not until the early part
in this district received
well as below the price
an annual average price
mmodities. By the year
is district was getting a
al to the price increase
he producer in 1919 re-
3⅛ per cent. more than
ared with an increase of
eral price level. In this
prices to milk producers
7, they fairly caught up
1918, but lagged in 1919.
ing the war period. He
out equalled or exceeded
e prices for his conditions
those in other industries.
he products of the Ameri-
e relative price for what
ease in future months or
food. To put it another
armers and their salaried
l brunt of the war fell.
exodus from the farm to
ducers must be repaid in
rices in the future. The
he Philadelphia market
nnual price as any milk
he fared better than did
ats generally.

LER'S PART.

the Philadelphia milk
ize prices to consumers.
he favorable retail price
he expense of producers
year 1918, as compared
ommodities.

the consumer in Phila-
one and one-half cents
w the average price paid
, Pittsburgh and Chicago
while the milk dealer in
the farmer for his milk
r cities. In other words,
received, cooled, pasteur-
ilk at one and one-half
ge spread taken for these
he milk dealers in these

ar, when milk was selling
ut four cents per quart
o the producer and four
was the situation in 1914.
ing nine cents per quart
er quart for his services.
at is, had increased 125
n by the distributor had
er words, out of six cents
o the consumer in Phila-
five cents went to the
milk distributor. Can
business men, other than
o are to-day performing
ut 25 per cent. increase
those services in 1914.
y consumer knows how

ethods have the dealers
his result? The following
methods responsible.
s co-operated with public
ow. . .
ld from the retail wagon.
onsumed in Philadelphia,
from the retail wagon.
il wagon and the shorter
cost per quart. . .
have been in large part

on a commission basis. The result is that a driver is rewarded in proportion to the work done. . .

4. The price to the consumer has been stabilized. This has been possible with the co-operation of the producer, as explained above. The result is that wastes, due to fluctuations on retail wagons, are eliminated. The demand remains constant and hence many costs found in communities where the price widely fluctuates as between winter and summer have been done away with. Stabilization does not mean the same price in winter as in summer. But it does mean that the winter price is kept as low as is consistent with winter production. . .

5. The milk plants in this city are well planned and carefully managed from the viewpoint of low costs. The costs in these plants in Philadelphia vary materially as between plants and not all are as efficient as the best, and all have possibilities for improvement. But the Philadelphia plant with the highest plant cost is still lower than the lowest plant cost in many another city.

6. The newspapers and representatives of the consumers have co-operated in Philadelphia to maintain and increase milk consumption just because the price situation has been pre-eminently fair. Philadelphia is consuming as much milk at 14 cents as at 8 cents per quart. Milk at 14 cents per quart, under prevailing wages, is much cheaper than it was at 8 cents. A survey made by representatives of charitable organizations for the Food Administration revealed that the milk consumption in the congested districts had not decreased with the increase in price save in those few groups where wages had not increased. . .

7. There is less duplication in plants and of retail wagons on the streets in Philadelphia than in most cities. The savings in large scale plant and distributing facilities account in large part for the fact that the spread to the dealer in Philadelphia has not increased in proportion to other costs. As compared with other cities, the retail loads are larger and routes shorter.

THE CONSUMER'S PART.

And finally may I add that the milk price situation in Philadelphia would not be as it is had it not been for the co-operation of the newspapers in Philadelphia and the representatives of women's clubs. Both have joined heartily throughout in acting after knowledge and fairly in the interests of all. The representatives of women's clubs and of charity organizations, and those in charge in the schools, all have done well their share in making and keeping the present price situation what it is. Prices are not the result solely of inexorable laws over which people have no control. Prices, especially for such a commodity as milk, are affected by public sentiment and good will and the ethical standards and public conscience of those who buy and sell. All these factors have played their part in keeping the milk price situation in the Philadelphia district all that it is'."

The Value of Grading Up.

