THE CANADA FARMER

VOL. X. No: XII. (NEW SERIES.) TORONTO, CANADA, JUNE 1873. $1.50 PER ANNUM. SINGLE COPIES 8 CTS.

The Field.

Tillage Experiments.

The U. S. Departmental Report of the Commissioner of Agriculture for 1870 contains, among other useful and interesting matters, a record of recent farm experiments. It is not by any means a crowded record, and seeing that it embraces British as well as American Agriculture, one is impressed with the idea that careful experimenting is not being carried on very extensively, either in the old world or the new. The record is too long for transference bodily to these columns, and part of it relates to cotton culture, and other matters not suited to our latitude; we therefore cull and condense those portions likely to be of interest and use to our readers. The first item that seems deserving of notice relates to

Wheat Culture.

An Alabama farmer gives an account of an experiment tried by him on two acres of land, which had been several years in cultivation, but was in such poor condition that it was not capable of producing more than seven or eight bushels of wheat per acre without manure. In the latter part of Nov., 1869, the land was ploughed thus:—"A furrow was opened to the depth of about four inches with a turning plough which was followed by a subsoil plough, running nearly eight inches deep; and the field was then cross-ploughed with scooters, and laid off with a small scooter in furrows ten to twelve inches apart, leaving the surface in small ridges" Dec. 3, he sowed broadcast 1¼ bush. Clayton wheat, 30 bush. cotton seed, and 140 lbs. Peruvian guano per acre, and dragged the ground level and smooth with a good, home-made brush. The wheat grew beautifully, ripening the latter part of May, and standing five and and a half feet high. Sixty-four bushels of excellent wheat were harvested from the two acres, and 11 to 16 bushels lost by lodging, ravages of birds, &c. The profit of the crop, after paying all expenses, was $47.47½ per acre. It must be stated that the wheat brought $2 per bushel. At a much lower figure than that, however, the crop would have been remunerative, to say nothing of the improved condition of the land.

A Georgia farmer reports an experiment with fertilizers on an acre of exhausted land which, during 1869, had produced, with the aid of manure, 17 bushels of corn. Late in October the land was ploughed. Six two-horse loads of well-rotted stable manure were then spread on it. This was turned under by cross-ploughing with the same plough. 250 lbs. of dissolved bone were then scattered over the piece of ground and harrowed in. 120 lbs. of wheat were then sown on the plot, and covered with a heavy brush. In February, when the wheat was about six inches high, 250 lbs. ammoniated phosphate were applied. In the latter part of March, when the wheat was in the boot, 125 lbs. of ammoniated dissolved bone and 25 lbs. of salt were put on, the application being made on the dew in the morning, and repeated, in the same amount and manner, one week afterwards. The crop obtained measured nearly 57 bushels. No estimate was made of the value of the stable manure, but the cost of the artificial fertilizers used was $27.55.

Leaving the "sunny South" and coming to Vermont, we find a farmer trying the effect of superphosphate on wheat. In October he ploughed to the depth of ten inches, a pasture containing about 2½ acres, the soil being a brown loam of uniform quality. The next year he planted potatoes, dressing the land with 200 lbs. of plaster. In the ensuing spring he divided the land into three equal plots of 146 rods each. Plot 1 was sown with club wheat, wet with brine, and dried with Bradley's superphosphate. After harrowing once, a dressing of this fertilizer was applied, the rate per acre, including what was used in drying the seed, being 1,939 lbs., and the ground was then harrowed thoroughly and rolled. Plots 2 and 3 were fertilized and treated in a similar manner with artificial manures of other brands. It is not necessary to give all the details. The salient point of this experiment is that it did not pay as it regards the immediate crop, which was thirty-two bushels to the acre. The fertilizer cost $67.87 per acre, and the product at the high price of $2.26 per bushel, the average price in Vermont that season, would amount to $71 87, only $4 over the outlay for the fertilizer, and leaving too small a margin for the labor, to say nothing of profit, which is, after all, that which brings the livelihood.

Next we may just glance at some

English Experiments with Wheat and Barley.

