The Guelph Consolidated School.

A short time ago there was opened near Guelph, adjacent to the Agricultural College, the first of the Macdonald Consolidated Schools in Ontario. The idea of consolidation and forming a union that would economize time by a proper division of labor had been carried out with considerable success in many States of the Union, but not until the co-operation of Sir Wm. Macdonald and Prof. J. W. Robertson in the work was the scheme attempted in Canada. Nova Scotia and New Brunswick were the first of the Provinces to experiment with the new idea, and consolidated schools, which have proved very successful, were established at Middleton, N. S., and Kingston, N. B. At Guelph, four school sections were united for the purpose. The rural schools that had formerly served for training "Young Canada" were closed, and a large central school, located near the Agricultural College, was erected for the purpose.

This building, which is a fine two-story brick structure, contains six class-rooms (three on each floor), a domestic science and manual training room, and an assembly hall large enough to hold three hundred besides laboratories for experimental work, and play-rooms for the pupils. It is well lighted, heated and ventilated. The pupils are conveyed to the school in large vans, varying in length from ten feet to sixteen feet, and these are capable of carrying from eighteen to thirty pupils each. The routes covered vary from three to five miles. The van service, so far, has been found slightly expensive, the drivers, who have to supply their own horses and wraps for the children, receiving from $1.40 to $2.90 per day, the van being the property of the school. Professor Hotson, however, considers that the price may in another year be reduced to from $1.20 to $2.10 per day. The vans are on hand in time in the morning. There are no delays by reason of late pupils, and if the opinion of the children themselves is considered, the innovation is an immense success.

The staff at present consists of five teachers. Mr. J. W. Hotson, M. A., who is a specialist in natural science, and has made a life study of this work, is principal, and from experience, natural talent and education is admirably fitted for the position. The remainder of the staff, J. H. Hanlon, Miss Roddick, Miss Doake and Miss Workman, are all teachers of experience, and have had special training for the work. At present, the attendance averages a little over one hundred and sixty. This is somewhat in advance of the total attendance at the four schools which formerly served the same territory.

The methods of teaching do not vary so much from those of the ordinary rural school. It must be remembered that the changes proposed cannot be made at once. The object is to introduce nature study, manual training and domestic science, but to make these subjects, in a measure, incidental to the other subjects taught. Take, for example, the subject of composition. This is usually a very difficult subject to teach, but by the new system the child will be taught to observe, then record his observations, and afterwards tell the story of what he saw. In a recent experiment at the school, the children were shown a number of bulbs; these were potted by them. Each child took the embryo plant to his home, then studied the growth, drew it, recorded his observations, and in this manner has taken a lesson in composition while really developing the powers of observation and gaining a knowledge of elementary botany. In this way the work is developed. Progress may at times be slow, but the method has the advantage of favoring a more natural line of development than the older methods. The child is led, rather than driven, along settled lines, and a broader and more rational growth in knowledge may be hoped for.

As the work develops, this method of bringing in the teaching of nature-study will be followed out, for it is the object, in as far as possible, to introduce a system of education tending to attract the children to the farm rather than, as too often happens under the present system, lead them in a way that alienates them from rural life.

OBSERVER.

The Farmer's Counsellor.

Dear Sir,—I received the premium knife all right, and am highly pleased with it. The "Farmer's Advocate" is a welcome visitor in our home every week. It is newsy and full of good pointers for both household and farming. No farmer can afford to be without the farmer's counsellor. I am only sorry I did not take it sooner.

AARON EIDT.

Perth, Ont.

A Good Knife.

Dear Sirs,—I received the knife, and am very much pleased with it. Thank you very much.

A. N. BALDWIN.

Norfolk, Ont.

DAIRY.

An Old and Still Unsolved Dairy Problem.

To the Editor "Farmer's Advocate":

Sir,—Bulletin No. 222, issued in September of this year by the Dairy Department of the College of Agriculture, Cornell University, revives, but in our opinion does not settle, a question that has long been a subject of controversy amongst dairymen in both this and the Old World. This bulletin, which deals with the effect of feeding upon the per cent. of fat in milk, is entitled, "Record of an attempt to increase the fat in milk by means of liberal feeding."

The same station had previously issued a bulletin, summarizing the results of experiments at many different stations, and drawing the conclusion that it was not possible to materially and permanently increase or decrease the per cent. of fat in the milk of a cow through changes in the food. This conclusion brought out considerable adverse criticism, the critics claiming that in most of the instances referred to the cows had been previously well fed, and that the results would be quite different were underfed cows—cows from the average farm—taken and well fed and cared for. It was felt that this point was possibly well taken, and the object of the experiments related in Bulletin 222 was to solve the problem raised by the critics.

A herd near the college, which contained a large proportion of comparatively young animals, which would drop their calves at as nearly the same time as possible, and which had the reputation of being insufficiently fed, was selected for the experiment.

