Issued Each Week

FARM AND DAIRY & RURAL HOME

Only $1.00 a Year

Vol. XXXII. FOR WEEK ENDING MARCH 20, 1913. No. 13

COMMERCIAL FERTILIZERS ARE REGARDED AS LABOR SAVERS

Alfred Hutchinson, Wellington Co., Ont.

A Practical and Successful Farmer who uses Commercial Fertilizers as Regularly as Barn Yard Manure. A Record of his Experiments. Mangels at 57 cents a ton.

WITH the near advent of spring, there is an annually recurring interest in the use of artificial fertilizer. Many farmers are asking, Will it pay me to use fertilizers? If I do, what shall I use? The first question is easy of solution, and if a little work and time is devoted to it, the answer should be positive, one way or the other. In my own case I answered the question years ago, and use artificial fertilizers as regularly as I use barnyard manure. I look upon them as one of our labor-savers, enabling me to grow a desired quantity of roots on fewer acres than I otherwise could do, and thus economising labor in the busy summer season. The only way that a farmer can know just what results he is getting is by using the scales; that is, trying several different fertilizers or mixtures on small plots and weighing the product. By taking one crop each year he will soon get a general idea of what suits his soil best, and the work will be found exceedingly interesting. In 1911 and 1912 I have been working with mangels, and the results obtained will be found in the following tables. The size of the plots was one-eightieth of an acre in every case, but for ease of comparison, I will give the application of fertilizer and the yield as per acre:

		Yield per acre.
Plot 1	—No fertilizer	23 tons—1,120 lbs.
" 2	—Nitrate Soda, 100 lbs., applied when plants were well up	25 tons—1,120 lbs.
" 3	—Nitrate Soda, 160 lbs., applied when plants were well up	25 tons—1,120 lbs.
" 4	—Nitrate Soda, 200 lbs., applied when plants were well up	25 tons—1,120 lbs.
" 5	—No fertilizer	25 tons—1,120 lbs.
" 6	—Nitrate Soda, 100 lbs., applied at seeding time	24 tons—1,120 lbs.
" 7	—Nitrate Soda, 160 lbs., applied at seeding time	24 tons— 400 lbs.
" 8	—Nitrate Soda, 200 lbs., applied at seeding time	25 tons—1,120 lbs.
" 9	—Common Salt, 200 lbs.	25 tons—1,040 lbs.
" 10	—Common Salt, 400 lbs.	29 tons— 800 lbs.
" 11	—No fertilizer	32 tons—1,920 lbs.
" 12	—Acid Phosphate, 160 lbs., applied at seeding time	24 tons—1,920 lbs.
	Muriate Potash, 80 lbs., applied at seeding time	26 tons—1,200 lbs.

In this experiment the average yield of the three check plots was 24 tons 700 lbs. The application of 200 lbs. of common salt increased the yield over five tons per acre. The heavier application of salt was of no advantage, it not doing quite as well as the lighter dressing. In no case did the nitrate of soda pay for itself; neither did the mixture. The season of 1911 was dry and hot, but mangels did well.

READY MIXED FERTILIZERS TRIED

Up to this date I had not found any fertilizer that gave very decided results on mangels, though I have been working at them for several years; so in 1912 I tried some ready mixed materials, put up for special crops. These were tested in three different quantities per acre. Results were as follow:

		Cost	Yield per acre. tons.	lbs.
Plot 1	—Special beet fertilizer, 250 lbs.	$4.15	17	80
" 2	—Special beet fertilizer, 800 lbs.	$11.20	18	800
" 3	—Special beet fertilizer, 1200 lbs.	$16.80	19	1360
" 4	—Special for roots, 250 lbs.	$ 4.15	17	720
" 5	—Special for roots, 800 lbs.	$11.20	24	
" 6	—Special for roots, 1200 lbs.	$16.80	24	
" 7	—Garden & vegetables, 250 lbs.	$ 4.15	21	240
" 8	—Garden & vegetables, 800 lbs.	$11.20	22	1520
" 9	—Garden & vegetables, 1200 lbs.	$16.80	21	680
" 10	—Common Salt, 240 lbs.	$ 1.30	16	160
" 11	—Nothing		15	1520
" 12	—Potash Phosphate, 250 lbs.	$ 3.40	19	1600

The guaranteed analysis of these materials was as follows:

Beet Fertilizer—Nitrogen 3%, Phosphate Acid 6%, Potash 6%—$35 to $36 a ton.

Root Fertilizer—Nitrogen 3%, Phosphate Acid 8%, Potash 6%—$35 to $36 a ton.

Vegetable Fertilizer—Nitrogen 2%, Phosphate Acid 8%, Potash 5%—$35 to $36 a ton.

Potash Phosphate 10%, Potash 5%—$27 a ton.

Some rather large increases are shown, but in some cases they have been costly. Plot 5 shows an increase in yield of over 10 tons, at a cost of a little over $1 a ton. Salt this year only increased the yield about 2¼ tons, nevertheless this increase was cheap, about 60c a ton. Plot 12 shows an increase of over six tons, at a cost of 57c a ton. In no case is the heavy application justified, and only in the second group is any pronounced benefit apparent for the medium weight. It is probably that in this case there were some other causes at work, and the increase may not be wholly due to the heavier dressing of fertilizer. So far as this test goes, it would appear that 250 to 300 lbs. is as much as can be applied with a maximum of profit; but it must be borne in mind that all the plots received a moderate dressing of barnyard manure. Salt does not show up so well this year as in 1911, but this may be accounted for by the difference in the seasons, 1912 being excessively wet. Mangels did not do so well as in the dryer, hotter season of 1911. The potash-phosphate, or "10-5," as we call it, I regard as a very promising combination; it was obtained especially for fall wheat, and was only put in this test at the last moment. It shows the cheapest crop increase here, and did remarkably well in other places.

In my turnip field, and also in the potato field, there was a headland on which we were unable to get any barnyard manure, owing to the softness of the ground due to excessive rainfall. On the potatoes we applied about 700 lbs. an acre of the 10-5, and the crop was far the best there of anywhere else in the field. On the turnips we put about 300 lbs. of 10-5 and 300 lbs. of acid phosphate; the resultant crop was as good or better than where the land received a dressing of 10 to 12 loads of manure and 300 lbs. of acid phosphate. I hope to give this fertilizer a more extended and accurate test the coming season.

Making Good on High Priced Land

As seen on a Farm in Brant County Ontario