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schools, as two or three teachers can take charge of the pupils of four or five schools where the attendance was small. Boards are urged, in view of the high cost of building materials and labor, to use existing buildings where possible and bring them to a central site. Conveyance costs now are exceptionally high because of the cost of labor and fodder. It is pointed out that the tax rates in rural parts of consolidation have increased from 25 to 100 per cent. It should be remembered, that in parts of the West where people live long distances from the rural schools they are at the expense of conveying the children individually to school. And if they were at the expense of providing for high school courses in some distant town or city, the total cost of education would not be less than in the consolidated district. The object in Alberta is to combine public and high school education, thus avoiding the necessity of pupils leaving home. The Provincial Legislature makes very liberal grants towards the cost of conveyance and for conducting the high school classes.

An important feature in the "New Canadian" (foreign-born) sections has been the establishment of two-room schools, owing to increases in school population. During one-half year ten of these were erected and others started. The enlightened Legislature of Alberta also provides generous grants to districts what erect comfortable homes for teachers in rural districts. Several have already been established. The residence consists of three or four rooms and is located on a five-acre lot for the teacher's use, where school garden work can also be carried on.

It is admitted that some errors were made through lack of experience, resulting in some consolidations being disorganized and re-arrangements necessitated in order to shorten van routes. In many parts of Ontario, for example, the presence of high schools and excellent continuation schools doing high school work in villages and small towns within easy daily access of rural pupils of the locality, lessens the need for consolidation as compared with conditions in the West. It has been found in the Western Provinces that the management of a consolidated school becomes a business proposition of very important dimensions, requiring the services not only of experienced teachers but of school boards and executive officers of the highest type available. It would seem wise on the part of communities in Eastern Canada now considering this subject to profit by Western experience, and allow a few trials of consolidation to be worked out under representative rural conditions prior to attempting a general introduction of the system when building operations return to a normal state. Progress will depend upon demonstrated success and the liberality of provincial aid authorized.

Middlesex Co., Ont.

ALPHA.

### A Northern Ontario Resident's Reply to Sandy Fraser.

EDITOR "THE FARMER'S ADVOCATE":

What happened to our good friend Sandy Fraser that he got so utterly homesick when he turned his back on Old Ontario? True, the North Shore presents a very raw backbone to the travelling public, and there are not many oases in sight from the car window, but that has doubtless been a matter of the easiest grades for the railroad companies to negotiate, and gives no indication of the glorious hinterland hidden by the rugged features of the north shore of Lake Superior.

I would invite him to cut his stay in the Prairie Provinces a few days shorter and have a look in at the wonderful valleys back of those forbidding frontiers and see the world-famed alsike clover-seed industry near Dryden, the field root seed of the White Fish Valley, the potatoes, clover seed, and honey of Slate River Valley, the peas without a weevil, and the strawberries of Dorion. But why multiply agricultural possibilities? Let him see the mineral wealth or the pulp industries, or the fisheries and shipping, and all the other indications of the year round work, and I think he would be deserting good old Glengarry and putting his weight with a land that puts vim and energy into its inhabitants—a land that has a long winter to do big execution in winter industries, and enough added sunshine in summer to rush the crops to maturity with amazing speed.

We have been in New Ontario for over twenty years, and believe that no one willing to work need spend an unprofitable day. Our roads are good, building timber is plentiful, water excellent, and markets good.

Lest the impression may be given that the dollar is the highest ambition of the residents, I might add that our educational facilities are keeping pace with the times, and the neighboring collegiate institutes of the Twin Cities have not lacked rural representation of whom all are making good in positions of trust and responsibility in various callings. Religious privileges too are of a high order.

I can sympathize with any stranger not becoming enthusiastic over Thunder Bay and vicinity from the glimpses obtained between box cars on the one side and the rather shack-like buildings of the coal dock and other industrial sections. The name Thunder Bay is itself a misnomer, as we are unusually sheltered from the elements by our wooded hills. Mr. Fraser voices a somewhat general but decidedly mistaken impression of Northern Ontario—an impression not based on facts but upon appearance. The golden wheat fields of the West may hold out more of the get-rich-quick inducements to the man of fair capital. But to the man with a growing family who must combine outside earning

with making a farm home, exceptional facilities are found in this country that affords profitable winter employment. Building material is plentiful and in most cases costs only for the sawing. There is not the temptation of forming the habit of idleness during the winter as the sale of timber in the form of pulp wood, cordwood, piles, telephone and telegraph poles, ties, lumber, shingles and lath gives the poor man a chance to earn cash in winter and improve his farm, and cultivate and garner his crops in summer.

If easterners who turn longingly to the land in these days of H. C. of L. realized that here at the head of the lakes dozens of those making a good living off the farms had scarcely any farming experience to begin with, they would be surprised at the results. We have doctors, school teachers, blacksmiths, carpenters, store clerks, brick-layers, painters, plasterers, tin-smiths, commercial travellers, as well as B. S. A's, and a very few practical farmers. The wonder is they do not appear like the proverbial fish out of water, but actually their lack of farming experience throws them more fully into an attitude of mind that prepares them to make use of the instructive bulletins issued by the Departments of Agriculture; and I might say "book farming" often slightly referred to by thoughtless people, is not a bad standby for anyone who has not been brought up on the farm.

Personally it would afford me pleasure to show Mr. Fraser our farming districts on his return journey, and I am sure our courteous District Representatives, at the head of the lakes, Messrs. G. W. Collins, of Fort William, and L. M. Davis, of Port Arthur, would take pleasure in showing him over the district.

Of late articles belittling the possibilities of Northern Ontario have occasionally been noticed in the farm papers of Ontario. I feel these articles should not go unchallenged by those who have proved the actual conditions and possibilities of this country, and I trust this statement of facts will be given prominence.