The experiment extended over four years, and was conducted as follows:

The Macdonald Consolidated School and Two of the Six Vans, Guelph, Ont.

First Year.—The cows were left with the owner, and their conditions in nowise altered. Composite samples of the milk were taken and tested.

Second and Third Years.—The cows were kept at the college farm, and well fed and cared for.

Fourth Year.—The cows were returned to the owner, and subjected to old-time conditions.

The following table, which we have compiled from the bulletin, briefly indicates the results of the experiment:

Name of cow.	Av. per cent. of fat for First year.	Increase or decrease in per cent. of fat as compared with previous yr. Second year.	Third year.	Fourth year.
Dena	4.82	+ .57	— .31	— .08
Patty	4.27	+ .52	— .25	— .29
Polly	5.64	+ .62	— .37	+ .35
Rena	3.66	+ .16	— .13	— .25
Rita	3.92	+ .42	— .19	— .25
Stella	5.22	+ .09	— .41	— .11
Tilda	3.71	+ .05	+ .05	— .40

Note.—An increase is represented by the sign +, and a decrease by the sign —.

A perusal of the foregoing table hardly warrants the conclusion arrived at by the authors of the bulletin, viz: "It would seem, therefore, that in the case of these seven cows the percentage of fat was materially and permanently increased by the influence of more and better food, and that our thesis is answered in the affirmative, so far as it can be answered in an experiment using only a small number of individuals."

While it is true that there was a material increase, in every case, the first year that the cows were at the college farm, this increase was not demonstrated to be permanent. On the contrary, the decrease in the per cent. of fat in the milk the second year that the cows were on the college farm, was quite as marked as that of the final year of the experiment when the cows were returned to the owner and placed under original conditions. There is nothing in the experiment to prove that the milk would not have eventually fallen to its original test, even had the cows been continued under favorable conditions. In fact, if we can draw any conclusion from the experiment, it is to the effect that the increase was only temporary in character, since there was, as already indicated, a decided falling off during the second year that the cows were kept at the college farm.

It is to be regretted that the experimentalists when they noted this decrease, did not keep the cows at the college farm long enough to enable them to reach definite conclusions as to what the ultimate effects of the bettered conditions would be.

We have no prejudices or preconceived notions that we did not like to have exploded, but we feel that the results of the experiment are inconclusive.

J. W. MITCHELL.

Eastern Dairy School, Kingston, Ont.

Qualifications of the Dairyman.

In an address recently delivered to the dairymen of a certain State, the speaker said:

"A consideration of the qualifications of the dairyman brings us to another aspect of the question, What will the dairy cow do for the State, asking, What will the dairymen do for the dairy cow?

"I think I will find myself discussing the cow and the man together, for if they are going to be successful they must keep very much together. There must be confidence, sympathy and contact—contact covering every essential point of the cow's life, and as much of the man's life as is needed to complete the connection.

"There are some men too mean to own good dairy cows. I refer to the men who refuse their cows enough good feed, pure water, kind care and decent shelter.

"From some observations I have been able to make, I am inclined to think that at this time the dairy cow is doing more for the man than the man is doing for the cow; so that to amplify the good offices of the cow and put and keep her in a position of greatest usefulness and profit to the State, we must do a lot of evangelizing of the dairymen—dairy evangelizing, I mean—instilling into them the good old orthodox gospel of better cows, better feeds, better products, better results; not necessarily the higher spiritualizing of the dairyman.

"The good dairyman, first, must be a good farmer, for general dairying can only be properly conducted when a large part of the food of the cows is produced on the home acres. The necessity of doing this is an incentive to the farmer's studying crops in their habits of growth, their nutritive value, and in their relations to the exhaustion of soil fertility. Then from this he will graduate into a study and an understanding of the combination, values of home-grown feeds in relation to their most productive uses for his animals.

"Second, he will become a breeder, for he will learn early that cows are different from poets. Someone has said that poets are born, not made. The cow is both born and made. To continue the poet figure a little further, when I am at home and am inspired to 'drop into poetry,' my wife reminds me that poets are like hens—'both sing their lays, and both have to scratch for a living.'

"But this new dairyman, as I said, learns that cows are born and made both, and that they must emphatically not be required to scratch for their living. Consequently, in the breeding of his cows, he will fix his mind on his ideal dairy cow, and keeps it fixed there.

When the breeding dairyman has his type well fixed he will study heredity, tendency and performance, as exemplified and recorded in the pedigree; and find himself in an atmosphere, as yet, I will admit, somewhat hazy, but the most intellectually rarified of any that at this time surrounds any human endeavor and achievement, so that even if he should have the mind of a Darwin or a Huxley, he can employ it fully without any immediate anxiety about reaching the limitations of his subject.

"Then he will have his future dairy animal born, and will be up to the more material but just as important consideration of helping it to be made. In this branch of his work his knowledge of feeding and the rational care of his animals will be made operative.

"Third, in his solicitude for his good animals he