These are taken from the Journal of the Royal Agricultural Society, and relate to drilling grain in rows of extraordinary distances—eighteen inches apart. Out of a number of experiments with wheat, all, except one, went to show that, contrary to expectation at the outset, the yield of the extra-spaced drills fell short of that of ordinary spaces, the widely-spaced rows averaging 29 bushels to the acre, and the others 32. In one instance, where the land was of "superior productiveness," and "well prepared for wheat," the result went in favor of the wide spaces by an excess of from seven to eight bushels. Another point included in these trials of wide spaces, had reference to methods of cultivation between them Twenty-seven inch spaces were tried with a row of potatoes between two rows of wheat and barley The result showed the impropriety of deep cultivation between rows of these grains at an advanced period of the season. The experiments with barley were decidedly favorable to wide spacing and deep interculture, the ears being of superior size, and a larger weight of grain obtained. Not only was a larger crop realized, but less seed was used, and greater facility had in working the soil among the growing grain. Along with these experiments, trials were also made in the application of superphosphate and nitrate of soda, which appeared to indicate that the artificial fertilizer was rendered more effective by the concurrent action of the chemical, But the lands on which these experiments were conducted, would grow from 25 to 35 bushels of wheat to the acre without the superphosphate and soda, and the increased yield was estimated at from 6 to 9½ bushels to the acre, with a margin of profit over cost of application. A Canadian farmer, able to count on from 25 to 35 bushels per acre from his land, would be very apt to "let well alone," and not bother himself with either phosphates or nitrates.

Indian Corn.

Some extraordinary yields of corn are stated to have resulted from experiments which may be expressed in the two words—*heavy manuring*. Indian corn is a gross feeder. It is hardly possible to make land too rich for its ravenous appetite. Four acres grown in Pennsylvania averaged 127½ bushels of shelled corn to the acre, the height of the stalks varying from 13 to 16 feet The manure used on this field was not only abundant in quantity, but concentrated as to quality, having been carefully kept and composted under cover. Another experiment secured 105 bushels of shelled corn to the acre. Success attributed to fall ploughing, thorough pulverization of soil in spring, manure in which was preserved the liquid excrement of the animal, the application of this manure to the surface of the soil, and the use of a bone and ash mixture in the hill. By adding irrigation between the rows to high culture and liberal manuring, a Southern cultivator succeeded in raising, on two acres, an average of 147 bushels per acre, while on a single acre, the enormous crop of 200⅜ bushels were obtained. These crops competed for premiums, and the results were attested by a viewing committee. Several experiments proved Coe's superphosphate to be a most efficacious fertilizer for corn.

Potatoes.

The experience of a New Hampshire farmer with this crop is worth recording, from the inexpensive character of the fertilizing application he employed, viz., "a compost prepared by mixing four bushels of leached ashes with one peck of lime, slaked with a saturated solution of salt, and one peck of gypsum." The compost was applied in the hill. A ridge of dry land ploughed late in the fall, and thoroughly harrowed in the spring, was what was operated on. Rows were laid out three and a half feet apart by running a small plough lightly, and the hills were marked a little more than two feet apart, and planted with potatoes cut to one or two eyes in a piece, two pieces in each hill. The quantity of compost applied to each hill is not stated. As to the product, 230 bushels were got from 1¼ acre of land, and the net profit over all expenses was $34.55 or $27.64 per acre.

Mangolds.

A series of experiments with this root is given. They were "on light land in good condition," and consisted in the application of guano, superphosphate rotted dung, bone dust, &c., in various combinations and quantities. By these means, from two to nine tons of additional yield per acre were obtained.

Mixed Crops.

It will do sometimes to sow a crop of mixed grains where the product is to be fed. Thus to sow oats and barley on lands well-fitted for those grains, especially for barley, is to get more in value than if either grain had been sown alone. More, there will be as many bushels of the mixed crop as if oats only had been grown. At least, this is our experience, and we have also seen it tested in quite a number of cases. It will be said that the oats will ripen later than the barley. This is very true but it is not an objection, as the crop may be cut when the oats have just changed from the milk to the dough, or when the stalk is yet comparatively green. The barley then is fully ripe, giving the oat (the week later) a full chance to perfect itself. The barley then is not riper than we generally see it harvested. There will be an unusually thick growth—like a winrow—and