all kinds of work that a man could possibly be set to do on a farm. Each pupil is vigorously trained for a fortnight, and she is sorry when it is over. They are housed on one of the three holdings which Major Peake farms on the Bawtry Hall estate. The day's work includes milking, feeding calves, pigs and poultry, lessons in handling horses, wood cutting, stock tending, and cleaning out byres and stables. Though usefully varied, the work is not hard, and the food and companionship are pleasant. Such experiments as this ought surely to help to brush away much of the prejudice which keeps apart farmers and the women who could and would help them.

Thousands of women in France to-day are energetic agricultural workers, many compulsorily so by reason of the war, and a question is now discussed in that country as to whether they are competent to look after live stock to the best advantage. It is conceded, however, that, so far as horses are concerned, women can be taught to manage them pretty successfully, both in the stable and out, if such teaching is begun when the pupils are young, and that they must be gradually strengthened to the work. Big cart horses, for instance, are not always an easy proposition. Whilst of an amiable temper, as a rule, and docile enough, they are apt to be ponderous in their movements and slow to convince. Grooming operations, again, might prove to be a difficulty. But, at the present time, in many parts of France, girls and women are looking after horses of all kinds with success, doing splendid work in that way. "They have begun young," say the experts, "so acquiring strength and confidence; a little later, and they might have been afraid to pick up a horse's foot." It is satisfactory to read, moreover, that stable and similar accidents are now rare in France, and that many even quite young girls soon make friends with the horses.

Just as I close this note I learn that the War Office has allowed the following male labor to be left on the farms:

One able-bodied man to every team of horses, the team to be the number of horses required to plough any particular holding—a two-horse or three-horse team.

One able-bodied man to every twenty cows in milk, with the assistance of a boy or woman.

One able-bodied man to every fifty stall-fed cattle, with similar assistance.

One able-bodied man to every 200 sheep on enclosed land, exclusive of lambs.

One able-bodied man to every 800 sheep on hills.

ALBION.

## Canada's Men of Military Age.

The last number of the Census and Statistics Monthly, published by the Department of Trade and Commerce carries an analysis of Canada's population, chiefly regarding the men 18 to 45 years old or of military age. Percentages of Canadian born, British born and foreign born are also given. The accompanying table compiled from the Census of 1911 is self explanatory. It sets forth where the different classes of men of military age are to be found.

**Percentages by Provinces.**

| Provinces | Canadian born | British born | Foreign born |
|---|---|---|---|
| | p. c. | p. c. | p. c. |
| Canada | 64.49 | 17.82 | 17.69 |
| Prince Edward Island | 98.37 | 0.93 | 0.70 |
| Nova Scotia | 87.22 | 8.57 | 4.21 |
| New Brunswick | 93.42 | 3.45 | 3.13 |
| Quebec | 87.44 | 5.90 | 6.66 |
| Ontario | 70.57 | 18.38 | 11.05 |
| Manitoba | 40.62 | 32.43 | 26.95 |
| Saskatchewan | 38.51 | 24.46 | 37.03 |
| Alberta | 30.46 | 26.00 | 43.54 |
| British Columbia | 26.23 | 34.57 | 39.20 |

Of the total Canadian born 18 to 45 years of age, the Maritime provinces possessed 15.03 per cent., Quebec 30.81, Ontario 37.04 and the Western provinces 17.12 per cent., of the total British born, the Maritime provinces contained 3.57 per cent., Quebec 7.53 per cent., Ontario 34.93 per cent. and the Western provinces nearly 54 per cent; while of the foreign born 2.10 per cent. were in the Maritime provinces, 8.56 per cent in Quebec, 21.15 per cent. in Ontario and 68.19 per cent. in the Western provinces.

Canada, says the "Census Monthly," had 1,720,070, of a male population between the ages of 18 and 45 years on June 1, 1911. They were located in the different provinces as follows: Prince Edward Island, 16,868; Nova Scotia, 98,493; New Brunswick, 68,710; Quebec, 390,897; Ontario, 582,246; Manitoba, 122,762; Saskatchewan, 158,907; Alberta, 122,915; British Columbia, 158,272. The report says still further: While these figures represent conditions existing on June 1st, 1911, yet, because of the heavy British immigration in 1912, 13 and 14 as well as to the known tendency of young countries to maintain a high birth rate, they also show fairly well the numbers from which eligibles for military service may now be expected.

