

# Prize Essay

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*This Essay was awarded the Prize of \$15 as the second best essay written by the Students of the Manitoba, Agricultural College of the First and Second Years.*

Co-operation, or the combined action of members, is undoubtedly one of the circumstances which promote the productivity of labor. The truth of this statement is so self evident, as to need no demonstration. Indeed, it may be truthfully said that in a countless number of employments the product of labor, is, up to a certain point, directly proportional to such mutual assistance as is rendered amongst the workmen, and it does not, we think, require a very great mental exertion to enable one to see that if we never helped each other, even in the most simple operations, our condition would hardly be superior to that of the wild animals; we would in general require our utmost exertions to procure a living. The principle involved would seem to lie at the very basis of industrial civilization and to permeate all the activities of man. We pay regards to it in the simple walks of life, e.g., it is quite obvious that two men working together would do more of a certain kind of work, than four, or four times four, each of whom should work alone, and our large factories with their remarkable cases of what is called "Division of Labor" do but furnish us with the modern extension of the same idea.

Having observed that the extensive operation of this principle has had many beneficial results in the commercial world generally the thinking farmers of Western Canada are endeavoring to make a broader application of it to his particular line of business, and while admitting that agriculture is not susceptible of so great a division of occupation as many branches of manufactures, because its different operations cannot possibly be simultaneous, i.e., one man cannot be always ploughing and another always sowing, etc., we nevertheless fail to see why in certain cases of production and distribution agriculturists should not join their hands, and by conducting a larger enterprise secure for themselves some of the gain to be derived from production and distribution on a large scale. As well as producing an inferior article and at a greater cost because of his working on a small scale, our farmer is obliged (because he has only a small quantity) to depend for the carrying of his produce to the consumer to a class, called the middlemen who, for a consideration, first gather together the various articles of produce and then distribute them according to the dictates of the market or the demand for such commodities. The middleman is undoubtedly a very useful member of society, but, being human, he is prone to overestimate the value of his services and exact too high a price for them. This, of course, tends to lessen the profits of the producer and raise the cost of living to the consumer. How to obviate this difficulty, is the chief problem which we as farmers are interested in, and for which co-operation offers the solution.

Since dairying has already in many parts of the world come under the control of co-operative societies, with results far surpassing the most sanguine expectations of their promoters, we believe the advantages to be realized by such organizations will be more vividly before the minds of our readers by our endeavoring to place before them a description of a co-operative dairy as they are actually operated than proceeding in an argumentative way, and the inference will be clear that what applies to this branch of industry will, with the proper modification, apply to many others.

The superiorities of the co-operative dairy over the home and the proprietary dairies are similar to those of the factory system of manufacturing over domestic industry and are mainly of two kinds. (1) Superior organization both as regards the obtaining of raw material and the handling of it in the factory. (2) Superior bargaining power in the purchase of dairy equipment on the one hand and the disposing of the finished article on the other.

Modern dairying is essentially a machine industry. The plant consists of up-to-date machinery for making butter by the "centrifugal" process, with the proper accommodation for the same, and is driven by mechanical power, usually steam. The cost of a fair sized dairy including motive power, will be somewhere between three and seven thousand dollars.

The process of operation is somewhat as follows:

Each morning the milk is brought in from the farm into the dairy yard, and after a sample of each supplier's milk has been taken for testing purposes, is poured into large tanks. The milk is then separated at pasteurising temperature. The skim milk (about seventy-five per cent. of the whole weight) being returned to the farmer for cattle food. The cream which remains with the exception, perhaps, of a small quantity reserved for the local consumption as cream is ripened in large vats, and then conducted along cooling pipes so as to reach the churn at a suitable temperature. When the resulting butter and butter milk are taken from the churn, the butter



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milk is sucked down by pumps and led away along the pipes to be pasteurised and returned to the farmer, also for cattle food. At first, both in Ireland and Denmark, the farmers grumbled because their buttermilk was not so valuable as before, not realising that this decrease was more than compensated by the complete extraction of the more valuable butter material. Lastly the butter passes into the finishing room, where it is rolled, salted and packed. By noon the work of the dairy is at an end. The whole process occupying but a few hours, is thus one which depends for its excellence on a combination of expert direction and good machinery.

The advantages of the centrifugal over the old hand process, are thus summed up by a French writer. "First, more butter for a given quantity of milk. Under the old process from 30-34 litres of milk were required to produce one kilogram of butter, whereas under the new process only 20-24 litres are required. Second, is the butter quality. The butter has no impurities and is not damaged by the touch of hands. Third, better use of the by-products. The skim milk being better preserved than before, is more useful for cattle food."

