KENTUCKY

AGRICULTURAL EXPERIMENT STATION

OF THE

State College of Kentucky.

BULLETIN No. 90.

COMMERCIAL FERTILIZERS.

LEXINGTON, KENTUCKY.

December 31, 1900.

KENTUCKY
Agricultural Experiment Station.

Address of the Station—LEXINGTON, KY.

NOTICE.

The Bulletins of the Station will be mailed free to any citizen of Kentucky who sends his name and address to the Station for that purpose.

Correspondents will please notify the Director of changes in their post-office address, or of any failure to receive the Bulletins.

ADDRESS:

KENTUCKY AGRICULTURAL EXPERIMENT STATION,
LEXINGTON, KY.

Bulletin No. 90.

Analyses of Commercial Fertilizers.

Number of Brands. There were 246 different brands of commercial fertilizers registered during the year 1900. Of these, 138 were complete fertilizers, or fertilizers containing all three of the essential ingredients, namely: phosphoric acid, nitrogen and potash; 26 were acid phosphates; 9 contained a mixture of acid phosphate and nitrogen compounds only; 29 acid phosphates and potash salts only; and 44 were classed as bones or tankage.

Samples Collected and Analyzed. Five hundred and eight samples were collected by deputy inspectors or sent by farmers from various parts of the State and 255 were sent in by firms as official samples; of these samples 548 have been analyzed by the Station. Many of these analyses have already been published in Bulletin No. 88 and are not repeated here. The 215 samples not analyzed were duplicates collected by different deputy inspectors working in different places at the same time. In some instances as many as 6 or 7 samples of the same brand were collected.

Results of the Analyses. The results of the analyses show that of the 175 samples analyzed since August 12, 65, representing 48 brands and 19 firms, fell so far below the guaranteed analyses in phosphoric acid, nitrogen or potash, or any two, or all three of these ingredients, that they could not be accounted for by variations in sampling or analysis. Adding to these the 72 samples reported in Bulletin No. 88, we have 137 samples which fell so far below the guaranteed analyses that attention should be called to this fact. It is probable that in most cases variations can be accounted for by hurried or careless mixing at the factories, or gross mistakes in shipping one brand for another, but in several instances, the results show apparently a desire on the part of the manufacturer to guarantee more than the goods contain. Attention is called to the fact that, in at least one instance, unacidulated phosphate rock has been mixed with and sold as bone meal. (See foot note p. 226.) Such a mixture should not be sold as bone meal, and in the future tags will not be issued for bone meal fertilizers containing unacidulated rock phosphate.

The great majority of the manufacturers, however, have furnished in most instances fertilizers fully up to, and often better than the guarantee.

A careful examination of the table on p. 204 shows, however, that the fertilizers made by the following named firms have fallen below their minimum guarantees in so many instances that special attention should be called to them:

The Abbott & Martin Rendering Company.
*George S. Bartlett.
The Chicago Fertilizer Company.
The Hardy Packing Company.
The Ohio Farmers Fertilizer Company.

The table gives the manufacturers who have registered fertilizers in this State since August 12, or whose fertilizers have been sampled and analyzed since that date. It shows also the number of samples analyzed of each firm's fertilizers, and

*The tonnage tax paid by Mr. George S. Bartlett on each of these brands was the minimum allowable under the law, thus indicating but a small amount of fertilizer sold by him.

in how many of these samples there was a serious deficiency of either phosphoric acid, nitrogen or potash, and in how many the percentages of these constituents are such as to be acceptable, from the point of view of the buyer, either because they equal or exceed the percentage guaranteed by the manufacturer, or because a slight deficiency in one constituent is, in the Director's judgment, fully made up by an excess in one or both of the others. Under the heading, "Relative Value Per Ton," is shown in how many instances the "estimated value per ton," calculated from our analysis, equals or exceeds the value calculated from the manufacturer's minimum guaranteed analysis, and in how many it is too low, reasonable allowance having been made for unavoidable variations. This table should be carefully studied. It concisely reviews each firm, showing how the samples of fertilizers taken from various places in the State compare with what was guaranteed. In order, however, to see the amount of variations from the guaranteed analyses, this table should be studied in connection with the table of results of analyses. This table can be easily referred to, as the names of the firms are arranged in alphabetical order.

NAME OF MANUFACTURER.	No. of Samples Analyzed.	Phospho-ric Acid.		Nitro-gen.		Potash.		Relative Value per ton.	
		No. Acceptable.	No too low	No. Acceptable.	No. too low.	No. Acceptable.	No. too low.	No. Acceptable.	No. too low.
The Abbott & Martin Rendering Co	7	2	5	6	0	3	1	5	2
The Armour Fertilizer Works	5	5	0	3	0	2	0	5	0
Peter Backer & Son	2	1	1	2	0	0	1	2	0
Geo. S. Bartlett	5	0	5	4	1	3	2	3	2
The Buckeye Phosphate Co	1	1	0	1	0	1	0	1	0
The Chicago Fertilizer Co	8	2	6	7	1	6	1	3	5
The Cleveland Dryer Co	4	4	0	2	0	1	0	4	0
Continental Fertilizer Co	3	3	0	1	0	1	1	3	0
The Currie Fertilizer Co	9	7	2	8	0	6	1	9	0
Duncan & Bro	1	1	0	1	0	1	0	1	0
Globe Fertilizer Co	8	8	0	7	0	7	0	8	0
Greer Machinery Co	1	1	0	0	0	1	0	1	0
The Hardy Packing Co	7	2	5	7	0	4	1	4	3

The Helm Milling Co	2	2	0	2	0	0	1	2	0
The Jarecki Chemical Co	2	1	1	2	0	2	0	2	0
J. B. Jones	5	2	3	5	0	2	0	5	0
The Jones Fertilizing Co	8	5	3	7	0	4	0	7	1
Louisville Fertilizer Co	20	17	3	9	0	8	3	19	1
P. B. Mathiason Manufacturing Co	2	2	0	2	0	0	0	2	0
Michigan Carbon Works	5	5	0	5	0	3	0	5	0
National Fertilizer Co	8	8	0	3	0	5	0	8	0
North-Western Fertilizing Co	9	8	1	6	0	4	1	7	2
The Ohio Farmers' Fertilizer Co	11	3	8	9	0	6	1	6	5
The E. Rauh & Sons Fertilizer Co	2	1	1	2	0	0	0	2	0
Read Phosphate Co	11	7	4	6	1	6	3	10	1
J. F. Singer & Co	3	3	0	3	0	1	0	3	0
Swift & Co	7	7	0	6	1	4	1	7	0
Tennessee Chemical Co	6	6	0	1	0	3	2	6	0
Virginia-Carolina Chemical Co	4	4	0	2	0	3	0	4	0
Wake Fertilizer Co	2	0	2	2	0	2	0	2	0
The Walton Fertilizer Co	1	1	0	1	0	1	0	1	0
Wood, Stubbs & Co	2	2	0	2	0	0	0	2	0

It is evident from the preceding table that while most of the fertilizers examined ran above the minimum guarantee, yet a thorough and careful inspection seems essential. It is hoped that farmers will generally take advantage of Section 8 of the fertilizer law, and when they purchase fertilizers, at least in quantity, that they will take a sample in accordance with Section 8 and send it to the Station for free analysis.