## Wet Weather in the Eastern Townships.

EDITOR "THE FARMER'S ADVOCATE":

We were pleased to read the letters in "The Farmer's Advocate" from Prince Edward Island; it seems good to know that there is one spot at least that crops and season are favorable. Here in the Eastern Townships of Quebec we have had such continuous rain, with cloudy, cool weather, that seeding is not finished yet. I think this season beats the memorable year 1867 for rain and cold. Still we have escaped frost. Oats are now being sown for fodder in place of corn. An odd piece of corn, planted at the usual time, may be seen looking very yellow and small. Others never came up; many potatoes rotted, and had to be planted over, and not over forty per cent. of the oats sown will even have a ghost of a chance to ripen. We sowed 5 acres to-day, June 24, it being the first time this season that the ground would do at all to sow, and now even it is too wet. The early-sown grain, on dry ground, is like what Sandy Frazer said last week about the grain in Ontario: "The least said the better." Grass looks well, and early potatoes on dry ground look fairly well. Lots of ground that had a heavy growth of corn last year has been seeded in the mud, or else not plowed at all, and it is very rare to find a piece of grain seeded and finished up as it should be. In most cases the work is done in a kind of a way between rains. Rain fell on twenty-five days between May 16 and June 24, and many of these were such terrible downpours that it kept the ground soaked all the time. To-day was quite summer-like, and we hope to have warm weather.

Shefford Co., Que. P. P. FOWLER.

# Canada's Young Farmers and Future Leaders.

## The Value of Crop Rotation.

EDITOR "THE FARMER'S ADVOCATE":

Look here boys, how many of you run a regular rotation of crops on your farm? Perhaps all of you, maybe you know more about it than I do, but if you will kindly give me your attention for a few minutes I will give you my experience in crop rotation.

About fifteen years ago, when we took over this farm, it was generally termed a sandy farm. It is very rolling; the hill tops would grow nothing but June grass. The cropping system had been to grow hay after hay, till it ran out, then plow up, and grow two or more crops of grain, seed down and leave in hay till it again ran out, so you can imagine the condition the farm was in when we took hold of it, the hill tops were very little else but blow sand.

A few years later some odd copies of "The Farmer's Advocate" got into our hands, we subscribed for this paper, and through its columns learned of crop rotation and building up of soil fertility. We decided to break the farm into a four-year rotation, i. e., hoe crop, grain, clover hay and timothy and clover.

The first thing that was done was to break up in the fall half of the farm. In the spring following half of this breaking was well worked up. There was some humus in it, owing to the rotting of the sod, and it was in fair condition. This quarter of the farm was sown to oats and seeded down with eight pounds clover, four pounds timothy and four pounds alsike per acre. The mixture was sown on top of the finely-harrowed land and rolled in. The next few days came hot and dry, and we soon saw the folly of having a rolled surface, for the dust that blew off that field was terrible, and I decided that another year I would harrow very lightly after rolling. But in spite of the dry weather and high winds there was a fair crop of oats (28 bushels per acre) and a good catch of clover and grass, the roller evidently having got its good work in by bringing the moisture from the subsoil to the tiny clover and grass-seed roots.

On the second quarter of the farm another problem was met. What could be sown on a quarter of a farm for a hoe crop? In a section where corn can be grown and you want to go to the expense of putting up a silo and getting the necessary equipment for making silage, the problem was easy enough. But in a section where the season is too short for growing corn, as it is here in the Muskoka District, some other crop had to be put in that would keep the ground cultivated and free from weeds all summer. So what manure was made during the winter was put on this quarter and well worked in. A portion was sown to roots and potatoes, and the year previous, the balance had been sown to fall rye. This rye was cut green for hay on June 24th, and allowed to grow up a second time, this second crop to be plowed under to enrich the soil. This left the ground in good tilth and free from weeds. The crop was cut before any weeds ripened, and plowing down the aftermath left the ground in good shape for seeding down next spring.

The other half of the farm was let run in hay till its turn came to be treated as the other fields had been.

