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Mississippi Agricultural Experiment Station.

BULLETIN No. 82.

INSPECTION AND ANALYSES
OF COMMERCIAL FERTILIZERS
ON SALE IN THE STATE.



CHEMICAL LABORATORY.

AGRICULTURAL COLLEGE, MISS.
SEPTEMBER, 1903.

MISSISSIPPI FERTILIZER CONTROL.

INSPECTION AND ANALYSES OF FERTILIZERS

BY THE CHEMICAL DEPARTMENT OF THE

Mississippi Agricultural & Mechanical College.

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MISS MAUD BUTLER STENOGRAPHER.

INSPECTION AND ANALYSES OF COMMERCIAL FERTILIZERS ON SALE IN THE STATE.

The analyses in the following pages show the composition of representative samples of the various brands of commercial fertilizers sold to the farmers of Mississippi during the season of 1902-1903. These samples were drawn by the regular fertilizer inspector from goods in the open market, and the more important brands have received the attention which their large sale demands. Inasmuch as a comparatively large percentage of the goods sold in this State is shipped out under only a few brand names, a very thorough inspection is made possible.

Buying on analysis.—*Low grade fertilizers.*—The fact that fertilizers and fertilizer materials can be intelligently and economically purchased only on the basis of their chemical composition, as shown by the analysis, is becoming more generally recognized each year. There are a number of grades of fertilizers on the market and a corresponding difference in price should exist between them. In other words, the analysis should determine the price.

Some manufacturers who make standard grade goods, and, who wish to continue to do so, have had occasion to complain recently that their products were being forced into competition with so-called *cheap* fertilizers. If *all* farmers knew how to buy, these cheap mixtures would not compete in any way with those of far better quality. Under the present conditions, however, a few farmers are almost sure to suffer imposition. If these low grade goods should find an extensive sale, all manufacturers would be forced to make and sell them in response to the demand. When farmers and dealers buy solely on the basis of the analysis, they are perhaps better protected in the purchase of their fertilizers than in almost anything they buy.

The difference in price that should exist between the standard and the low grade goods is brought out clearly in the example which follows: Analysis I. represents the average attained by the principal brands, and the result given under II. show the average compo-

sition of the low grade fertilizers. The table of analyses may be consulted for comparison.

	I.	II.
	Approximate average composition of standard brands.	Approximate average composition of low grade mixtures.
Water-Soluble Phos. Acid	8.00 per cent.	8.00 per cent.
Citrate-Soluble Phos. Acid	2.00 "	2.00 "
Nitrogen	2.00 "	1.00 "
Potash	2.00 "	1.00 "
Relative value per ton	\$18.97	\$15.05

If a farmer can afford to give \$15.00 for the low grade goods, he can pay \$19.00 for the higher grade and feel that he has exercised good judgment. When a fertilizer is offered for a low price, an immediate inquiry should be made in regard to the quality shown by the analysis. The possibility of an unscrupulous dealer selling a low grade fertilizer for more than it is worth is at once apparent when the purchase is made without reference to the analysis.

Results of the inspection.—This bulletin contains the analyses of 262 samples, and, of this number, 28 or 10.68 per cent. are below the guarantee in one or more of the essential elements and also in the relative commercial value. One hundred analyses have been made since the appearance of circular No. 12, and sixteen were found below the analyses guaranteed by the manufacturers. The percentage of deficient samples is too large and a few manufacturers will certainly find it necessary to exercise more care in shipping out their goods.

The relative values calculated from the analyses entered under the following numbers are as much or more than one dollar per ton below the values calculated from the *guaranteed* analyses: Nos. 2954, 3280, 3338, 3345. In the table the guarantee for each brand is given, and, therefore, a comparison of all analyses with the proper guarantee may be made very readily.