Thunder Bay District.

JAMES M. MUNRO.

### Combatting the Hessian Fly in Western Ontario.

EDITOR "THE FARMER'S ADVOCATE":

I was much interested in your recent article on crop conditions in Middlesex County, particularly as regards the Hessian fly. I think perhaps that a wrong impression has been left by the writer of that report, when he states that one of the worst fields examined



The Cowichan Creamery in British Columbia is Very Successful as Told in the Accompanying Article.

was one sown in October. This leads one to believe that late fall sowing is practically useless, whereas it is the only safe precedent to follow. What possibly occurred was this, that the infested field was close to an early-sown field and was consequently infested by the spring brood. This has been quite a common occurrence, and, as previously reported, an early-sown field is not only likely to be ruined but it also endangers other fields that are late sown. For instance we have records of spring-sown wheat badly infested this year in Essex County. If there had been no fall brood there could not have been a spring brood. Daily observations in the field last year show that there were very few flies on the wing in October, and that as far as Middlesex County was concerned if there had been no wheat sown before October we should have had very little or no fly, provided, of course, that all stubble was plowed deep and early and all volunteer wheat promptly destroyed. I do not in the least underestimate the seriousness of the present situation. For three years I have been preaching the advisability of late sowing and better cultural methods. In 1918 I warned farmers not to keep growing wheat after wheat on the same land; such a course coupled with early sowing had only one alternative—the abundant increase of the Hessian fly. No parasites were obtained this spring, although hundreds of flies were bred out. Unless late sowing and the early plowing under of infested stubble is followed this fall and the ground firmly rolled directly after plowing, the coming wheat crop is extremely likely to be a complete failure.

H. F. HUDSON.

Dominion Entomological Laboratory, Strathroy, Ont.

## THE DAIRY.

### Cowichan Creamery Association.

EDITOR "THE FARMER'S ADVOCATE":

It has just been my privilege to see one of the finest examples of co-operation among farmers that can be found in Canada, and I was so impressed with it that I thought it would be an excellent thing if other people heard of it and could perhaps take it as an example.

On December 23, 1895, the farmers of Cowichan district, Vancouver Island, B. C., decided they would get more money for their cream if they all shipped to one creamery, and that they would get better results if the farmers who shipped cream owned the creamery. The late W. C. Duncan very kindly gave them about two acres of land, in the Town of Duncan, for the nominal sum of \$100. It was decided that the creamery should go under the name of "The Cowichan Creamery Association," and, although since then it has grown tremendously, the same name is kept.

It is necessary for all farmers shipping cream or eggs to have two shares of \$100 each—no more and no less—irrespective of the man, whether he is the biggest or the smallest farmer. This rule prevents any one man from having too much power. Of these shares, only \$20 per share is called for in cash and the remaining \$80 is held by the farmers at the call of the directors (of whom there are seven) but has not been called for. Six per cent. interest per annum is paid on the share capital.

In 1909 an egg collecting station was started in connection with the Association, also facilities for the disposal of poultry. For the year ending October 31, 1919, 62,779 dozen eggs were handled, the average selling price for the whole year was 60.6 cents per dozen. Handling costs, which include freight, crates, office salaries, etc., work out at only 3.6 cents per dozen. There was \$8,815.59 worth of poultry handled.

In 1912 an elevator was built with a capacity of ten carloads of grain, hay, etc. It has since been equipped with ordinary mills, separators and full general equipment. The advantage of this is that farmers can have their grain crushed or ground at the price of the labor, also by buying in car loads they can sell at a much lower figure. In fact, for 1919, the farmers of the Cowichan district saved about \$4 per ton on all feed purchased, and in these times of high prices for everything one has to buy this is a considerable item. Astonishing though it may seem, feed can be bought cheaper in Duncan than in either Victoria or Vancouver. For 1919, \$115,236.04 worth of feed was handled, showing what a big business is being done in that line.

We now come to the most important part of the Association, namely, the creamery, and I may say here that the success of the creamery—in fact, of the whole Association—is due to a very large extent to the efforts of W. Paterson, who has been General Manager since 1911. For the year ending October 31, 1919, 114,392 lbs. of butter were manufactured as a total expense of 5.7 cents per pound. The amount of butter manufactured was a little less than the previous year, but that is accounted for by the fact that so many men in the district had enlisted. Last year, after paying an average of 66.1 cents per pound butter-fat, each shipper received an extra 4 cents per pound on all butter-fat. This 4 cents is obtained by dividing among the patrons the profits from all branches, viz., grain, feed, eggs, poultry, milk and cream, minus running expenses.

For April, 1920, 78 cents per pound was paid for butter-fat. The reason they are able to pay such a high price is not only because of the excellent quality of the butter (which has been improved by very strict grading of cream) but also because of the good way they have of handling it. As soon as the cream is received it is made into butter and shipped immediately to Victoria, where it is met by members of their staff, who at once deliver it to the retail stores. It is delivered to these stores in proportion to the amount which they are able to dispose of speedily, and if the storekeeper has not sold all his last supply his amount is cut down the next time in proportion; therefore the consumer is protected from receiving any of that very objectionable article, namely, stale butter. It is, therefore, no wonder that Cowichan Creamery butter obtains a little higher price, and that the Association practically controls the Victoria market.

An incidental advantage of the Association is that all the farmers bring their cream in on the same days, and are able to exchange ideas, and in the exchange of ideas something is always learned. They are also able to keep in close touch with the market. In looking over the past records of the Association, and comparing them with their present position, I noticed that every year their efforts for the good of the producer are producing more apparent and beneficial results.

On one of their buildings I noticed a painting of two hands clasped, round which is written "Hand in hand". "From producer to consumer," which struck me as