

Plant No. I., grown without the manure, weighed 4 lbs. $2\frac{1}{2}$ ozs.

Plant No. II., grown with the aid of the manure, reached the great weight of 9 lbs. 3 ozs.

Plant No. III., also treated with the manure, but under different circumstances to those of No. II., weighed 8 lbs. 6 ozs.

These were grown in a garden in the vicinity of Lower Norwood, Surrey.

Now, various parts of the leaves and of the stem of each plant were separately reduced to ashes, the greatest care being taken in the incineration, to prevent the alkaline salts fusing, &c. The plants were burnt on a platinum sheet made in the shape of a muffle, and heated at a low temperature in a gas furnace. The ashes gave the following results on being submitted to chemical analyses:—

	No. I.		No. II.		No. III.	
	Leaves.	Stalk.	Leaves.	Stalk.	Leaves.	Stalk.
Potash	33·951	41·231	31·634	39·223	31·521	38·929
Lime	15·665	13·601	14·210	13·583	14·310	13·621
Soda	2·523	4·296	1·825	2·360	1·917	1·813
IRON (Fe_2O_3)—						
	8·323	1·502	12·290	3·521	11·832	3·005
Magnesia	4·936	6·210	3·128	6·000	2·921	5·942
PHOSPHORIC ACID—						
	12·931	14·463	16·210	18·944	16·123	18·891
Sulphuric acid—						
	8·613	9·619	7·641	8·916	7·592	8·922
Chlorine	7·994	6·781	7·310	4·200	7·400	4·319
Silica	4·999	2·294	5·631	3·121	6·265	4·468
	<u>99·935</u>	<u>99·997</u>	<u>99·879</u>	<u>99·868</u>	<u>99·881</u>	<u>99·910</u>

It will be seen from the above analyses that the plants treated with the manure contain a larger proportion of iron than those grown without the manure, and the leaves contain a larger percentage of iron than the stalks.

The conclusions to be drawn from these experiments are:—

1st.—The plants when grown in soil containing iron in a soluble form, and with phosphoric acid also in a soluble form, are healthier and larger than if they had been grown in a soil which did not contain these soluble compounds.

2nd.—The plants grown in soils containing this mineral manure appear to absorb larger quantities of soluble iron and soluble phosphates than when not so treated.