

are special cases. On the other hand, there are soils for which fresh manure is better than rotted manure, as for instance a heavy clay soil. But the point we want to emphasize with the farmers in this campaign is, that the manure in ordinary farming is never of any greater value than it is at the moment of its production. .

NATURE AND COMPOSITION OF MANURE.

No farm product is so variable as manure, the composition and value of which depend on a great many factors. Among these are the kind, age, function and food of the animal producing it, the quantity and nature of the litter employed and, last but not least, the care taken in its production and preservation.

The analysis of a large number of samples of fresh horse and cow manure from animals well fed and bedded with sufficient straw to hold all the liquid excreta, gives the following average figures per ton: Nitrogen, 10 pounds; phosphoric acid, 5 pounds; potash, 10 pounds.

The following table states in approximate terms the relative proportions of solid (dung) and liquid (urine) excreta and bedding found in fairly well made manures of the more common farm animals. It also gives the amounts of nitrogen, phosphoric acid and potash in these compounds.

The data express percentages and pounds per ton.

APPROXIMATE AVERAGE COMPOSITION OF MANURE (FRESH) FROM VARIOUS ANIMALS.

Kind of Animal.	Relative proportions of solid excrement, liquid excrement and bedding in manure.	Lbs. per ton.	Nitrogen.		Phosphoric Acid.		Potash.	
			Per cent.	Lbs. Per ton.	Per cent.	Lbs. Per ton.	Per cent.	Lbs. Per ton.
Horse.....	Solid excrement	1,200	0.55	6.60	0.30	3.60	0.40	4.80
	Liquid excrement (urine).....	300	1.35	4.05	trace.		1.25	3.75
	Bedding material	500	0.50	2.50	0.15	0.75	0.60	3.00
	Total mixture.....	2,000	0.60	13.15	0.22	4.35	0.58	11.55
Cow	Solid excrement	1,200	0.40	5.04	0.20	2.52	0.10	1.26
	Liquid excrement (urine).....	540	1.00	5.40	trace.		1.35	7.29
	Bedding material	200	0.50	1.60	0.15	0.30	0.60	1.20
	Total mixture.....	2,000	0.57	11.44	0.14	2.82	0.49	9.75
Pig	Solid excrement	990	0.55	5.44	0.50	4.95	0.40	3.96
	Liquid excrement (urine).....	660	0.40	2.64	0.10	0.66	0.45	2.97
	Bedding material	350	0.50	1.75	0.15	0.42	0.60	2.10
	Total mixture.....	2,000	0.49	9.83	0.30	6.03	0.45	9.05
Sheep	Solid excrement	1,200	0.75	9.04	0.50	6.03	0.45	5.43
	Liquid excrement (urine).....	594	1.35	8.92	0.05	0.30	2.10	12.47
	Bedding material	200	0.50	1.00	0.15	0.30	0.60	1.20
	Total mixture.....	2,000	0.90	18.06	0.33	6.63	0.95	19.10
Poultry.....	Solid & liquid excrement	1,900	1.00	19.00	0.80	15.20	0.40	7.60
	Bedding material	100	0.50	0.50	0.15	0.15	0.60	0.60
	Total mixture.....	2,000	0.97	19.50	0.77	15.35	0.11	8.20

Nearly ninety per cent of the total potash excreted by the cow is to be found in the urine, and this, in addition to the fact that one-half or more of the total nitrogen excreted is also present in the liquid excreta. It thus comes about that, weight for weight, urine has a greater manurial value than the solid excrement, and this not only by reason of its larger percentages of potash and nitrogen, but because these constituents are in a soluble condition and practically at once available for the nutrition of crops.