The essentials in taking a sample are: 1. Take it at the time of purchase, and if possible in the presence of agent or seller. 2. Take a sample from not less than two bags, and from one additional bag for every ten purchased; mix these samples carefully and take at least a pint of this mixed sample, put it into a fruit jar, seal, box and express to M. A. Scovell, Director, Lexington, Ky. 3. Take the sample in the presence of at least one witness, and have the witness sign the required certificate. 4. The certificate for free analysis to be sent *by mail* and should be in accordance with the law as given in Section 8.

If the sample is taken in accordance with the above directions it may be sent by express and the charges will be paid by the Station.

Form of Certificate. A good form of certificate is the following, and blank certificates will be sent free to any farmer requesting the same.

CERTIFICATE FOR FREE ANALYSIS.

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M. A. SCOVELL, Director, Lexington, Ky.:

This is to certify that I am not a dealer in, or agent for the sale of any fertilizer, and that the fertilizer, a sample of which I have sent by express to you for free analysis was purchased by me.....190 for my own use and not for sale.

I further certify that the sample was taken at the time of purchase from at least 10 per cent. of the sacks or other packages comprising the whole lot purchased, and that it was taken as provided in Section 8 of the fertilizer law, in the following

described manner, to wit: .....
.....
.....
.....
.....

Upon receipt of the analysis from you, I agree to furnish you with a tag taken from one of the sacks sampled, the name and address of the firm or agent of whom the fertilizer was purchased, and the amount purchased.

(Signature) .....
(P. O. Address) .....

Signature of Witnesses:

.....
.....

Should, however, any farmer desire to take a sample and not have a blank certificate at hand, he may write one in full like the form above given, or take the sample in presence of seller and witness and so mark it that he can indentify it subsequently in a certificate, and send it at once to the Experiment Station with the request that the station furnish form of certificate, such certificate to be filled out upon receipt covering the sample and properly signed by sender and witnesses and sent by return mail to the Station.

Section Providing for Free Analysis.—The section of the Fertilizer Law, providing for the taking of samples for free analysis is as follows:

SEC. 8. Any person not a dealer in, or agent for the sale of any fertilizer who may purchase any commercial fertilizer in this State for his own use and not for sale, may take a sample of the same for analysis, which analysis shall be made by the said Experiment Station free of charge. Such samples for free analysis shall be taken by the purchaser in presence of the person, company or agent selling the fertilizer, from at least ten (10) per cent. of the sacks or other packages comprising the whole lot purchased, and shall be thoroughly mixed and at least one pound of the material after mixing must be put into a jar or can, securely sealed and marked in such a way as to surely identify the sample and show by whom it was sent, without giving the name of the fertilizer or the person from whom it was purchased, and must be forwarded to the Director of the Kentucky Agricultural Experi-

ment Station, Lexington, Ky. The purchaser shall also send with the sample a certificate signed by himself and witness, or by two witnesses, stating that the sender has purchased the fertilizer for his own use and not for sale, and that the sample was taken in the manner prescribed in this Section. Provided, however, that if the person, company or agent shall refuse to witness the taking of the sample, then the sample may be taken at the time of the purchase in the manner already described in the presence of two witnesses who shall certify to the manner of taking the sample. The purchaser shall preserve the official label from one of the bags or other packages sampled to be sent to the Director after having received the report of analysis of the sample, and at the same time he shall furnish to the Director the name and address of the firm of whom the fertilizer was purchased and the amount purchased; and any person having sent a sample for free analysis, under the provisions of this Section, who shall, after having received the report of analysis of the same, refuse to furnish the required information, shall thereafter forfeit the privilege of free analysis of fertilizers under this Section. But if any sample shall have been submitted for free analysis without all the requirements of this Section having been complied with, the Director shall inquire into the case and may accept the sample for free analysis if he believes that it is a fair sample of the fertilizer as it was delivered to the purchaser.

Values Used.—In calculating the relative value per ton, the same values have been used as were used in our last bulletins, namely:

Soluble and reverted phosphoric acid in mixed fertilizers	7c per lb.
Soluble and reverted phosphoric acid in plain acid and unacidulated phosphates	5c per lb.
Insoluble phosphoric acid in mixed fertilizers	2½c per lb.
Insoluble phosphoric acid in plain acid phosphates	Nothing.
Phosphoric acid in fine bone	4c per lb.
Phosphoric acid in medium bone	3c per lb.

Fine bone is all that passes through a sieve with meshes one-twenty-fifth inch square. Medium bone passes through a sieve with meshes one-sixth inch square, but does not include fine bone.

Nitrogen in all fertilizers ..... 17½c per lb.
Potash in all fertilizers, from sulphate ..... 7c per lb.
Potash in all fertilizers, from muriate ..... 6c per lb.

The term "Potash, from Muriate" does not indicate necessarily that the manufacturers used muriate of potash in furnishing the potash; they may have used sulphate of potash, or other salts of potash, but in all fertilizers where the term "Potash from Muriate" is used there is enough chlorine present to combine with the potash, either from salt in the tankage used, or the potash salts used, as muriate, kainit, carnallite, etc. As the objection to the use of muriate of potash arises from the chlorine present in this salt, it likewise follows that chlorine in a fertilizer is objectionable, whether put in with the potash or otherwise. The using of sulphate of potash where there is chlorine present in other ingredients of the fertilizer will not obviate the injurious effect of the chlorine, and therefore we take this method of showing chlorine present by designating the potash as "from muriate."

Explanation of the Table. In the table of analyses, under the column headed "From Whom Obtained," all samples marked "manufacturer" are those furnished by the manufacturer at the time the fertilizer was entered for sale. All other samples were collected by deputy inspectors or sent by farmers. The analysis guaranteed by the manufacturer follows the analyses of these other samples and is printed in *italic* figures.

The figures in the table which are set in bold face type are those results which, in the judgment of the Director, were too low to be acceptable. Where the total phosphoric acid in samples of bone is marked with (*) it indicates that the bone contains soluble phosphoric acid. This soluble phosphoric acid is an indication of either the addition of acid phosphate to the bone, in which case it would not be a pure raw bone, or else that the bone containing this soluble phosphoric acid was not strictly a pure or high grade bone, but contained trashy materials, which carried with them the soluble phosphoric acid.

The names of the manufacturers are arranged in alphabetical order, and all the analyses of the same brand have been grouped together.

TABLE OF ANALYSES.