Fertilizer valuations.—The following schedule of prices is adopted for calculating the relative commercial values given in this circular:

For Nitrogen	16 $\frac{1}{4}$ c	per pound
“ Water-Soluble Phosphoric Acid in mixed goods	5 $\frac{1}{2}$ c	“ “
“ Citrate-Soluble Phosphoric Acid in mixed goods	5c	“ “
“ Water Soluble Phosphoric Acid in plain Acid Phosphate.....	5c	“ “
“ Citrate-Soluble Phosphoric Acid in plain Acid Phosphate	4 $\frac{1}{2}$ c	“ “
“ Total Phosphoric Acid in fine bone.....	3c	“ “
“ Total Phosphoric Acid in medium and coarse bone	2 $\frac{1}{2}$ c	“ “
“ Potash	5c	“ “

The actual calculation of the relative commercial values has been very frequently explained and the method is probably now well known by the most intelligent dealers. The percentages given in the tables represent pounds and fractions of a pound per hundred pounds of fertilizer. By applying the schedule of prices the value of 100 pounds and consequently of a ton is easily obtained.

TABLE I.—Analyses of Commercial Fertilizers

Laboratory Number	Name of Brand and Manufacturer	Where and From Whom Collected
	Sold by A. D. ADAIR & MC-CARTY BROS., Atlanta, Ga.	
3072	Favish Furman Formula AMERICAN GUANO CO., Nashville, Tenn.	Boulton & Robinson, Amory Guarantee
3073	Mule Brand Acid Phosphate	W. R. Kelly, Pelahatchie Guarantee
3074	Mule Brand Am. Dis. Bone	W. R. Kelly, Pelahatchie Guarantee
3075	Mule Brand Blood and Bone Guano	W. W. Harris, Iuka Guarantee
3076	Mule Brand Cotton, Corn and Wheat Guano	M. D. Graham & Co., Forest Guarantee
3078	Mule Brand H. G. Dis. Bone THE ARMOUR FERT. WORKS, Atlanta, Ga.	F. M. Howard, Canton Guarantee
3049	Am. Dis. Bone and Potash	C. V. Akin, DeSoto Guarantee
3077	Fertilizer No. 271	W. J. Hubbard, Shuqualak
3137	Fertilizer No. 271	R. F. Everett, Braxton Average Guarantee
3250	Fertilizer No. 282 BIRMINGHAM FERTILIZER CO., Birmingham, Ala.	M. J. Walker, Pontotoc Guarantee
3078	Birmingham H. G. Fert.	Gilmore & May, Amory
3251	Birmingham H. G. Fert.	A. L. Myers, Caledonia Average Guarantee
	Sold by BLUMENFELD & FRIED, Ackerman, Miss.	
2945	B. & F.'s Own Mixture	Blumenfeld & Fried, Ackerman
3252	B. & F.'s Own Mixture	Blumenfeld & Fried, Ackerman
3252a	B. & F.'s Own Mixture	Blumenfeld & Fried, Ackerman Average Guarantee
	BROOKHAVEN PROGRESSIVE COTTON OIL CO., Brookhaven, Miss.	
3253	New South	Hartman Mer. Co., Brookhaven

Laboratory Number	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
3072	10.02	9.53 7.00	1.60 3.00	11.13 10.00	.26 2.00		2.37 2.00	14.45 12.70
3073	11.59	7.32 8.00	5.57 4.00	12.89 12.00	4.09 1.00			12.33 11.60
3074	9.81	4.73 7.00	4.44 3.00	9.17 10.00	3.10 1.00	.83 .82	.99 1.00	13.33 14.27
3075	9.74	7.10 6.00	4.85 4.00	11.95 10.00	2.17 1.00	1.12 .82	.85 1.00	17.15 14.27
3076	11.10	5.12 6.00	3.85 2.00	8.97 8.00	2.94 1.00	1.77 1.65	1.38 2.00	16.62 15.96
3248	13.25	6.97 10.00	6.82 4.00	13.79 14.00	1.38 1.00			13.11 13.60
3249	12.26	6.92 7.00	3.08 3.00	10.00 10.00	2.15 2.00	1.57 1.65	1.34 2.00	17.14 18.06
3077	7.10	2.58	5.48	8.66	7.42	1.64	1.00	14.65
3137	7.83	2.96	4.93	7.89	6.58	1.60	.98	14.37
	7.46	2.77	5.21	7.98	7.00	1.62	.99	14.51
		5.00	2.00	7.00	1.50	1.65	1.00	13.86
3250	10.08	5.81 5.50	4.05 2.50	9.86 8.00	2.20 1.50	1.61 1.65	1.49 2.00	17.16 15.91
3078	9.78	7.34	2.96	10.30	.83	1.70	2.10	18.66
3251	11.48	7.69	3.26	10.95	1.75	1.70	2.12	19.36
	10.63	7.52	3.11	10.63	1.29	1.70	2.11	19.01
		8.00	2.00	10.00	2.00	1.64	2.00	18.13
2945	11.59	7.68	2.56	10.24	1.79	1.77	1.86	18.62
3252	13.81	7.01	1.62	8.63	1.78	1.85	2.09	17.43
3252a	11.05	7.43	3.45	10.88	1.57	1.75	1.77	19.08
	12.15	7.37	2.54	9.91	1.71	1.79	1.91	18.38
		8.00	2.00	10.00	1.00	1.65	2.00	18.16
3253	9.78	7.24	2.47	9.71	1.06	1.81	2.73	19.05