Unless one runs up against concrete examples of the progress which can be made in the grading up of dairy herds, one is likely to minimize the real value of a pure-bred sire in the herd and the value of breeding in general. There is, however, every advantage to be secured for the dairyman from the use of better sires with the idea of steadily improving the yearly production of milk from each animal in the herd, as well as the quality and salability of the heifers that are raised. Some grading-up work has been done by the Dominion Experimental Farms system, and recent information received from W. W. Baird, the Superintendent of the Nappan Experiment Station indicates that results have already been secured from work begun at that station in 1911. The Superintendent describes the results of this grading-up work as follows:

"The breed is only one of the many features to be considered in carrying on profitable milk production. Sometimes breed is over-estimated, but more often the reverse is true. Our present dairy breeds represent the efforts of many breeders along certain definite lines covering a period of several generations. This work is of inestimable value to the pure-bred breeder, but equally valuable to the dairyman of the present day; for a close study of their breeding work reveals the fact that they placed a great deal of stress on the selection of the herd bull, just as do the good breeders of to-day. Why? Because from years of practical experience they found that the herd bull was approximately half the herd, and that in order to increase the average production in as short a period as possible at a minimum cost it was necessary to select, not only the best cows in the herd, but also select sires from high-producing dams. The example set by these successful breeders has done much toward raising the standard of the average dairy cow but nevertheless, it must be admitted that our present standard is at least 3,000 pounds per cow lower than it should be, due largely to the practice of using the scrub bull on the average dairy herd.

"In order to show the value of using pure-bred sires selected from high-producing dams on the average dairy cow a grading-up experiment was started at the Experimental Farm, Nappan, N. S., in 1911. In this we have two crosses from one foundation lot of cows, namely, an Ayrshire cross and a Holstein cross, each are being bred along pure-bred lines, that is to say all Ayrshire crosses are being bred to pure-bred Ayrshire bulls, selected from high-producing dams. Holsteins are being bred along similar lines. As space will not permit of detail only a few of the outstanding facts can be given, and they are indicative of the possibilities in grading up to a much higher standard the average dairy cow by using pure-bred sires, selected from high-producing dams.

"When comparing the progeny of the Ayrshire crosses with their dams and the Holstein crosses with their dams, over a period of three consecutive years, the following results were recorded. One of the most outstanding features to be noted was the prepotency of the sires, in stamping their progeny with the breed and dairy type characteristics. This is true of not less than 75 per cent. of the progeny of both the Ayrshires and Holstein crosses. In the latter the breed markings and coloring is more pronounced than in the former, but so far as dairy type is concerned little difference can be noted. In the second and third crosses these characteristics are intensified to a still greater degree, thus demonstrating consistent breeding.

"In comparing the production of the progeny with that of their dams at the same age, it is found in the case of the Ayrshire crosses as two-year-olds 50 per cent. were superior to their dams, as three-year-olds, 29 per cent., and as four-year-olds 33 per cent. were superior to their dams. In the Holsteins as two-year-olds 55 per cent. were superior to their dams, as three-year-olds 16.6 per cent., and as four-year-olds 40 per cent. were superior to their dams. During this period no selections were made, that is to say, all cows with progeny were retained in herd for experimental purposes. This would naturally tend to keep down the average production per cow, but notwithstanding this fact the average production was increased 985 pounds per cow per lactation period for the entire herd of 24 cows. Of these, 14 were progeny of the original 10 foundation cows. Under proper dairy conditions a rigid method of selection would have been practiced and all dams or progeny falling below a set standard would have been eliminated. Had this been carried out with the above herd of 24 cows, setting a standard of 4,000 pounds for two-year-olds and 5,000 pounds for three-year-olds, the following results would have been realized:

A Young Tree Showing Good Care.

"Fifteen out of the 24 cows would have been retained. Of these sixty per cent. were progeny of the original 10 foundation cows, namely, first-cross Ayrshire and first-cross Holstein. Out of the 10 foundation cows 60 per cent. went over the 4,000 pounds as two-year-olds; of the seven first-cross Ayrshires 85.7 per cent. went over the 4,000 pounds; of the six first-cross Holsteins 66.6 per cent. went over the 4,000 pounds. Out of the 15 that qualified as two-year-olds, only 9 qualified as three-year-olds, that is, produced 5,000 pounds or more per cow per lactation period. Of these, 25 per cent. were first-cross Ayrshires and 25 per cent. were first-cross Holsteins. Fifty per cent. of the first-cross Ayrshires and Holsteins qualifying as three-year-olds were from dams who did not qualify as two-year-olds, that is, they produced less than 4,000 pounds per cow per lactation period. The average production per cow for nine cows qualifying as three-year-olds was 6,000 pounds.

"Therefore, taking into consideration that the average production of the foundation cows as two-year-olds was 4,339 pounds, and as four-year-olds 6,079 pounds, which places them above the average dairy cow, the foregoing results may be taken as pretty fair evidence of the value of grading up the average dairy cow by the use of the pure-bred sire selected from high-producing dam.

Cheese Market in a Sound Position.

