the use of and explains farm machinery, and last, but not least, gives the life history and use to man of the domestic animals.

Botany is studied, or rather tried to be studied. It treats of the structure and the method of growing of our native and common plants.

Animal husbandry, I think, almost explains itself from the title. The different domestic animals are studied. Dairying is taken up under a separate study. The composition, care and uses of milk are thoroughly discussed, and the feeding of dairy cattle is given a good raking over the coals.

Some of the other studies which are understood better by outsiders are: English, with special stress on composition; mechanical drawing, in order that the student may be able to draw and interpret plans; public speaking, to enable the student to speak with confidence and clearness in public and private meetings; mathematics, in which the student is given instruction in all problems of every-day occurrence, and a course in farm bookkeeping; veterinary science, in which the student learns to diagnose the most common disease and troubles in domestic animals and to treat same properly.

Then there are other side things given such as instructions in poultry and beekeeping, and help can be received for the asking on any subject the student may have interest in.

I am afraid that my readers will think we do nothing but study,—far from it! The College takes part in hockey, basket-ball, and other winter leagues. It has its own rink. Then we have our social evenings when the students invite their friends, and, too, the boys are invited to social functions in churches, Y. M. C. A., and other public institutions, so that summing it all up our College life is one of profit and pleasure. It broadens the student's mind and tries to fit him for one of Canada's young farmers and future leaders. I thank you for this space in your circle and for the patience you have taken to read my ramblings.

Truro, N. S. N. S. A. C. STUDENT (JUNIOR).

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Where Tinkering is Injurious.

Curiosity is so apt to get ahead of one many times, and when it manifests itself in the form of mere tinkering or meddling with mechanical devices it very often turns out bad. Not one of the least of such devices is the automobile, which comes in for its share of tinkering by various owners who think they really understand what they are doing or else are just simply making an investigation to see what will happen if they change things around a bit or experiment contrary to the way things were originally intended.

An illustration will prove just what one man found out in tinkering with his storage battery, when he thought it needed something and wasn't sure about it. He had the impression that the battery needed water, but without thinking just what the nature of the water should have been. And it appears that he didn't care very much, for he wished mostly to see how things were going to turn out by his new way of doing things. He bought some soda water and poured it into the cells. When the battery turned sick he ran to a battery doctor and was asked what he had been doing. He confessed and said he thought it needed something and that soda water in nice bottles seemed to be the real thing. That little tinkering cost him rather more than tewlve dollars to have that battery overhauled and cleaned, but it taught him, as he acknowledged, a lesson.

The carburetor comes in for its share of meddling. Every time the motor misses fire it is laid at the door of the carburetor. The needle spray is adjusted and twisted until there is not the semblance of the device in action that the makers intended. No one realizes how much mischief a slight turn of the adjustments on carburetors will cause, especially when the device is not at fault and the trouble lies somewhere else. Unless it is proven beyond doubt that the carburetor is to blame never allow inexperienced hands to touch it, for even experienced hands will sometimes make a mistake about it. The rules of correct carburetor adjustment all lie in the relation of spark to mixture, the quality of the gasoline, the compression in the cylinders and some familiarity with the carburetor itself. Any one of these things will require, probably, some adjusting of the carburetor for the time being, but it is far better to correct those things that directly affect the carburetor because there will be no reliable action until it is done.

Some drivers get it into their heads that they cannot start out on a drive unless something is tightened up. With a long-handled wrench you can get tremendous leverage on a nut at such times, and even if a nut is turned up as far as possible, it may be next to impossible to back off and may twist the bolt in two. These phases of the question apply to housing bolts like those of the differential and drive shaft, and the studs on the cylinder head as well as other places. Of course it is a good thing to test such bolts frequently to see whether they are really loose or not, but if you do tighten them with a wrench turn them up only until there is firm resistance and no farther.

A delicate contrivance on cars is the automatic regulator and cut-out that is located in the charging line between battery and generator. This device operates by bringing its contact points together when the voltage of the generator reaches and slightly exceeds that of the battery, opening or separating when the voltage drops due to a reduction of speed to prevent current flowing from battery to generator and discharging the former. Any one who has ever looked into one of these regulators must know that they are a delicate thing, and so the use of pliers on them by inexperienced hands is forbidden by persons who really understand them. Many an automatic cut-out has been hopelessly damaged by tinkering, even when that device was not to blame and the trouble lay in a bad terminal. Leave them alone, and if blame is to be attached to them for an inoperative system, get some one to adjust them who surely understands how or let them be taken off and either sent to the makers or have a new one installed.

