crop is attributed to no other cause than the indiscriminate gathering of the buds used by the nurserymen. The prolific tree being, as a rule, not a tree where there is a superabundance of buds suitable for propagation, the nurseryman takes the buds from one of the same variety, but one which has a disposition to form a shade tree rather than one with heavy fruiting qualities.

In starting an orchard a serious mistake is often made by not giving the trees sufficient room. Sour cherries do well when planted twenty by twenty feet apart. Sweet cherries should have at least a distance of twenty-five by twenty-five, and the more spreading thirty by thirty feet. In my newer plantations I stake the orchard at twenty by twenty feet, and then start planting alternately each way a cherry and a peach. This makes the cherries about twenty-eight and a half feet apart diagonally. The peach coming into bearing more rapidly, and being shorter lived is used as a filler, and must be pulled out so as not to interfere with the cherries, which should not usually occur until after the trees have reached the age of ten or more years. The nursery stock, as procured from the nursery, should be one or two years old from the time of budding, the former is usually a straight, upright growth usually called a "whip." the two-year-old is branched.

From past experience fall planting of sweet cherries is most desirable for the Niagara District. One can get a better headed tree, as the buds are dormant, and the roots become firmly settled in the ground, and an early start in the spring is essential. If spring planting is followed they should be planted as early as the ground is suitable, as the buds usually swell very early, and many get rubbed off even with the most careful handling. After planting do not prune back too much. The terminal bud is the one where the growth starts most readily and then the several buds surrounding the terminal bud. I prefer to have the trees headed not lower than three feet from the ground, and three feet six inches is better for the more spreading varieties.

If you have a two-year-old tree, it will likely have a head formed, and if it is the proper height you may cut out the vertical growth of the terminal bud in the centre formed the preceding year, but don't shorten in the laterals if the tree has been fall planted, for top and root growth develop simultaneously, and if you cut off the one you retard the other. From actual test at the Vineland Experimental Farm the losses from the shortened-in trees were fifty per cent. greater than those left unshortened. My preference is to have a tree forked with three branches spaced evenly, and if you have such do not, under any consideration, cut it back. There is a common belief that a heavily pruned tree grows faster than an unpruned tree, and many prune heavily to "force wood growth." If you wish a tree to increase in size just let it grow. If you wish a strongly-forked tree leave the branches which from first form the main shoot. The fast-growing branch is erroneously called a strong growth, whereas in reality the heavy-growing, upright branches are not the strongest growing, and the more rapid and upright growths stimulated by excessive pruning while forming the head of the tree is a source of weakness and trouble later on.

The future pruning of the tree is not a very serious problem. It consists of the pruning of some of the unnecessary branches that form in the centre of the tree, and trying to allow the tree to take on a natural rather than a forced wood growth. Do not allow one side of the tree to grow at the expense of the other. If it is necessary to remove rather much wood from the centre of the tree, a modified system of summer pruning may be adopted, this is best done about the middle of July. This has a tendency to check wood growth and cause the formation of fruit spurs. As the trees start to bear the fruiting will retard the excessive wood growth and the manure may be applied more liberally. When the trees are in full bearing, liberal applications of barnyard manure may be applied in the winter, with the addition of about four hundred pounds of bone meal in the spring and about two hundred pounds of nitrate of potash per acre.

THE DAIRY.

The herd sire requires exercise during the winter. If a yard or box stall is not available to turn him loose in, lead him around for exercise occasionally.

If the young calves appear a little unthrifty or are scoured slightly add a small quantity of lime-water to their drink and keep them in clean, well-ventilated pens.

Did you keep feed and milk records last year? Some who did for the first time were surprised when they balanced the books at the end of the year. A few of the cows which were considered to be in the second-rate class gave a larger net profit than some of the pets. It is not so much the quantity of feed a cow eats as how much profit she makes after deducting the price of feed and labor.

Twenty-two Ayrshire cows and heifers qualified in the Record of Performance test between December 15 and January 4. There were five in the mature class, with Lady Jane standing at the top with a total of 13,100 pounds of milk and 514 pounds of fat. Lady Floss of Springbank was the only cow to qualify in the four-year-old class. She gave 8,298 pounds of milk and 325 pounds of fat. Lenore 2nd was first in the three-year-old class, giving 11,302 pounds of milk, testing 4.38. The two-year old class was led by McGregor's Laurie May with 13,060 pounds of milk and 503 pounds of fat.

Eastern Ontario Dairymen Meet.