Station Number.	NAME AND ADDRESS OF MANUFACTURER AND NAME OF BRAND.	From Whom Obtained.
	The Abbott & Martin Rendering Co., Columbus, Ohio.	
7082	Standard Phosphate	J. W. Teaff, Hardinsburg
7083	Ideal Grain Grower	J. W. Teaff, Hardinsburg
7081	Peerless Bone with Potash	H. E. Lewis, Hodgenville
7397		J. W. Teaff, Hardinsburg
7092	Render's Bone Meal	J. W. Teaff, Hardinsburg
7398		H. E. Lewis, Hodgenville
7038	Bone, Meat and Blood Guano	Manufacturer
	The Armour Fertilizer Works, Chicago, Ill.	
7093	Bone Meal	Forbes & Bro., Hopkinsville
7094	Raw Bone Meal	W. C. & W. R. Moorman, Glendeane
7095	Grain Grower	Lebanon Carriage & Implement Co., Lebanon
7096	Star Phosphate	Gardner Warren Implement Co., Elizabethtown
7097	Phosphate and Potash	Franklin Hard. Co , Franklin
	Peter Backer & Son, Troy, Ind.	
7100	Grower No. 7	A. L. Oelze, Cloverport
7101	Grower No. 9	A. L. Oelze, Cloverport
	Geo. S. Bartlett, successor to Cincinnati Desiccating Co., Cincinnati, O.	
6827	Indian Brand Ohio Valley Phos	Manufacturer
7102		J. M. Abbott & Son, Sulphur

Table of Analyses.

Pounds in the Hundred.													
		Phosphoric Acid.							Potash.				
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.	Nitrogen.	Equivalent to Ammonia.	From Muriate.	From Sulphate.	Relative Value per Ton	Station Number.
				7.70	1.97	9.67					**$7.70**	7082
				9 00		*10.00*					*9 00*	
				7.08	3 40	10 48	0.85	1.03	1.14		15.96	7083
				8.00		*9.00*	*0.82*	*1 00*	*1.00*		*15 77*	
				7.89	3.02	10.91	0.57	0 69	**1.25**		16.06	7081
				6 77	2 25	9.02	0 49	0.59	2.33		**15.13**	7397
				8 00		*9 00*	*0.41*	*0 50*	*2.50*		*16.14*	
13.01	3.88					**16.89**	2.98	3.62			23.17	7092
12.92	2.28					**15.20**	2.46	2.99			20.32	7398
						20.00	*1 65*	*2 00*			*17.78*	
				8 26	1.51	9.77	2.33	2.83	5.01		26 49	7038
		6.00	*2.00*	*8.00*		*10 00*	*0.82*	*1 00*	*4 00*		*19.87*	
22.15	3.31					25 46	2.78	3 37			29 44	7093
						24.00	*2 47*	*3.00*			*23.05*	
20.91	4.91					25.82	3.66	4.44			32.49	7094
						22 00	*3 71*	*4.50*			*26.19*	
				7 64	5.63	13 27	2 11	2.56	2.36		23.74	7095
		6.00	*2 00*	*8.00*		*10.00*	*1.65*	*2.00*	*2.00*		*20 38*	
				16.14	1.77	17.91					16 14	7096
		9.00	*3.00*	*12 00*		*16 00*					*12.00*	
				13.14	0.70	13.84			2.02		21.17	7097
		6 00	*4.00*	*10 00*		*12.00*				*2 00*	*17.80*	
8.84	3.11					**11.95**	3.45	4.19	**2 14**		23.59	7100
						15.00	*3 00*	*3 64*	*3 00*		*23.10*	
11.27	14.34					25.61	3.49	4 24			29.84	7101
						20.00	*3 29*	*4.00*			*23 52*	
				6.57	3.74	10.31	1.55	1.88	2.20		**19.14**	6827
				7.34	4.29	11.63	1.52	1.85	1.36	0.58	20.19	7102
				8.00		*11.00*	*1 65*	*2.00*	*2.00*		*20.88*	

TABLE OF ANALYSES.

Station Number.	Name and Address of Manufacturer and Name of Brand.	From Whom Obtained.
	Geo. S. Bartlett.	
7005	Indian Brand Gilead Phosphate..	Manufacturer.....
7029	Corn and Wheat Grower.....	Manufacturer.....
7103		J. M. Abbott & Son, Sulphur...
	The Buckeye Phosphate Co, Columbus, O.	
7000	Buckeye Spec Bl'd & Potash Mix.	Manufacturer.....
	The Chicago Fertilizer Co., Chicago, Ill.	
7106	Western Bone Black and Potash..	Kinkade Bros., Sonora .....
6995	Bone, Blood and Potash..... ...	Marian Hoover, East View .....
7107		R. D. Traughber, Adairville.....
7399		I.K.Miller &Son,Campbellsville
7108	Standard Truck.....	Kinkade Bros., Sonora .....
7109	Wheat Special	I.K Miller &Son,Campbellsville
7400		R. D. Traughber, Adairville.....
7110	Chicago Bone Meal	R. D. Traughber, Adairville.....
	The Cleveland Dryer Co., Cleveland, O.	
7127	Phospho Bone	D. C. Gray, Brandenburg .....
7128	XXX Phosphate.....	Irvington Milling Co, Irvington
7129	Horsehead Phosphate.....	Leitchfield Mer. Co, Leitchfield
7130	Square Bone.....	J. C. DeHaven, Hardinsburg....
	Continental Fertilizer Co., Nashville, Tenn.	
7131	Bear Beef, Blood and Bone.....	S. D. Chestnut, Trenton.. .....

TABLE OF ANALYSES

Pounds in the Hundred.													
Phosphoric Acid.									Potash.				
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.	Nitrogen.	Equivalent to Ammonia.	From Muriate.	From Sulphate.	Relative Value per Ton.	Station Number.
				6 93	5 44	12.37	2.61	3.17		2.06	$24.44	7005
				9.00		*11 00*	*2 47*	*3 00*	*2 00*		*24.65*	
				8.43	3.98	12.41	3 21	3.90	**3.49**		29.22	7029
				7.52	4.93	12.45	**2.44**	2.96	**1.64**	**1.27**	**25.29**	7103
				9 00		*10 00*	*3 29*	*4 00*	*4.00*		*29 42*	
				7.60	1.60	9.20	1.65	2.00	7 25		25.92	7000
				8.00			*0 82*	*1 00*		*4.00*	*19 67*	
				5.45	2.20	**7.65**	0.63	0.76	3.25		**14 84**	7106
				8 00		*9.00*	*0 41*	*0 50*		*2 50*	*16.64*	
				7.98	2.28	10.26	1.41	1.71	2.04		19.70	6995
				7.98	2.48	10 41	1.10	1.34	**1 34**		**17.85**	7107
				7.33	2.26	9.59	1.39	1.69	2.07		**18.74**	7399
				9 00		*10 00*	*1.23*	*1.50*		*2.00*	*20.21*	
				7.71	2 87	10.58	**1 98**	2.40	3 62		**23 50**	7108
				8.00		*9 00*	*2.47*	*3 00*		*4.00*	*25.95*	
				7.01	2.97	9 98	0.59	0.72	1.14		**14.74**	7109
				7.82	3.25	11 07	0 74	0.90	0.98		16 35	7400
				8.00		*9.00*	*0 82*	*1.00*		*1.00*	*15.97*	
12.96	2 47					**15.43**	2.30	2.79			19.90	7110
						20 00	*1.65*	*2.00*			*17.78*	
				9 16	4 95	14.11	1.29	1.57	1 48		21.60	7127
				10.00			*0 82*	*1 00*	*1 00*		*18.07*	
				15.80	1.57	17.37					15.80	7128
				14 00							*14.00*	
				9.63	2.65	12 28					9.63	7129
				10 00							*10 00*	
				6 77	13.88	20.65	3.02	3.67			26 99	7130
				6 00		*20.00*	*2 06*	*2 50*			*22 61*	
				11.66	0.77	12.43	1.52	1.85		2.04	24.89	7131
		6.00	4 00	*10 00*		*11.00*	*1.65*	*2.00*		*2 00*	*23.08*	