The indispensable condition for the establishment of a co-operative dairy is the existence of a sufficient number of cows in the district, or the assurance that an immediate deficiency in this line can be quickly made up. The farmers must not live so far from the dairy that the milk supplies cannot be conveyed fresh each morning to the receiving centres. If they live too far away the

economies of concentrated production will be out-weighted by the dearth and the irregularity of transport, for it is necessary that the milk should be sent in each morning. To obviate this difficulty auxiliary dairies can be established, to perform the preliminary process of separating the skim milk from the cream, which is despatched to the central creamery. By this device the milk is treated while still fresh, and the more valuable extract, which only represents one-fourth of the bulk of the milk, can bear the comparatively reduced cost of long distance transport, from which it incurs no damage. As an auxiliary costs, at most two thousand dollars to build, it is within the scope of a poorer association. If its trade grows it can be connected with an independent creamery.

These auxiliaries exist in most countries. In Ireland the first was established in 1895 and in 1896 there were seventy with a total membership of over ten thousand. They are rarest in France although they occur frequently among the cheese societies in the Hautes Alpes.

The disposing is really the important point to be discussed under the heading of "Superiority of bargaining power." Produce cannot consistently demand a high price unless it is of a high quality. But produce of high quality may fetch unremunerative prices, if the shippers have an imperfect knowledge of the special needs of the market or if their contract with the consumer is obstructed by the interposition of unnecessary middlemen. Moreover, even when satisfactory relations are established with the consumer, the producer may fail to profit by it, if they are efficient in

quality of milk from which it is made. The private concern cannot concentrate the milk raising at one central point and supervise the farmers, as it can supervise its butter operatives. All it can do when poor milk is sent in, is to pay a lower price for it. But the co-operative society which combines both functions, is interested in telling its members how to raise better milk, because not only as a butter factory, does it require good material for its factory, but also, as a society of farmers, it desires that the milk shall fetch a good price. Both the co-operative society and the firm are trading bodies, and they will not pay the farmers more than the milk is worth. But, whereas the firm's remedy is to punish the farmers, by the payment of lower prices, the societies remedy is to educate them so that they may command high ones.

Secondly, while the price paid by the proprietary concern for the milk is the full measure of the farmer's remuneration, the price paid the co-operative dairy may be only the first instalment. The latter for convenience sake usually pays the same price as its rivals, but it may also from motives of prudence pay part of this price in the form of an enlarged dividend at the end of the year.

Thirdly, even were the actual surplus calculated in full, this would not necessarily be equivalent to the differential loss which the farmers would have suffered, if there had been no co-operative dairies there at all. For example, in Denmark, where there are a few proprietary, besides a large number of co-operative dairies, the former are practically forced to keep their milk price at least up to the level of the latter's. However, it is interesting to note the following estimate of the pecuniary superiority of the co-operative dairy.

"In the Chantes and Poitou, the establishment of the co-operative dairies has raised the price of milk by three-fifths of a cent per litre above that previously paid by the proprietary dairies. On each cow per year, the average yield being in this district, one thousand nine hundred litres, the total increase of returns amounts to nearly twelve dollars.

"Besides, in addition to better payments, the members of the co-operative dairy, receive back the by-products—skim milk and butter milk for feeding purposes. Whether these are returned free or sold at a fixed price, the supplying farmers derive the benefit.

"Finally, and this sums up the other advantages, co-operation makes a connected unity of the farmer's work. Along with other forms of co-operative societies, the dairy forms a centre about which the small farmer can systematize and co-ordinate his farming and makes a channel through which improvements can be reached."

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## LANDS SOLD WELL

The greatest sale of school lands in the history of the West, which closed last week at Medicine Hat, shows the faith the people of southeastern Alberta have in their soil, for by far the greater part of the 76,000 acres which were sold was bought by farmers who have been settled for several years on the homesteads, etc., in the vicinity of the school lands which they bought. The prices ranged much higher than was expected, for although the average was \$13.22 per acre, many outlying sections were bought by ranchers for grazing purposes at the upset price of \$7 an acre. Eliminate the land located forty and fifty miles from existing or prospective railroads and the price would be considered something remarkable, averaging in the neighborhood of from \$25 to \$30 an acre. The parcels along the Crow's Nest railway and out through the area which is being put under irrigation by the Southern Alberta Land Company appeared most in demand and the bidding on them was very lively, some of the land being run up to \$30 an acre. A large number of the parcels to the West of the city along the C. P. R. main line also brought unusually high prices. The Southern Alberta Land Company were the heaviest purchasers, picking up 16,000 acres at the close of the sale.

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Gifford Pinchot still upholds the Pinchot dignity by doing the best he can in aiding conservation plans as a private citizen.