The 41st Annual Convention of the Dairymen's Association of Eastern Ontario was held in the town of Perth, January 10 and 11. This particular town and surrounding district won world-wide fame in 1893 when the local dairymen supplied milk for the manufacture of the mammoth cheese which did so much to advertise Canadian dairying. This particular cheese weighed 22,000 pounds, and 207,200 pounds of milk were required in its manufacture. The convention held this year eclipsed similar events held in the past, not only in attendance but in the nature of discussions and quality of exhibits of cheese and butter. Questions of vital importance to dairymen were dealt with by men who knew whereof they spoke, and dairymen presented their side of the problem in a clear, concise manner. While prices for dairy products have been high the past year, which resulted in patrons of Eastern Ontario cheese factories securing considerably more revenue than in past years, it has not been smooth sailing. Help has been scarce, which put more work on the dairyman and his family in order that the milk supply be kept up to normal. Feed has been higher priced than usual, so that taking everything into consideration the price of cheese did not net the dairymen undue profit in 1917. However, all present at the convention appeared willing to bend every effort to further production, but they did ask for a square deal.

The attendance at all sessions surpassed that of previous years, which showed the interest taken in the Convention by dairymen of Lanark and surrounding counties. Those who did not avail themselves of the opportunity afforded missed a chance of securing valuable information. The convention adopted a resolution requesting the Government to strenuously enforce regulations under which oleomargarine is sold so as to protect, as far as possible, the producer of butter. A resolution was also passed in favor of a deputation of dairymen waiting on the Minister of Agriculture in order that they might present their views on cost of production and prices of dairy products, with the view of having price of the manufactured article commensurate with the cost of production so that there will not be a falling off in the output of dairy products.

President's Address.

In his opening remarks J. N. Stone, President of the Eastern Ontario Dairymen's Association, commented upon the numerous changes which have taken place since the convention was held in Perth seven years ago. The war has affected all classes of occupations and industries, but the cheese and butter industries have not suffered so severely as some as the price of both has increased, but, even at the high price of cheese during 1917 the President believed that dairymen producing milk for other lines than for cheese were the most fortunate. If the cheese dairymen are expected to fill the requirements expected of them, it was felt that they must be paid a fair price with their neighbors. Mr. Stone stated that "if the cheese price is correct then the prices of other dairy products are too high." The labor problem confronts dairymen, and lack of suitable help prevents many from increasing their herds. Labor-saving devices, such as milking machines, may help solve the problem. The President mentioned having seen several machines in operation the past summer, and all were giving entire satisfaction.

Mr. Stone outlined what the executive of the Association had done in an effort to protect the dairy industry against the competition of oleomargarine. This substitute was allowed to be manufactured in and imported into Canada as a war measure only, and if allowed to continue after the war he felt that a wrong had been done the dairymen. The executive believed that the dairymen had a right to be heard when the question was under consideration, but the order was put through without the authorities knowing whether the dairymen were in favor or against the order. It was believed that some organization would be needed to prevent oleo injuring the dairy industry. The speaker reported that he was looking forward to a prosperous season for dairymen in 1918, as cattle were coming through the winter in fairly good condition.

The secretary's and treasurer's reports were favorably received. The Association has met its obligations and has a balance in the bank of $1,435.39. The 1919 convention will be held in Belleville.

Instructor's Report.

Before delivering his report G. G. Publow, Chief Dairy Instructor for Eastern Ontario, gave a reminiscence of instruction work since its inauguration fifteen years ago. Improvement in the quality of the product turned out from the factories and creameries has been continual since the inception of instruction work. The uniformity of quality and finish of the large exhibit of cheese at the convention spoke volumes for the work of the instructors. Mr. Publow reported a new field for dairying opening up in Northern Ontario, where 19 cheese factories and 3 creameries were operated last season. Four hundred and thirty-nine patrons with 2,110 cows averaging 2,901 lbs. of milk supplied milk to the 19 factories, and the quality was such that 9.94 pounds of milk were required to make one pound of cheese, which was less than in the older districts. In the 3 creameries 221,024 lbs. of butter were manufactured. The average production per cow was less than in other parts of the Province.

The 40 creameries operating in Eastern Ontario produced 4,080,000 lbs. of butter in 1917. This sold ata an average of 39.5 cents per pound, which was 6 cents higher than last year. The quality of butter was considered to be good. Two of the creameries collected cream in tanks, 13 in large cans, and 24 in individual cans. Twenty-five creameries used scales for testing. Some modified form of cream grading was advised in order that improvement in quality of butter be more rapid.