TABLE OF ANALYSES.

Station Number.	NAME AND ADDRESS OF MANUFACTURER AND NAME OF BRAND.	From Whom Obtained.
	Continental Fertilizer Co.	
7132	Bear High Grade Dissolved Bone	C. O. Cruse, Owensboro.. .....
7133	Bear Spec. Wheat & Corn Grower	Watkins & Co., Elizabethtown..
	The Currie Fertilizer Co., Louisville, Ky.	
7111	Currie's Alkaline Bone.....	I.K. Miller &Son, Campbellsville
7112	Currie's Corn and Wheat Special	M. T. Crawford, Somerset.....
7113	Currie's Soluble Bone.....	I.K. Miller &Son, Campbellsville
7401		Young, Waller & Young, Morganfield .....
7114	Currie's Wheat Grower.....	Grigsby & Co., Bardstown.....
7115	Currie's Raw Bone Meal.....	R. C. Swinney, Beard.....
7116	Currie's Fine Ground Raw Bone Meal.....	Eldred & Co., Princeton.....
7117	Currie's Butchertown Raw Bone Meal.....	C. W. Quiggins, Elizabethtown
7402		J. M. Owens & Son, Shelbyville
	Duncan & Bro., Lagrange, Ky.	
7134	Tiger Wheat Special.....	Kalfus Hitt, Beard.....
	Globe Fertilizer Co , Louisville, Kentucky.	
7135	Globe Wheat Grower.....	W.H. Jernigan & Co ,Pembroke
7136	Eagle Corn and Wheat Grower...	J. F. Brandon & Bro., Benton...
7137	Progress Corn and Wheat Grower	J. W. Cloyd, Campbellsville.....

TABLE OF ANALYSES.

Pounds in the Hundred.												
Phosphoric Acid.									Potash.			
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.	Nitrogen.	Equivalent to Ammonia	From Muriate.	From Sulphate.	Relative Value per Ton.	Station Number.
				15 21	0.96	16 17					$15.21	7132
		8.00	*6 00*	*14 00*		*15.00*					*14 co*	
				11.33	1 02	12 35				1.61	18.62	7133
		8.00	*3.00*	*11 00*		*12 00*				*2 00*	*18.70*	
				11.01	2.81	13.82			1.63		18.78	7111
				10.00		*11 00*			*1 50*		*16.30*	
				10.16	4.36	14.52	0.97	1.18	0.89		20.87	7112
				10.00		*12 50*	*0 62*	*0 75*	*1.00*		*18 62*	
				10 26	1.97	12.23	1.20	1.46		1.14	21.15	7113
				10.84	1 97	12.81	1 25	1 52		1.52	22.68	7401
				10.00		*12.00*	*1.23*	*1.50*		*1.50*	*21.41*	
				10.59	3.24	13.83	1.49	1.81		1.48	23.74	7114
				10.00		*12 50*	*1 23*	*1.50*		*1.50*	*21.66*	
11.59	11.13					22.72	3.76	4.56			29.11	7115
						19 00	*3 09*	*3.75*			*22.22*	
				7.51	11.07	18.58	1.98	2.40			22.98	7116
				8.00		*15.50*	*1 65*	*2 00*			*20.73*	
				7.47	9.70	17.17	2.16	2.62	1 08		24.17	7117
				7.82	9.81	17.63	1.51	1.83	1.15		22.53	7402
				10.00		*15.50*	*1.65*	*2.00*	*0.75*		*23.43*	
				10.18	3.43	13.61	0.86	1.04	0.92	1.24	21.82	7134
		5.00	*2.00*	*7.00*		*12.00*	*0.82*	*1.00*	*1.50*		*16.97*	
				8.91	1.62	10.53	2.26	2.74		2.11	24.14	7135
				9 00		*11.00*	*2.06*	*2.50*		*2.00*	*23.61*	
				10.50	2.17	12.67	1.77	2.15		2.42	25.38	7136
				9.00		*11.00*	*2.06*	*2.50*		*2.00*	*23.61*	
				10.21	2.07	12.28	1.84	2.23		0.79	22.88	7137
				9.00		*10.00*	*1.65*	*2.00*		*1.00*	*20.28*	

TABLE OF ANALYSES.

Sttaion Number	NAME AND ADDRESS OF MANUFACTURER AND NAME OF BRAND.	From Whom Obtained.
	Globe Fertilizer Co.	
7138	Globe Bone Dust	Langdon Bros., Science Hill
7139		Langdon Bros., Science Hill
7140	Bone and Potash	J. W. Cloyd, Campbellsville
7141	Globe Bone Meal	Hunt & Crutcher, Vine Grove
7014	Phosphate of Potash	Manufacturer
	Greer Machinery Co., Knoxville, Tennessee.	
7018	Farmers' Compound	Manufacturer
	The Hardy Packing Co., Chicago, Illinois.	
7142	Crop Producer	M. H. Williams, Sonora
7403		Brady & Campbell, Stithton
7058	Hardy's Wheat Grower	R. H. Franklin, Coy
7098		J. D. Hill, Franklin X Roads
7172		A. J. Holbert, Franklin X Roads
7143	Bone Meal	Brady & Campbell, Stithton
7171		A. J. Holbert, Franklin X Roads
	The Helm Milling Co., Birmingham, Ala.	
7019	Helm's Pure Bone Meal	Manufacturer
7020	Helm's Bone & Tobacco Stems.	Manufacturer
	The Jarecki Chemical Co., Sandusky, Ohio.	
7147	Lake Erie Fish Guano	Jno. Whitworth, Caneyville
7148	Number One Fish Guano	Jno. Whitworth, Caneyville

Table of Analyses.