A market letter from W. W. Moore, Manager of the United Dairymen Co-operative Company, Limited, Montreal, states that for the week ending August 28 there was a further advance of three-eights of a cent in the price of both colored and white cheese, due almost entirely to a better demand from our home market and particularly the West. Mr. Moore states that the quality showed an improvement over the previous week, and he believes that from now on there should be fewer No. 2 cheese and an increasing number of specials. Continuing he says:

"The export market was stagnant owing to continued weakness in foreign exchange. During the week the pound sterling declined eight cents and the French and Belgian franc moved downwards in sympathy with it. The increase in prices that has taken place the last two weeks is really remarkable in view of the downward course of exchange and indicates that the cheese market in itself is in a sound position. So long, however, as the currency of Great Britain, Belgium and France continues to lose in purchasing power in comparison with Canadian dollars, thus automatically increasing the cost of the goods these nations buy in Canada, just so long may we expect a dull export market at best. Whether foreign exchange will remain at its present level, or go lower or higher, no man knoweth; we can only wait and see.

"At our sale on Friday, August 28, we offered 2,076 boxes and sold as follows: 1,145 No. 1 colored at 27¼; 438 No. 2 colored at 26½; 431 No. 1 white at 28⅛; 62 No. 2 white not sold. Number of factories 49. There was a large attendance at the sale but the bidding was very slow. Bids were received from a Montreal exporter attending our sale for the first time, and from the local representative of a Winnipeg firm. The Manager of a Toronto firm was also present but did not take part in the sale."

HORTICULTURE.

The Harvesting of Pears.

Some interesting investigations have been made in the State of Oregon concerning the harvesting and storing of pears. Six varieties, including such common varieties in Eastern Canada as Bartlett, Bosc, Howell, Anjou, and Clairgeau, were used, the fruit being gathered from eight different orchards and at intervals of four or five days throughout the season. The fruit was also stored under different conditions.

It was found that where possible fruit should be left on the tree for a short time longer than is usually practiced, in order to secure an increase in the tonnage of the crop and the size of the pack. No particular advantage was found in the practice of thinning fruit during the harvest season, as compared with harvesting practically all the fruit at one time. Little difference in the size of the fruit was detected, and although thinning a heavy crop undoubtedly aids in the sizing up of the remainder, trees that were unthinned will size up to a considerable extent if allowed to remain on the trees a few days longer.

There was found to be a certain amount of correlation between the time of picking and the quality of the fruit. Fruit that was picked too early was inclined to be puckery and astringent, but if from four to six days more are allowed greater uniformity in flavor and texture will be secured and the quality improved thereby. This is especially true with later varieties such as Clairgeau, Anjou and Bosc. Even with Bartletts the fruit has a tendency to keep longer if it is left on the tree until the quality has improved somewhat. Size of fruit apparently bore no relation to the keeping qualities, as little and big pears seemed to ripen together and decay together. The experience of the investigator also favored harvesting the crop all at once, since allowing the fruit to hang longer apparently meant a decrease in the length of time the fruit could be kept. There is a decided advantage in leaving the fruit on the tree until it is fully developed in cases where it is to be marketed through the canning factory.

With respect to the various types of storage used, a summary of the investigation is given as follows:

"In humid 70 degree storage, Bartletts were entirely gone in 12 to 25 days. Bosc, Howell, Comice and Anjou ripened and decayed within 25 days. Since the ventilation in the room was poor, it is impossible to say whether temperature, high humidity, or the accumulation of carbon dioxide or other gases was responsible for poor keeping.

"Well-ventilated fruit kept longer in 70 degree Dry Storage than in 70 degree Humid, Bartlett 1 to 5 days longer, Howell 5 to 10 days longer, Clairgeau, Bosc, Anjou, Comice 10 to 30 days longer.

"In Car Temperature Storage, Bartlett held 30 to 35 days, turning yellow in 16 to 18 days. Yellow Bartlett held 10 to 12 days in Cold Storage, but broke down rapidly after being removed from storage. Kenly Bosc held 55 to 75 days, 30 days before beginning to soften; Hollywood Bosc grown under dryer conditions held up longer. Howell kept 30 to 40 days before turning yellow; 60 to 90 days before being entirely gone; Anjou and Comice were in prime eating condition three and a half to four months after being put in storage.

"Delayed Storage gave varying results. With Bartlett, Delayed Storage lots invariably held up longer than the same lots in Car Temperature Storage. Little difference was observed between material in Delayed Storage and that put directly into Cold Dry Storage. With Bartlett, transferring from one storage temperature