best wishes of the community; but the fortunate mistake he made was to obstinately keep on setting apple trees until he had fifteen acres in one block. That was more than local prophets could tolerate, and the writer remembers how unreservedly they consigned "Cad." Ruscoe to the House of Refuge, because of his wild and untraditional venture. A good deal of water has flowed under the bridges in the Annapolis Valley during the last twenty years. Markets have been good, some

years, and in others there have been practically no markets at all. Crops have been good and bad, clean and dirty; but all the time this fifteen-acre orchard has been growing in the size and productiveness of the trees, until last year Mr. Ruscoe marketed 2,800 barrels of apples. He "sold them well," and to a representative of "The Farmer's Advocate," he naively remarked "It is quite encouraging to make a dollar once in a while."

The prophets of fifteen and twenty years ago were wide of the mark.

There is another feature of this story which we wish to dwell on, namely, that C. M. Ruscoe's orchard was reputed to be the cleanest in the Valley last year. Other orchards might have been as good in respect to late fall and winter varieties, but in one of the worst seasons experienced in Nova Scotia Mr. Ruscoe's Gravensteins showed only 9.6 per cent. of scab, and the cleanness of

this variety won the reputation for the orchard here being discussed. Mr. Ruscoe himself made no claim for the superiority of his fruit last year; the statement regarding the cleanliness of the orchard came from fruit experts, as well as from apple buyers, and on the strength of information so obtained the honor has been thus bestowed without any responsibility on our part.

WHERE DUST PROVED EFFICIENT.

Early in the spring of 1919 Mr. Ruscoe had a worn-out, unsatisfactory spraying outfit on his hands, and one day when it proved uncommonly exasperating, he went to town and ordered a complete dusting outfit. He applied one-and-a-half tons of dust during the season, and found that he could dust in 2½ hours what had formerly required 1½ days to spray. It has been customary so far, in the Annapolis Valley, to dust



Harvesting a Splendid Apple Crop on the Farm of Joseph Kinsman, near Lakeville, in the Annapolis Valley.