THE DAIRY.

The Dairy Situation.

Recently at the convention of Eastern Ontario Dairymen, J. A. Ruddick presented an interesting review of the dairy situation. In our report of this convention last week we were unable to print it in full. The remainder of the paper however is given herewith and it deals with dairy production in 1919 as well as some international aspects of the dairy situation.

PRODUCTION IN 1919.

"The season of 1919 has established new records for Canadian dairying in several respects. We have increased our total production of milk, and prices have been higher than they have ever been before. In 1918 the average price paid for cheese by the Dairy Produce Commission was 23.35 cents f.o.b. steamer at Montreal. While similar statistics are not available for 1919, the average price will be somewhere in the neighborhood of 27½ cents per pound on the same basis. Record prices have also been paid for butter. The average price for all grades of creamery delivered at Montreal works out at a little over 53½ cents. The quantity of creamery butter produced was the largest of any year in the history of the industry. The output shows an increase in every Province except Manitoba, where the labor situation interfered with the shipping of cream and caused more butter to be made on farms.

"Owing to the unusual channels through which a large proportion of our cheese has been handled, it has not yet been possible to secure exact figures of production or export for 1919. The receipts at Montreal were lower than in 1918, but a considerable quantity of cheese was exported to the United States through other ports, and the stocks on hand at country points are larger than they were at this time last year. Then again, the home consumption of cheese has, according to the best information obtainable, increased very considerably during the year. When the figures are complete I think it will be found that there was some decrease in the output of cheese, but this will be more than offset by the increase in the output of condensed milk and milk powder, for the manufacture of which milk supplies were largely drawn from the cheese factories.

"The growth of the condensed milk and milk powder industries during the war period has been the most notable feature of our dairy production. It is estimated that for 1919 the total quantity of condensed and evaporated milk will be very nearly 110,000,000 pounds, valued at approximately $20,000,000. The total quantity of milk powder produced during the year amounts to 5,323,537 pounds, valued at $1,662,352. There has also been a large increase in the manufacture of ice cream and in the consumption of milk in the towns and cities. There is even a large per capita increase in the consumption of these products. The fact is the public is gradually beginning to realize that milk and its products, even at the advanced prices, are among the cheapest foods on the market.

"The total value of the milk produced in Canada in 1919, whether consumed direct or used in the manufacture of various products, will amount to very nearly $250,000,000, of which about $65,000,000 worth will be exported. These figures put dairying in the very forefront of Canadian industries.