Pounds in the Hundred.													
Phosphoric Acid.							Nitrogen.	Equivalent to Ammonia.	Potash.		Relative Value per ton.	Station Number.
In Fine Bone	In Medium Bone	Soluble.	Reverted	Available.	Insoluble.	Total.			From Muriate.	From Sulphate.		
				8.88	3.98	12.86	1.64	1.99		0.89	$21.41	7138
				10 36	2.01	12 37	1.19	1.44		0.91	20 95	7139
				9.00		*11 00*	*1.23*	*1.50*		*1.00*	*19.31*	
				10.75	1.05	11.80	0.36	0.44		1.16	18.46	7140
				11.00						*1.00*	*16.80*	
4.93	16.49					21.42	4.13	5.01			28.29	7141
						20.00	*3.29*	*4.00*			*23.52*	
				9.12	0.91	10.03				4.02	18.86	7014
				9.00						*4.00*	*18.20*	
				13.65	5.59	19.24			2.18		24.53	7018
				10 00					*2.00*		*16.40*	
				6.80	3.70	10.50	0.88	1.07	1.12		15.79	7142
				6.16	3.04	9.20	0.58	0.70	1.07		**13.45**	7403
				8 00		*9.00*	*0.82*	*1.00*		*1.00*	*15.97*	
				7.39	1.97	9.36	0.40	0.49	2.41		**15.63**	7058
				7.10	1.36	**8.46**	0.56	0.68	2.41		**15.47**	7098
				7.98	1.56	9.54	0.51	0.62	**1.73**		15.82	7172
				8.00		*9.00*	*0.41*	*0.50*		*2.50*	*16.64*	
16.53	3.63					20.16	2.10	2.55			22.75	7143
13.23	2.71					**15.94**	2.75	3.34			21.84	7171
						20.00	*1.65*	*2.00*			*17.78*	
10.71	11.14					21.85	3.05	3.70			25.93	7019
						21.00	*2.64*	*3.20*			*21.84*	
7.03	2.74					9.77	2.26	2.74		**2.21**	18.26	7020
						8.00	*1.65*	*2.00*	*5.00*		*16.58*	
				8.60	3.20	11.80	1.77	2.15	1.52		21.66	7147
				10.00		*11.00*	*1.64*	*1.99*		*1.00*	*21.64*	
				9.62	3.62	13.24	0.78	0.95	1.29		19.56	7148
				10.00		*11 00*	*0.86*	*1.04*		*1.00*	*18.91*	

TABLE OF ANALYSES.

Station Number.	Name and Address of Manufacturer and Name of Brand.	From Whom Obtained.
	J. B. Jones, Louisville, Ky.	
7149	Jones' Bone Meal	I.K.Miller &Son,Campbellsville
7150	Ammoniated Bone Meal	I.K.Miller &Son,Campbellsville
7054	Raw Bone Meal	J. W. Swinney, Beard
7151	Wheat Grower	I.K.Miller &Son,Campbellsville
7404		E. J. Clore, O'Bannon
	The Jones Fertilizing Co., Cincinnati, Ohio.	
7155	Bone Meal	Orr, Gill & Co., Allensville
7156	Ammoniated Bone Meal	S. L. Thomas, Hodgenville
7157	Miami Valley Phosphate	J. B. Benjamin, Providence
7405		Green & Dycus, Benton
7158	Jones Reliable Phosphate	Orr, Gill & Co., Allensville
7406		Green & Dycus, Benton
7045	Jewel Phosphate	J. W. Riley, Olmstead
7159	Acid Phosphate	Orr, Gill & Co., Allensville
	Louisville Fertilizer Co., Louisville, Ky.	
7160	Bone and Potash	Forbes & Bro., Hopkinsville
7407		Crowell & Nunn Co., Blackford
7161	Eagle Phosphate	S. P. Simpson, Murray
7408		Lee Grissom, Columbia
7105	Corn Grower	J. G. Walden, East Wood

TABLE OF ANALYSES.

Pounds in the Hundred													
Phosphoric Acid.								Nitrogen.	Equivalent to Ammonia.	Potash		Relative Value per Ton	Station Number.
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.				From Muriate.	From Sulphate		
16.83	5.92					*22.75		2.73	3.31			$26.57	7149
						20.00		*2.47*	*3.00*			*20.65*	
10.76	1.47					*12.23*		2.70	3.28			18.94	7150
						15.00		*2.06*	*2.50*			*16.21*	
15.60	8.04					23.64		3.48	4.22			29.48	7054
						21.50		*3.50*	*4.25*			*25.15*	
				7.45	3.07	10.52		2.62	3.18		2.31	24.37	7151
				7.55	3.38	10.93		2.74	3.33		1.95	24.58	7404
				9.00		*11.00*		*1.70*	*2.06*		*2.00*	*22.35*	
15.43	7.60					*23.03		3 35	4.07			28.63	7155
						20.00		*3.29*	*4.00*			*23.52*	
				7.22	8.34	15.56		4.70	5.71			30.73	7156
				5.00		*15.00*		*4.12*	*5.00*			*26.42*	
				8.15	5.12	13.27		2.79	3.39		3.72	28.95	7157
				8.60	5.19	13.79		2.79	3.39		3.42	29.20	7405
				9.00		*13.00*		*2.47*	*3.00*		*2.75*	*27.10*	
				6.24	3.48	9.72		1.82	2.21		1.55	19.02	7158
				7.78	2.83	10.61		1.93	2.34		1.48	21.14	7406
				8.50		*10.00*		*1.23*	*1.50*		*1.25*	*18.71*	
				8.58	2.19	10.77		0.78	0.95			15.84	7045
				8.00		*10.00*		*0.82*	*1.00*			*15.07*	
				6.63	3.68	10.31						6.63	7159
				8.00		*10.00*						*8.00*	
				10.36	2.33	12.69				1.51		17.48	7160
				9.71	2.00	11.71				2.28		17.33	7407
		6.00	*4.00*	*10.00*		*11.00*				*2.00*		*16 90*	
				9.53	2.51	12.04						9 53	7161
				9.75	2.48	12.23						9.75	7408
		6.00	*4.00*	*10.00*		*11.00*						*10.00*	
				11.22	1 62	12.84					1.31	18.35	7105
		6.00	*4.00*	*10.00*		*11.00*				*2.00*		*16.90*	

*Contains Soluble Phosphoric Acid.

TABLE OF ANALYSES.

Station Number.	Name and Address of Manufacturer and Name of Brand.	From Whom Obtained.
	Louisville Fertilizer Co.	
7162	Corn and Wheat Grower	J. W. Gilbert & Sons, Owensboro
7409		N. J. Eastham, Somerset
7163	Soluble Bone	Duncan & Bro., Lagrange
7050	Bone Meal	Geo. Harned, Custer
7146	Special Wheat Grower	L. D. Stringer, Pulaski
7164		S. P. Simpson, Murray
7044	Eagle Guano	G. T. Wyatt, Olmstead
6915	Raw Bone Meal	Manufacturer
7165		Duncan & Bro., Lagrange
6916	Gross Special	Manufacturer
7068		A. J. Gross, Holt
	Dissolved Bone No. 2	Manufacturer
7069		E. M. Jones, Newstead
7070		R. T. Stowe, Newstead
7071		J. W. Riley Newstead
	P. B. Mathiason Manufacturing Co., St. Louis, Mo.	
6917	Increscent Brand Pure Raw Bone Meal	Manufacturer
7184		N. Meguiar, Franklin
	Michigan Carbon Works, Detroit, Mich.	
7180	Homestead A Bone Black Fer.	Gregory & Son, Cloverport
7181	Red Line Complete Manure	S. R. Boyd, Kelsey
7410		C. E Owen, Madisonville
7182	Wolverine Ground Bone	L C. Goering, Hawesville

TABLE OF ANALYSES.

