same cock (Bird A) and with the same procedure as the above mentioned experiment of the soy bean cake.

The cock took 231.0 g. of ground kaoliang in the experimental period of twenty-four hours and excreted 221.0 g. of wet dung.

Composition of Kaoliang and the Dung.

		Moisture	Organic matter	Crude protein	Crude fat	Crude fiber	Nitro- gen-free extract	Crude ash	Pure protein
Kaoliang	Air-dried state	12.425	85.425	11.228	3.590	1.340	69.262	2.155	10.689
	Dried state		97.539	12.821	4.099	1.530	79.089	2.461	12.206
Dung	Air-dried state	14.540	79.280	32.694	4.714	5.145	36.727	6.180	29.102
	Dried state		92.769	38.256	5.521	6.020	42.976	7.231	34.053

Calculation of Digestibility Coefficient.

The 231.0 g. of kaoliang can be converted into 202.3 g. of the moisture-free state and 221.0 g. of wet dung were calculated to 52.6 g. of the moisture-free state.

Digestibility coefficient of kaoliang is obtained as follows :

		Organic matter	Crude protein	Crude fat	Crude fiber	Nitro- gen-free extract	Pure protein
In dried kaoliang 221.0 g.	(g.)	197.321	25.937	8.292	3.095	159.997	24.693
In dried dung 52.6 g.	(g.)	48.796	20.123	2.904	3.166	22.605	17.911
Digested quantity	(g.)	148.525	5.814	5.388	(-)0.071	137.392	6.782
Digestibility coefficient	(%)	75.3	22.4	65.0	—	85.9	27.5

Digestibility Coefficient of Kaoliang.

Organic matter	Crude protein	Crude fat	Nitrogen-free extract	Pure protein
75.3%	22.4%	65.0%	85.9%	27.5%

On the Identification of Phosphate-compounds in Soil.

By

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1. In order to identify soil-phosphates qualitatively and quantitatively by determining their solubility in solution with various pH, the writer tested at first the solubility of pure tricalcium phosphate, ferric phosphate and aluminium phosphate and obtained the following result (shown in the figure) which

shows that;

- Tricalcium phosphate has minimum solubility at pH 7.68 which increases rapidly at more acid and a little at more alkaline side.
- Aluminium phosphate dissolves least at pH between 4.07 and 6.93 and the solubility increases slowly both at more acid and alkaline sides.
- Ferric phosphate shows minimum solubility at pH between 3 and 6 and it dissolves markedly at more alkaline side.

The characteristic of the above solubility curves was not changed by the amount of phosphate applied, by the co-existence of the above two or three salts and small quantity of soluble phosphate, although in the last case, larger solubility was noted at alkaline side for $\text{Ca}_3(\text{PO}_4)_2$, at acid side for FePO_4 and at all range of reaction for AlPO_4 .

2. The writer made the same experiment with 11 soils and identified their phosphates by comparing the solubility curve with pure phosphates with the following result.

	phosphate identified	ratio of phosphate
4 soils	FePO_4	
2 soils	$\text{Ca}_3(\text{PO}_4)_2$ and FePO_4	1:1~1:2
3 soils	" "	1:10~1:20
1 soil	AlPO_4 and FePO_4	1:10
1 soil	Same as above but with very small quantity of $\text{Ca}_3(\text{PO}_4)_2$	

3. It was also experimented that the change of monocalcium phosphate after various standing with soil, can be traced with the method.