The next year, on field 1, which had been seeded, a crop of clover was taken off, and the aftermath allowed to lie on the field and rot. The third year a good crop of timothy and clover was taken off, and there was still plenty of clover left in the aftermath to plow down. You would be surprised at the wonderful effect the plowing down of that clover had on the soil. This same soil no longer grows June grass but good timothy and clover, and the very best of potatoes. Last year a crop of oats grown on this soil yielded 40 bushels to the acre, compared with 28 bushels of a few years ago, and won second place in the "Standing Field Crop Competition." The soil is no longer called sandy, but a loam, and considering the few years the rotation has been practiced there are still great hopes of further bettering this soil. Every time that it is plowed up it is darker in color and contains more humus. All that is wrong with it now is that it is lacking in lime, and consequently sour. I am experimenting with lime now, and, another time, will tell what effect this lime has.

Muskoka District, Ont. R. D. RILEY.

## Raising Chickens.

EDITOR "THE FARMER'S ADVOCATE":

Last spring, in the early part of April, I brought the incubator from the cellar where it had been stored for some years, and which was regarded as a useless machine, and put it into a cement building which had formerly been used as a goose house, with the intention of trying my hand at hatching chicks. It was an ideal place for the machine as the walls and the floor were solid, so it was not easily jarred.

After running it for a couple of days to become accustomed to the size of the flame necessary to keep an even temperature, I secured five dozen eggs (Plymouth Rocks) from a neighbor, and filled the remaining space with our own hens' eggs (mostly White Leghorns) amounting to one hundred and seventeen in all. I followed the direction book almost to the letter. Usually the temperature was between one hundred and one, and one hundred and three and a half.

On the twenty-first day there were no chickens, but on the twenty-second day they began to appear, and on the twenty-fourth day all that were coming were out and dry. The cause of their belated arrival was due to the fact that the temperature was below one hundred and three the most of the time.

There were eighty-five of them, bright, fluffy, smart chicks with the exception of a few "spraddlers" which a few inches of string soon cured. I tied the string about an inch long around the ankles, and the majority of them straightened up. I put them with four hens which I had ready, as I think the hens will raise them more satisfactorily than the brooder. Since then some hens which I had set brought out twenty-five or thirty, so I have one hundred and ten chickens which will be ready for a fairly early market. When they were a couple of weeks old several seemed dumpy, and, as I saw in "The Farmer's Advocate" to grease their heads and under their wings if they show symptoms of lice, I did so, and they have been doing well since.

J. MORLEY HANBIDGE.

## An Experiment with Oats.

EDITOR "THE FARMER'S ADVOCATE":

In the year 1915 I conducted an experiment with three different varieties of oats. The varieties were O. A. C. No 3, O. A. C. No. 72, and Early Market. The former two were sent to me from Guelph, and the latter was our own kind of oats. There was a pound of each kind. The ground was plowed and worked up fine, so as to have a good seed-bed. Each plot was one rod wide by two rods long. We sowed the three varieties on May 20th, each in a separate plot. I was delayed sowing owing to a big rain. The grain was up nicely in a week. All summer the weeds were picked out of the plots. The O. A. C. No. 3 oats grew the fastest at first and were darker in color than the other two varieties. The No. 3 headed out about July 20th and were ripe on August 14th. I cut them with the sickle that day. The number of days to maturity was 85. The straw was slim with very little blade on it. They grew 33 inches high. About August 1st there was a big rain and wind, in which the O. A. C. No. 3 oats fell flat. The Early Market oats fell a little but the O. A. C. No. 72 oats stood straight, owing to the straw being much stronger and stouter. The O. A. C. No. 72 and Early Market were cut on August 31st. The length of time to maturity was 103 days. The Early Market straw is much like the O. A. C. No. 3, only it is a little stouter with more blades.

I took all grain in when it was dry, and threshed each variety separately with the flail. The straw of the O. A. C. No. 3 oats weighed 34 pounds, and the grain 25 pounds. The grain is smaller than the other varieties. The Early Market grain is a little larger, and the O. A. C. No. 72 grain longer and plumper still. The O. A. C. No. 72 straw grew 48 inches high, and was big, stiff and had more blades than the other variety. I had 28 pounds of grain and 38 pounds of straw off the O. A. C. No. 72 plot.

The Early Market straw grew 34 inches long. It was a little stouter and stiffer then the O. A. C.