

draw their inorganic matter and also some of their organic matter from the soil. If this demand on the soil is continued without some return being made to the soil, it is clear that the land will become exhausted, and will not be able to supply the requirements of the crops. It will, therefore, not only become exhausted, but as a consequence will become less productive. The soil being the only source from which a crop can obtain its inorganic matter, exhaustion arising from any deficiency of this portion of the plants' food is quickly observable. It is desirable that you should realize what crops remove from the land, and this is shown in the following table.

41. Inorganic Matter removed from an acre of land, by average crops of the following kinds. (*Playfair.*)

	WHEAT.		BEANS.		TURNIPS.		CLOVER.
	25 Bush. Corn.	3000 lbs of Straw.	25 Bush. Corn.	2800 lbs of Straw.	20 Tons Bulbs.	6 Tons Tops.	2 Tons Hay.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Potash, . . .	7'49	18'21	22'63	89'17	125'73	75'95	52
Soda, . . .	'97	'90	6'68	2'69	22'98	16'23	7
Magnesia, . .	3'07	4'11	5'03	11'24	12'27	9'27	35
Lime, . . .	'85	9'34	3'63	33'58	37'87	69'81	111
Phosphoric Acid,	11'47	8'15	23'67	12'16	31'11	27'87	20
Sulphuric Acid, .	'08	5'82	'61	1'83	42'26	36'56	13
Silica, . . .	'84	101'82	'72	11'84	11'66	2'58	10
Peroxide of Iron,	'20	1'32	'35	—	3'71	2'58	3
Common Salt, .	'03	'33	'90	7'15	28'69	38'15	8
Carbonic Acid, .	—	—	—	—	21'71	21'	—
	25	150	63	168	340	300	259

42. These numbers may be taken as fairly representing the inorganic matters generally removed by these crops, but they will vary according to the weight of the crop, and the character of the soil. These figures must therefore be looked upon as giving only a general idea of the materials