POUNDS IN THE HUNDRED													
Phosphoric Acid.							Nitrogen.	Equivalent to Ammonia.	Potash		Relative Value per ton.	Station Number.
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.			From Muriate.	From Sulphate.		
				9.94	3.84	13.78			0.37		$16.28	7162
				12.22	1.98	14.20			**0.13**		18 26	7409
		7.00	*5.00*	*12.00*		*13.00*			*0.50*		*17.90*	
				8.34	1.56	9.90	0.8[illegible]	1.03		1.79	17.95	7163
		5.00	*3.00*	*8.00*		*9.00*	*0.82*	*1.00*	*1.50*		*16.37*	
20.80	9.34					*30.14	0.67	0.81			24.59	7050
						20.00	*0.82*	*1.00*			*14.87*	
				9 42	1.88	11.30	0.68	0.83		1.12	18.08	7146
				9.85	1.22	11.07	0.67	0.81		1.15	18.36	7164
		4.00	*3.00*	*7.00*		*8.00*	*0.82*	*1.00*	*1.00*		*14.37*	
				10.84	1.11	11.9[illegible]	1.56	1.89		2.21	24.29	7044
		6.00	*4.00*	*10.00*		*11.00*	*1 65*	*2.00*	*2.00*		*22.68*	
12.36	5.81					***18.17**	3.23	3.92			24.69	6915
10.61	7.68					***18 29**	2.68	3.25			22.48	7165
						20.00	*2.47*	*3.00*			*20.65*	
				8.85	0.90	9.75	1.44	1.75		4.93	24.78	6916
				9.21	1.28	10.49	1.43	1.74		4.85	25.33	7068
		4.00	*3.00*	*7.00*		*8.00*	*1.23*	*1.50*		*5.00*	*21.61*	
				17.63	1.43	19.06					17.63	7002
				16.78	1.85	18.63					16.78	7069
				16.16	1.98	18.14					16.16	7070
				17 07	2.12	19.19					17.07	7071
				16.00		*17.00*					*16.00*	
17.03	5.38					22.41	3.41	4.14			28.79	6917
16.14	5.10					21.24	3.91	4.75			29.66	7184
						22.00	*3.29*	*4.00*			*24.72*	
				8.75	1.32	10 07	2.24	2.72	1.74		22.84	7180
				8.00		*9.00*	*2.06*	*2.50*	*1.50*		*20.71*	
				6.29	2 65	8.94	0.98	1.19	1.21		15.06	7181
				7.22	2.21	9.43	1.00	1.21	0.93		15.84	7410
				7.00		*8.00*	*0.82*	*1.00*	*1.00*		*14.37*	
12.42	2.73					15.15	1.83	2.22			17.99	7182
						14.00	*1.65*	*2.00*			*14.18*	

*Contains Soluble Phosphoric Acid.

TABLE OF ANALYSES.

Station Number.	NAME AND ADDRESS OF MANUFACTURER AND NAME OF BRAND.	From Whom Obtained.
	Michigan Carbon Works.	
7183	Desiccated Bone	Forbes & Bro., Hopkinsville
	National Fertilizer Co., Nashville, Tenn.	
7185	National Dissolved Bone	J. M. Porter, Beaver Dam
7186	Acid Phosphate	E. S. Duiguid & Co., Murray
7187	Sadler's Formula	A. C. McElroy, Bowling Green
6996	Acid Phosphate	Manufacturer
6997	Tennessee Guano	Manufacturer
6998	Acid Phosphate with Potash	Manufacturer
7026	Twentieth Century Guano	Manufacturer
7027	Bone Meal	Manufacturer
	North-Western Fertilizing Co., Chicago, Ill.	
7188	Horse Shoe Brand Corn & Wheat Grower	Dickey & Co., Glasgow
7055	H. S. B. Fine Raw Bone	C. A. MacGill, Sonora
7040	H. S. B. Pure Ground Bone	H. S & G. Morgan, Whites Sta.
7047		C. R. Adams, Howell
7189	H. S. B. Acidulated Bone & Pot.	D. W. Gowdy, Campbellsville
7041	H S. B. Bone and Potash	J. J. Moore, Whites Station
7048		C. R. Adams, Howell

TABLE OF ANALYSES.

Pounds in the Hundred													
Phosphoric Acid							Nitrogen.	Equivalent to Ammonia.	Potash.		Relative Value per ton.	Station Number.
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.			From Muriate.	From Sulphate.		
23.74	8.78					32.52	1.35	1.64			$28.99	7183
						25.00	*1.23*	*1.50*			*19.31*	
				11.96	3.63	15.59	0.89	1.08	0.70		22 52	7185
				10.00			*0.82*	*1.00*	*1.00*		*18 07*	
				15.16	3.77	18.93					15.16	7186
				14.00							*14.00*	
				12.60	3.71	16.31			2.04		21 95	7187
				12.00					*2.00*		*19.20*	
				15.46	.38	16.84					15.46	6996
				12.00							*12.00*	
				11.01	1.30	12.31	1.92	2.33	3.79		27.33	6997
				8.00			*1.65*	*2.00*	*2.00*		*19 38*	
				11.32	3.29	14.61			3.59		21.81	6998
				10.00					*2.00*		*16.40*	
				12.22	0.91	13.13			8.76		28 08	7026
				12.00					*4.00*		*21.60*	
10.09	13.37					23.46	4.00	4.86			30.09	7027
						20.00	*2.47*	*3.00*			*20 65*	
				7.53	3.88	11.41	1.78	2.16	1.80		20.87	7188
		5.00	*3.00*	*8.00*		*10 00*	*1.65*	*2.00*		*2.00*	*20.78*	
13.15	10.75					23.90	3.64	4.42			29.71	7055
						22.00	*3.29*	*4.00*			*24 72*	
16.11	5.08					21 19	2.57	3.12			24.94	7040
15.82	7.80					23.62	2.36	2.87			25.60	7047
						20.00	*2.47*	*3.00*			*20.65*	
				11.01	3.20	14.21	0.99	1.20	0.85		21.50	7189
		7.00	*3.00*	*10 00*		*12 00*	*0.82*	*1.00*		*1.00*	*19.27*	
				9.92	1.48	11.40			1.73		16.71	7041
				10.37	1.41	11.78			1.28		16.77	7048
		7.00	*3.00*	*10.00*		*12 00*				*2.00*	*17 80*	

TABLE OF ANALYSES.