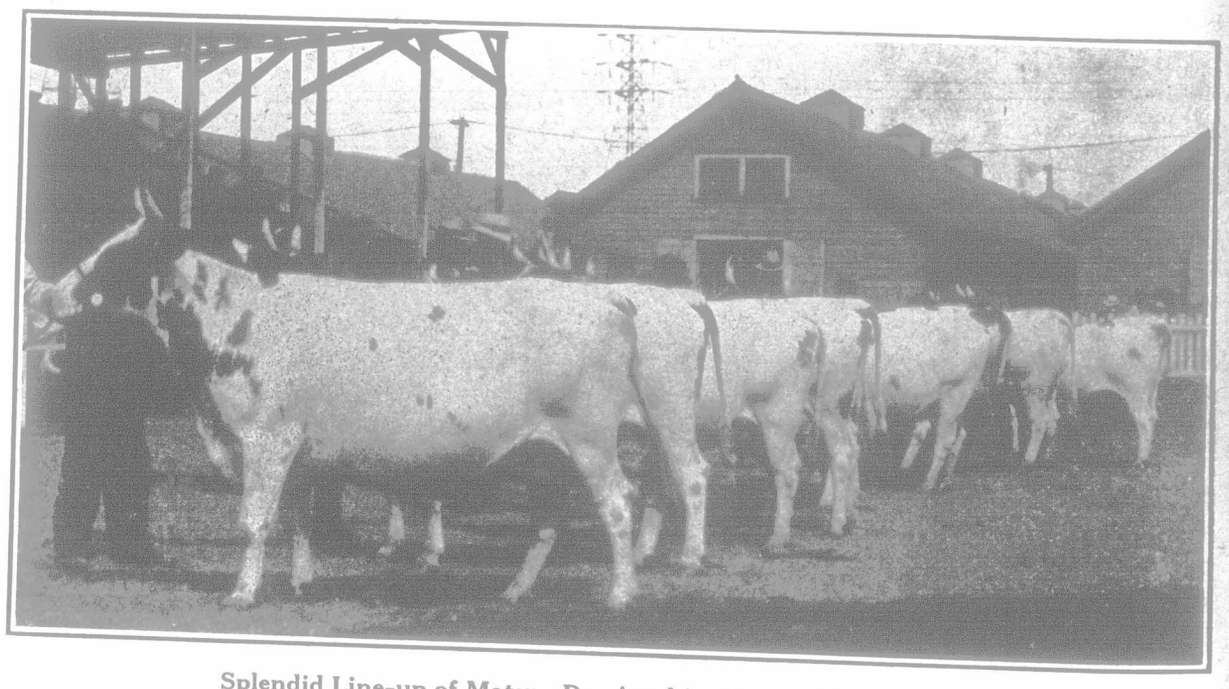
"The November 1919 issue of the Monthly Bulletin of the Dominion Bureau of Statistics gives the number of milch cows in each province for 1918 and 1919 as follows:

TABLE I.
MILCH COWS IN CANADA.
(Dominion Bureau of Statistics.)

Province	1918	1919	Increase	Decrease
P. E. I.	41,429	45,662	4,233	
N. S.	157,829	162,230	4,401	
N. B.	120,123	153,058	32,935	
Que.	1,163,865	1,056,347		107,518
Ont.	1,097,039	1,140,016	42,977	
Man.	225,659	227,872	2,213	
Sask.	352,989	374,062	21,073	
Alta.	328,702	336,596	7,894	
B. C.	50,965	51,594	629	
Totals.	3,538,600	3,547,437		

Net increase in 1919 8,837
Total increase milch cows, calves and other cattle 1914 to 1919 3,173,043

"It will be noticed that there is a net increase for the year, according to these statistics, of 8,837 cows, but the figures from the Province of Quebec are probably misleading. The provincial statistician explains that a new method of computing was adopted in 1919, which seems to indicate that the number of cows in Quebec in 1918 and previous years was exaggerated, so that the apparent decrease is not a real one. This is borne out by the fact that official returns show a decided increase in the quantity of milk received at the Quebec factories in 1919. Quebec is the last place in Canada where one would expect to find any decrease in the number of cows. It would seem, therefore, that the actual increase for Canada is much larger than these figures show. Then again, there is a constant improvement in the average yield of milk per cow in Canada. This amounts to a very large quantity every year.



Splendid Line-up of Mature Dry Ayrshire Cows at Toronto, 1919.

"There is an increase also in the number of calves but the same allowance must be made for the figures relating to Quebec as in the case of milch cows. All animals, male and female, under one year are recorded as calves. That explains why the number of calves compared with the number of cows is very much larger in the beef raising districts. In Alberta there are more calves than milch cows, for the reason that many range cows are not counted as milch cows.

TABLE II.
CALVES IN CANADA.
(Dominion Bureau of Statistics.)

Province	1918	1919	Increase	Decrease
P. E. I.	25,296	32,589	7,293	
N. S.	87,428	82,481		4,939
N. B.	67,298	83,857	16,559	
Que.	558,650	494,060		64,590
Ont.	691,441	688,850		2,591
Man.	172,171	207,577	35,406	
Sask.	332,040	364,336	32,296	
Alta.	397,670	428,888	31,218	
B. C.	48,132	41,591		6,542
Totals.	2,380,126	2,424,229		

Net Increase 44,103

NO CAUSE FOR PESSIMISM.

"I call attention to these increases in production and the prospects for further extension of the dairy industry, as indicated by the number of milch cows and calves, to offset if possible the note of pessimism which seemed to prevail in some quarters during the past season.