In Eastern Ontario 829 cheese factories were in operation during the summer of 1917. This was 20 less than the previous year. The patrons numbered 30,658 and they kept 8,000 more cows than in 1916, bringing the number up to 285,050. However, for the six months the yield per cow was only 3,477, being a decrease of 173 lbs. This was accounted for by the unfavorable climatic conditions and, to some extent, to scarcity and high price of feed stuffs. The factories handled 991,384,190 lbs. of milk from May 1 to October 31. This made 89,960,754 lbs. of cheese which was a decrease of 1,000,000 lbs. from 1916, but, owing to the higher price for cheese, patrons in Eastern Ontario received over two millions of dollars more than in 1916. It required 11.02 lbs. of milk to make one pound of cheese.

The instructors made 1,222 full-day visits and 4,630 call visits to factories. During the season 31,714 samples were tested by Babcock and lactometer tests, and 75 of these were found to have been adulterated. Legal action was taken and 65 fines were imposed. The instructors made 8,293 sediment tests of individual milk. The value of these tests is being more and more recognized in demonstrating to patrons the wisdom of cleanliness in all operations surrounding the production and care of the raw material from which cheese is manufactured. Mr. Publow reported that so far as he could estimate at least 90 per cent. of the total season's make were passed in first grade, and that the lower grades were mostly made in the month of August. This goes to prove that the weather is an important factor in making high-quality cheese. The speaker stated: "I have been a firm advocate and believer in the grading of dairy products for market. It is the one system that should do more than anything else to improve quality. It is the fair and sensible way of encouraging better methods by all concerned when one receives a better price for better goods. A system of cheese grading has been practically forced upon us by war and its results have been satisfactory."

During the summer further study of the effect of fat in milk or quantity of cheese produced was made, and it was found that the yield of cheese was in direct proportion to the percentage of fat in the milk. Cheese made from 100 lbs. of 5.3 per cent. milk weighed nearly 5 pounds more than that made from the same quantity of 3.3. per cent. milk. That patrons and factory men realize the importance of quality in milk was evidenced by the number of factories voluntarily paying for milk by test, increasing the past season from 86 to 95. Fifty-three of these paid by straight fat test, 38 used fat plus 2 system, and one followed a fat plus one basis.

Pepsin has been largely used as a coagulant and has given fairly satisfactory results, although there has been a tendency toward greater loss of fat in the whey. Uniform acidity of the milk from day to day and slightly lower temperature for the coagulation period was recommended. The instructors found that 625 of the patorns were using milking machines, and where care was taken in cleaning they were proving satisfactory. During the year 803 new silos were erected by patrons in Eastern Ontario, which is an increase of 200 over 1916. While there are some difficulties to be overcome Mr. Publow was optimistic regarding the future of the dairy industry.

The Work of the Cheese Commission.

The address by J. A. Ruddick before the convention should clear up any misconceptions which might have prevailed regarding the why of the Cheese Commission. The Dairy Commissioner is a member of the Cheese Commission, and he fully explained the work which has already been done by this body. Instead of criticism the Commission deserve a good deal of credit. The following excerpts from Mr. Ruddick's address explain the situation: "It is evident that some of the dairymen have looked upon the appointment of the Commission as an act which had the effect of preventing the price of cheese from going as high as it would otherwise have done, and that they have, in consequence, been losers to some indefinite extent. It seems to me, however, that a mere statement of the facts, with regard to the cheese situation, will show that this is entirely an erroneous view and that instead of being the means of preventing higher prices, the appointment of the Commission and the handling of the cheese through that channel has placed many millions of dollars in the pockets of Canadian producers in excess of what they would have received if the trade had been allowed to take its own course. In fact, it is hard to say what would have happened, because the export could not have been continued on the old lines at any price.

"In March last the Imperial Board of Trade, seeing shipping and financial difficulties looming up to stand in the way of the regular export trade, expressed a desire to purchase the entire exportable surplus of Canadian cheese of the season of 1917. With that end in view a representative of the Board in the person of Jas. McGowan, was sent to Canada, and the Canadian Government was requested to nominate two commissioners to act with Mr. McGowan for the purpose of dealing with the whole question. The Board of Trade had purchased the entire output of New Zealand cheese for the season of 1916-17 at 19 cents f. o. b. steamer, and was not, at first, inclined to pay more for our surplus of 1917. However, after negotiation the Imperial authorities finally authorized the Commission to offer 213/4c. f. o. b. steamer Montreal for the exportable surplus of Canadian cheese for the season of 1917.