Station Number.	NAME AND ADDRESS OF MANUFACTURER AND NAME OF BRAND.	From Whom Obtained.
	North Western Fertilizing Co.	
7190	H. S. B. Cap Sheaf Wheat Grower	Hook, Miller & Co, Hardinsburg
7191	H.S. B Quick Acting Phosphate	S. R. Boyd, Kelsey
	The Ohio Farmers' Fertilizer Co., Columbus, O.	
7194	Acid Phosphate	Buchanan & Sanders, Campbellsville
7195	General Crop Fish Guano	Buchanan & Sanders, Campbellsville
7411		Overstreet & Goldsborough, Lagrange
7196	Corn, Oats & Wheat Fish Guano	Paducah Fer. & Imp. Co , Paducah
7412		B. D. Brown, West Point
7197	Tobacco Grower	J. W. Starks, Hardin
7198	Fine Ground Bone Meal	Buchanan & Sanders, Campbellsville
7413		B. D. Brown, West Point
7052	Grain and Grass	J. W. Hardin, Finchville
7199	Imperial Raw Bone	Overstreet & Goldsborough, Lagrange
7017	Ammoniated Bone & Potash	Manufacturer
	The E. Rauh & Sons Fertilizer Co , Indianapolis, Ind.	
6994	Raw Bone	Manufacturer
7386		D. E. Patterson, Hodgenville
	Read Phosphate Co., Nashville, Tenn.	
7201	Read's High Grade Tob. Grower	Schroeder & Langston, Murray

TABLE OF ANALYSES.

POUNDS IN THE HUNDRED.													
Phosphoric Acid.									Potash.				
In Fine Bone.	In Medium Bone	Soluble.	Reverted.	Available.	Insoluble.	Total.	Nitrogen.	Equivalent to Ammonia.	From Muriate.	From Sulphate.	Relative Value per Ton.	Station Number.
				8.46	2.80	11.26	1.25	1.52	1.41		$19.31	7190
		4.00	*3.00*	*7.00*		*8.00*	*0.82*	*1.00*		*1.00*	*14.57*	
				9.19	2.71	11.90					9.19	7191
		8.00	*2.00*	*10.00*		*12.00*					*10.00*	
				.31	2.78	10.09					**7.31**	7194
				9 00		*10.00*					*9.00*	
				6.71	2.87	9.58	0.78	0.95	2.52		16.58	7195
				8.56	1.18	9.74	1.00	1.21	1.65		18.05	7411
				8.00		*9.00*	*0.82*	*1.00*		*1.00*	*15.97*	
				6.31	2.20	**8.51**	1.19	1.44	1.91		**16.39**	7196
				6.92	1.37	**8.29**	1.54	1.87	2.28		**18.51**	7412
				9.00		*10.00*	*1.23*	*1.50*		*2.00*	*20.21*	
				7.28	3.13	10.41	1.22	1.48	**0.84**		**17.04**	7197
				9.00		*10.00*	*1 23*	*1.50*		*2.00*	*20.21*	
12.81	3.41					**16.22**	2.61	3 17			21.44	7198
12.53	3.54					**16.07**	2.84	3.45			21.98	7413
						20.00	*1.65*	*2.00*			*17.78*	
				8.70	2.94	**11.64**			1.96		**16.00**	7052
				12.00		*13.00*			*1.00*		*18.50*	
11.35	9.30					20.65	3.55	4.31			27.09	7199
						16.00	*3.29*	*4.00*			*21.12*	
				8.11	1.75	9.86	1.84	2.23	1.12	6.79	29.52	7017
		6.00	*2.00*	*8.00*		*10.00*	*0.82*	*1.00*	*4.00*		*19.87*	
10.93	9.31					**20 24**	2.76	3.35			23.99	6994
13.99	7.53					*21.52	3.21	3 90			26.95	7386
						22.00	*2.88*	*3 50*			*23.28*	
				11.51	1.62	13.13	1.05	1.27		**2.24**	23.74	7201
				8.00		*9.00*	*1.65*	*2 00*	*4.00*		*22.28*	

*Contains Soluble Phosphoric Acid.

TABLE OF ANALYSES.

Station Number.	NAME AND ADDRESS OF MANUFACTURER AND NAME OF BRAND.	From Whom Obtained.
	Read Phosphate Co.	
7202	Read's Blood & Bone Fer. No. 1..	Lebanon Carriage & Imp. Co., Lebanon
7203	Read's Alkaline Bone	Lebanon Carriage & Imp. Co., Lebanon
7414		A. A. Winfree, Casky
7204	Read's Farmers' Spec. Manure...	I.K. Miller &Son, Campbellsville
7205	Read's XXX Dissolved Bone.....	Woodson Lewis, Greensburg....
7206	Read's Wheat & Clover Grower..	D. H. Hatten, Franklin
7415		R. S. Bandy, Irvington
7207	Read's Special Potash Mixture...	Bland & Highbaugh, Sonora....
7208	Read's Wheat Grower	Bland & Highbaugh, Sonora....
7209	*Fine Ground Bone	Bland & Highbaugh, Sonora....
	J. F. Singer & Co., Nashville, Tenn.	
7021	Singer's Pure RawHard B'n Meal	Manufacturer
7022	Singer's Standard Bone Meal	Manufacturer
7023	Singer's Special Wheat Grower..	Manufacturer
	Swift & Co., Chicago, Ill.	
7051	Swift's Ammonia Bone & Potash	G. W. Pottinger, Auburn
7056		Wm. Black, Franklin
7042	Swift's Bone Meal	S. W. Waller, Franklin

*Contains unacidulated rock phosphate.

TABLE OF ANALYSES.

