

There will be found in the foregoing table all of the mineral substances which I have enumerated; they will be found too in different proportions, but still ever and always present. Phosphoric acid forms about 45 per cent. of the ash; sulphuric acid about 1-3 per cent.; lime is about 1.70 per cent.; magnesia about 12 per cent. of the inorganic constituents, (a fact which I shall hereafter advert to,) and potash about 31 per cent.

Going now to the straw of wheat, we find the greatest percentage of inorganic matter to be 4.20 per cent.; departing from it to the chaff, we there find about $9\frac{1}{2}$ per cent. The great amount of ash in these is dependent upon the greater amount of silica required to give strength to the straw, and firmness to the husk.

Analyses of 10 specimens of Wheat Straw and Chaff together.

Variety.	Soil.	Silica.	Phosph. Acid.	Sulph. Acid.	Carbonic Acid.	Lime.	Magnesia.	Perox. Iron.	Potash.	Soda.	Chlor. Sodium.	Ash of Chaff.	Ash of Straw.
Creeping	Clay and sand	73.57	5.51	2 14		5 91	1.25	0.07	10 51	1.03		15 40	4.22
Ditto	Ditto	69.66	6.62	3 95		7 46	1.56	0.28	10 31	0.13		13 04	4.60
Ditto	Calcareous rubble	69.94	8.54	2 33		4 94	1.43	0.06	12 48	0.25		16 54	4.30
Hopeton	Sand	69.36	5.24	4 45		6 96	1.45	0.73	11 79			11 77	4.07
Ditto	Silicious sand	67.10	7.05	5 59		4 44	3 27	1 54	10 03	0 85		10 36	4 16
Red-Straw	Silicious sandy loam	70.50	5 77	3 31		3 53	3 29	0 14	12 76	0 68		13 78	4 68
White	Calcareous brash	71 49	3 37	2 28		7 34	3 53	1 11	9 47	1 39		7 04	2 74
Ditto	Clay loam	68 92	3 21	2 21		5 63	1 76	0 43	15 50	2 29		9 45	4 20
Ditto	Calcareous clay, dolomitic	66 13	8 85	2 23		6 82	3 62	0 54	11 76			9 63	4 95

A table showing the quantity of mineral matter removed by a ton of Straw and of Chaff, and one of Grain.

	Mineral matters in 100 parts of Straw Ash.	Mineral matters in 100 parts of Chaff Ash.	In a ton of Straw.		In a ton of Chaff.		Removed from an Acre.			
			lbs.	oz.	lbs.	oz.	In 28 bushels of grain, at 61 lbs. (1792 lbs.)	In 2109 lbs. of Straw & Chaff (18 cwt. 91 lbs.)		
Silica	63.89	81.22	60	0	172	3	1	0.6	83	8
Phosphoric Acid.	2.75	4.31	2	8	9	2	12	13	7	3
Sulphuric Acid..	3 09		2	14			0	1.5	3	12
Lime	7.42	1.88	7	0	4	0	1	0.3	7	1
Magnesia	1.94	1.27	1	13	2	11	3	8.3	2	13
Peroxide of Iron	0.45	0.37	0	6	0	14	0	3.6	0	10
Potash	17.98	9.14	17	0	19	6	8	15	13	15
Soda	2.47	1.79	2	5	3	12	0	12.3	0	13
	99.99	99.98	93	14	212	0	28	6.6	119	11

NOTE.—For the above tables I am indebted to Prof. J. T. Way, Chemist to the Royal Agri'l Society, and S. H. Ogston, late assistant to Prof. Graham of University College, London. Interesting and valuable as they are, they would have been much more so to us on this side of the water, if the soils upon which they grew had been carefully analyzed.