throughout the experiment, the heap had lost to the weight of 4,124 lbs., or practically half of its original weight. Chemical analysis revealed that it still contained 33 lbs. of nitrogen, 22 lbs. of phosphoric acid, and 44 lbs. of potash. Therefore a ton of this rotted manure, compared with the fresh one, contained 4.1 lbs. more of nitrogen, 5 of phosphoric acid, and 7 of potash. It would be then reasonable to expect that, if applied to the land, a certain weight of this manure would give better results than an equal weight of fresh one, as the former would bring far more plant food for a given area of land.

In order to determine whether the surplus of crops obtained would be proportional to the greater contents of rotted manure of plant food, a series of experiments were also conducted at Ottawa during the last ten years. The results were rather surprising: fresh manure was shown to have as great a fertilizing value, ton per ton, as rotted manure.

Such an experiment, however, would need to be carefully examined before practical results might be drawn from it. Or the report lacks in details on the most essential points. All that we know is that an equal mixture of horse and cow manure was applied fresh at the rate of 15 tons to the acre on plots of 1-10 of an acre each, and manure of the same composition, kept until it was well rotted, was applied at the same rate on contiguous plots of the same area. The land was a "sandy loam more or less mixed with clay." The manure was applied and lightly plowed under just before sowing. As to the way the manure was cared for while fermenting, not a word is said about it, though undoubtedly the manner in which it was kept must have influenced a great deal on its composition. No chemical analysis being made of it, we do not know its contents. Assuming, however, that it was treated in the same way as the heap in the experiment quoted at the beginning of this article, and that it had after 6 months rotting the same composition, 15 tons of this manure would bring to the soil approximatively 297 lbs. of nitrogen, 165 lbs. of phosphoric acid, and 330 lbs. of potash, all of which are supposed to have become "more available" during the rotting process. On the other hand, 15 tons of fresh manure would have brought to the soil only 180 lbs. of nitrogen, 90 lbs. of phosphoric caid, and 225 lbs. of potash—considerably less of each element. The following are the averages of yield for the different crops experimented with; for eleven years:

	Well rotted manure. Bushels.	Fresh manure. Bushels.
Wheat	20 56	20.52
Barley	34.34	35.21
Oats	48.14	54.12
	Tons.	Tons.
Corn	16.240	17.724
Mangels	23.212	22.269
Turnips	15.196	15.854
Carrots	19.753	20 930
Potatoes (after wheat)	bush. 292.10	bush. 282.30
Potatoes (after barley)	bush. 217.10	bush. 233.20

These results strike us at first as not being very large for such a heavy rate of manuring. In experiments conducted at Rothamsted on the lasting influence of farm yard manure, land which received yearly 14 tons to the acre, gave an average for twenty years of 49 bushels of barley. However they give us the comparative merits—and in very unexpected manner—of fresh and rotted manure. Must it be concluded that fresh manure owes its equal fertilizing value to the larger amount of organic matter which it contains, for the experiment shows that in 6 months rotting exposed manure has lost 65 p.c. of its weight of organic matter? At all events, this experiment is striking enough to be presented in full to the readers of the "Journal." It shows that practice does not always agree with theory.