

The fattening qualities of the oat must be very great. The Maize or Indian Corn is celebrated for fattening animals, and Dumas gives only 9 per cent as its maximum of fatty matter. Bousingault gives 7 per cent as the average ; while Liebig has denied that it contains more than 5 per cent. If we take 7 as the average, the meal of oat, so far as oil is concerned, should nearly equal that of Indian Corn.

The per centage of ash is :

	Grain.	Husk.	Straw
Oat .....	2.6 to 3.9 .....	5 to 8 .....	4.1 to 9.2

and its composition is as follows :

Potato Oats, Northumberland. Norton.			
Potash .....	} 31.56 .....	16.27	
Soda .....			
Lime .....	5.32 .....	10.41	
Magnesia .....	8.69 .....	9.98	
Peroxide of Iron .....	0.88 .....	5.03	
Peroxide of Manganese .....		1.25	
Sulphuric acid .....			
Phosphoric acid .....	49.19 .....	46.26	
Chloride of Sodium } (common salt) .....	0.35 .....		
Chloride of Potassium ..		5.32	
Soluble Silica .....	0.89 .....		
Insoluble silica .....	0.98 .....	3.70	
		97.86	98.27

In every portion of the plant but the grain, observes Norton, we have found Sulphuric acid in the watery solution of the ash ; in the grain it seems to give way to phosphoric acid. In the only instance in which sulphuric acid was present, it was in a poor crop, grown on an exhausted soil, and it is possible the sulphuric acid may have been present, because the crop found it impossible to obtain a full supply of phosphoric acid. The supply of phosphoric acid is quite remarkable, constituting as it does, nearly or quite one-half of the ash. It is easy to see therefore how bones or guano should benefit the oat crop. Silica is in small quantity in the grain, compared with the other parts of the plant.

*Pease Meal.*—The quantity of nutritive matter derived from an acre of peas is as follows : A crop producing 25 bushels, 1600lbs ; give of husk or woody fibre, 130lbs. ; of starch, gum, &c. 800lbs ; of gluten, 360lbs. ; of oil or fat, 34lbs. ; and of saline matter, 48lbs.

*Bean Meal.*—This is an excellent food for the horse, when mixed with oats, or in a mash of boiled barley. It is also much praised for fattening Oxen.

The quantity of nutritive matter derived from an acre of Beans producing 30 bushels, or 1900lbs. per acre is, of husk or woody fibre, 190lbs. ; of starch, sugar, &c., 760lbs. ; of gluten &c., from 450lbs. to 530lbs. ; of oil or fat, from 38lbs. to 57lbs. ; and of saline matter, 57lbs.

The chemical composition of two last, have not yet been carefully investigated.

	Water.	Husk.	Meal.	Starch.	Legumin.	Grain, &c.
Peas .....	14.0	10.5	75.5	65.0	23	12
Field Beans	15.5	16.2	68.3	69.0	19	12