POUNDS IN THE HUNDRED.													
Phosphoric Acid.							Nitrogen.	Equivalent to Ammonia.	Potash.		Relative Value per Ton.	Station Number.
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.			From Muriate.	From Sulphate.		
				7.53	1.91	9.44	1.60	1.94	2.19		$19.73	7202
				8.00		*9.00*	*1.65*	*2.00*	*2.00*		*19.88*	
				11.27	2.46	13.73			**1.23**		18.49	7203
				9.21	1.77	10.98			1.82		15.96	7414
				10.00		*11.00*			*2.00*		*16.90*	
				9.60	2.07	11.67	0.87	1.06	3.10		21.25	7204
				10.00		*11.00*	*0.82*	*1.00*	*3.00*		*20.97*	
				12.04	2.30	14.34					12.04	7205
				13.00		*14.00*					*13 00*	
				9 29	2.19	11.48	1.05	1.27	1.76		19.90	7206
				10.51	3.34	13.85	0.94	1.14	2.02		22.09	7415
				10.00		*12.00*	*0.82*	*1.00*	*2.00*		*20.27*	
				8.98	2.46	11.44			**1.97**		**16.16**	7207
				10.00		*11.00*			*4.00*		*19.30*	
				9.61	2.76	12.37	1.63	1.98	2.87		23.98	7208
				10.00		*11.00*	*1.65*	*2.00*	*2.00*		*22.68*	
12.45	8.30					20.75	2.50	3.04			23.69	7209
						18.00	*2.06*	*2.50*			*18.01*	
14.14	6.66					20.80	3.78	4.59			28.54	7021
						20.61	*3.29*	*4.00*			*23.89*	
13.29	7.15					20.44	3.76	4.56			28.08	7022
						18.00	*2.47*	*3.00*			*19.45*	
				6.79	9.52	16.31	1.82	2.21		1.75	23.09	7023
				7.00			*1.65*	*2.00*		*2.00*	*18.38*	
				9.30	4.35	13.65	1.76	2.14	1.12	1.02	24.13	7051
				8.40	1.41	9.81	2.00	2.43	0.78	1.15	22 02	7056
				8.00		*11.00*	*1.85*	*2.25*		*2.00*	*21.98*	
24.44	1.56					26.00	2.90	3.52			30.64	7042
						25.00	*2.47*	*3.00*			*23.65*	

TABLE OF ANALYSES.

Station Number.	NAME AND ADDRESS OF MANUFACTURER AND NAME OF PRAND.	From Whom Obtained.
	Swift & Co.	
7057	Superphosphate.....	I. B. Payne, Hardinsburg.....
7072		Arthur Goodman, Harned.....
7387	Raw Bone Meal.....	B. F. Beard & Co, Hardinsburg
7388	Complete Fertilizer	C. P. Clarke & Co., Owensboro
	Tennessee Chemical Co., Nashville, Tenn.	
7389	Ox Alkaline Bone.....	J. J. Ramsey & Son, Shelbyville
7099	Ox High Grade Dissolved Bone	J. D. Hill, Franklin X Roads...
7390	Ox Spec. Wheat & Corn Guano	Leitchfield Mer. Co, Leitchfield
7073	Ox Potash Mixture.....	D. N. Combs, Habit.....
7418		Depp & Holman, Glasgow.....
7391	Ox Potash Formula.....	Oveson & Burba Co, Hodgenville
	S. W. Travers & Co (see Virginia-Carolina Chemical Co.)	
	Virginia-Carolina Chemical Co., S W. Travers & Co., Branch, Richmond, Va.	
7043	Beef, Blood & Bone Fertilizer....	S. W. Waller, Franklin .....
7392	Capital Bone Potash Compound	J. M. Rose, Pembroke.....
7393	Capital Dissolved S. C. Bone	Lee Hart, Big Clifty.....
7394	Champion Corn & Wheat Grower	J. B. Benjamin, Providence.....
	Wake Fertilizer Co., Adairville, Ky.	
7015	Old Kentucky Wheat Grower.....	Manufacturer.....
7395		Manufacturer's Warehouse.....

Table of Analyses.

Pounds in the Hundred.													
Phosphoric Acid.							Nitrogen.	Equivalent to Ammonia.	Potash.		Relative Value per Ton.	Station Number.
In Fine Bone.	In Medium Bone.	Soluble.	Reverted.	Available.	Insoluble.	Total.			From Muriate.	From Sulphate.		
				9.37	6 05	15.42	**1.84**	2.23	**0.60**	**0.90**	$24.57	7057
				8.54	2.00	10.54	2.66	3.23	88	1.00	24.73	7072
		5.00	*3.00*	*8.00*		*12.00*	*2.47*	*3.00*		*2.00*	*24.65*	
11.24	13.73					24.97	3.93	4.77			30.99	7387
						23.00	*3.71*	*4.50*			*26.79*	
				9.82	3.38	13.20	1.09	1.32		1.2[illegible]	20.9[illegible]	7388
		5.00	*3.00*	*8.00*		*11.00*	*1.03*	*1.25*		*1.00*	*17.71*	
				12.83	1 05	13.88				1.69	20.86	389
		9.00	*3.00*	*12.00*		*13.00*				*2.00*	*20.10*	
				15.04	1.92	16.96					15.04	7099
		8.00	*6.00*	*14.00*		*15.00*					*14.00*	
				12.24	1.92	14.16	0.95	1.15		1.41	23.40	7390
		9.00	*3.00*	*12.00*		*13.00*	*0.82*	*1.00*		*1.00*	*21.57*	
				14.36	1.18	15.54			**1.46**		22.44	073
				11.62	0.69	12.31				2.18	19.67	7418
		8.00	*2.00*	*10.00*		*11.00*				*2.00*	*17.30*	
				11.37	1.22	12.59				**3.41**	21.30	7391
		7.00	*3.00*	*10.00*		*11.00*				*4.00*	*20.10*	
				8.57	1.75	10.3[illegible]	1.84	2.23	2.17		21.92	7043
		5.00	*2.00*	*7.00*		*8.00*	*1.65*	*2.00*	*2.00*		*18.48*	
				10.65	1.91	12.56			1.88		18.13	7392
		7.00	*3.00*	*10.00*		*11.00*			*2.00*		*16.90*	
				12.60	1.14	13 74					12.60	7393
		9.00	*3 00*	*12.00*		*13.00*					*12.00*	
				8 64	1.30	9.94	1.42	1.72	2.29		20.47	7394
		6.00	*2.00*	*8.00*		*9.00*	*0.82*	*1.00*	*2.00*		*16.97*	
				7.71	3.01	10.72	2.30	2.79		4.67	26.89	7015
				6.83	3.61	10.44	2 63	3.19		5.16	27.80	7395
				9 00			*2.00*	*2.43*		*4.50*	*25.90*	

Table of Analyses.

Station Number.	Name and Address of Manufacturer and Name of Brand.	From Whom Obtained.	Pounds in the Hundred. Phosphoric Acid. In Fine Bone.	In Medium Bone.	Available.	Insoluble.	Total.	Nitrogen.	Equivalent to Ammonia.	Potash from Sulphate.	Relative Value per Ton.	Station Number.
	The Walton Fertilizer Co., Cleveland, Ohio.											
7396	Wheat & Grass Grower.....	B. N. A. Simpson, So. Union....			10.44	1.87	12.31	0 86	1.04	0.89	$19 82	7396
					10.00			*0.82*	*1.00*	*1.00*	*18.27*	
	Wood, Stubbs & Co., Louisville, Kentucky.											
6899	Acme Brand Pure Raw Bone Meal	Manufacturer.....	20.96	6.26			27.22	3.39	4.12		32.40	6899
							23.00	*3.71*	*4.50*		*26.79*	
6900	Acme B'd Pure St'med Bone Meal	Manufacturer.....	25.92	3.20			29.12	1.74	2.11		28.75	6900
							28.00	*2.06*	*2.50*		*24.01*	

December 31, 1900.

M. A. SCOVELL, Director.
A. M. PETER, } Chemists.
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