TABLE 1.—Analyses of Commercial Fertilizers

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
3319	New South ----- CAPITAL FERT. & M'F'G CO., Jackson, Miss.	Brookhaven Progressive Cotton Oil Co., Brookhaven ----- Average ----- Guarantee -----
3000	H. G. Acid Phosphate -----	N. B. Langford, Canton -----
3033	H. G. Acid Phosphate -----	Hyman Mer. Co., Summit -----
3254	H. G. Acid Phosphate -----	G. H. Banks, Forest -----
3255	H. G. Acid Phosphate -----	McMillan & Bolton, Newton -----
3256	H. G. Acid Phosphate -----	A. E. Kelly, Kosciusko ----- Average ----- Guarantee -----
3001	Mississippi Guano -----	Dunn Bros., Summit -----
3138	Mississippi Guano -----	Max Priebatsch, Brookhaven ----- Average ----- Guarantee -----
3002	Nonpareil -----	J. L. Moyse & Bro., Summit -----
3003	Nonpareil -----	Peets & Norman Co., Hazlehurst -----
3012	Nonpareil -----	Becker, Lyell & McGrath Co., Wesson -----
3079	Nonpareil -----	M. J. L. Hoye's Son, Newton -----
3139	Nonpareil -----	Mason Snowden, Woodville -----
3257	Nonpareil -----	Florence Mer. Co., Florence -----
3258	Nonpareil -----	Barnes, Ruffin & Co., Columbia -----
3259	Nonpareil -----	Stingily & Co., Pelahatchie -----
3260	Nonpareil -----	A. E. Kelly, Kosciusko -----
3261	Nonpareil -----	Lann & Carter H'dw. Co. Aberdeen ----- Average ----- Guarantee -----
3004	Red Star Brand Guano -----	S. Alcus, Summit -----
3034	Red Star Brand Guano -----	N. B. Langford, Canton ----- Average ----- Guarantee -----
3125	Our Vegetable Grower -----	I. M. Eagan, Crystal Springs -----
2933	German Kainit ----- CONTINENTAL FERT. CO., Nashville, Tenn.	Capital Fert. & M'f'g Co., Jackson. Guarantee -----
3080	Sunny South Acid Phos. -----	A. L. Myers, Caledonia -----
3262	Eddystone Cotton Guano -----	A. L. Myers, Caledonia -----
3081	Eddystone Soluble Guano -----	A. L. Myers, Caledonia -----
		Guarantee -----

Laboratory Number	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
3319	9.97	7.38	2.24	9.62	1.00	1.83	2.75	19.06
	9.87	7.31 7.00	2.36 2.00	9.67 9.00	1.03 1.00	1.82 1.65	2.74 1.80	19.06 16.86
3000	9.48	10.40	3.20	13.60	.72			13.28
3033	9.65	8.85	4.02	12.87	.93			12.47
3254	10.70	8.42	3.50	11.92	1.01			11.57
3255	11.51	8.74	4.26	13.00	.59			12.57
3256	17.62	10.55	3.24	13.79	.63			13.47
	11.79	9.39 10.00	3.64 2.00	13.03 12.00	.78			12.67 11.80
3001	10.62	6.68	3.32	10.00	.43	1.79	2.33	18.82
3138	12.04	7.00	2.70	9.70	.36	1.67	2.29	18.12
	11.33	6.84 7.00	3.01 2.00	9.85 9.00	.39 1.00	1.73 1.50	2.31 2.00	18.47 16.58
3002	10.02	6.90	2.43	9.33	.46	1.71	2.48	18.06
3003	10.17	9.54	.83	10.37	.41	1.68	2.46	19.24
3012	10.12	7.74	2.89	10.63	.47	1.48	2.36	18.57
3079	11.03	6.91	2.97	9.88	.51	1.91	2.04	18.82
3139	11.53	7.70	1.82	9.52	.46	1.72	2.41	18.29
3257	11.22	6.55	2.85	9.40	.54	1.74	2.27	17.98
3258	14.81	5.45	4.60	10.05	3.31	1.52	2.13	17.67
3259	13.35	7.64	2.62	10.26	.37	1.51	2.50	18.53
3260	13.11	6.33	2.42	8.75	.33	1.76	2.44	17.54
3261	11.14	7.65	2.46	10.11	.41	1.82	3.39	20.18
	11.65	7.24 7.00	2.59 2.00	9.83 9.00	.73 1.00	1.68 1.50	2.46 2.00	18.49 16.58
3004	10.24	7.06	3.35	10.41	.49	1.67	2.41	18.95
3034	10.53	7.29	2.72	10.01	.75	1.47	2.43	17.95
	10.38	7.17 7.00	3.04 2.00	10.21 9.00	.62 1.00	1.57 1.50	2.42 2.00	18.45 16.58
3125	12.19	4.84	2.08	6.92	.63	2.65	5.76	21.78
		5.00	2.00	7.00	1.00	2.50	3.50	19.13
2933	2.72						13.54	13.54
							12.00	12.00
3080	13.30	9.72	3.41	13.13	1.07			12.79
		10.00	3.00	13.00	1.00			12.70
3262	7.70	7.05	3.09	10.14	.82	.92	1.05	14.89
		6.00	4.00	10.00	1.00	.85	1.00	14.36
3081	10.90	6.84	3.41	10.25	.87	1.41	1.10	16.62
		7.00	2.00	9.00	1.00	1.65	1.00	16.06

TABLE 1.—Analyses of Commercial Fertilizers

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
2954	CRESCENT CITY STOCK YARD & SLAUGHTER HOUSE CO., New Orleans, La. Crescent Ground Bone.....	Lotterhos & Huber, Crystal Springs. Guarantee.....
3140	EAGLE COTTON OIL CO., Meridian, Miss. Eagle H. G. Phosphate.....	J. K. Kirkland, Quitman.....
3141	Eagle H. G. Phosphate.....	C. V. Akin, DeSoto..... Average..... Guarantee.....
3082	FEDERAL CHEM. CO., Louisville, Ky. Pure H. G. Acid Phosphate.....	E. M. & W. R. Cain, Caledonia.....
3142	Pure H. G. Acid Phosphate.....	Abney & Travis, Heidelberg..... Average..... Guarantee.....
3143	Standard Acid Phosphate.....	N. R. Hosey, Soso.....
3263	Standard Acid Phosphate.....	R. D. Hopper & Co., Tiplersville..... Average..... Guarantee.....
3083	St'd Acid Phos. with Potash No. 2.....	J. A. Goree, Columbus.....
3264	St'd Acid Phos. with Potash No. 2.....	R. D. Hopper & Co., Tiplersville..... Average..... Guarantee.....
3126	Daybreak Fertilizer.....	N. R. Hosey, Soso.....
3144	Daybreak Fertilizer.....	Abney & Travis, Heidelberg.....
3265	Daybreak Fertilizer.....	J. T. Furtick, Rienzi..... Average..... Guarantee.....
3035	HAZLEHURST OIL MILL & FERTILIZER CO., Hazlehurst, Miss. H. G. Acid Phosphate.....	J. C. Harvey, Gallman.....
3128	H. G. Acid Phosphate.....	J. A. Parker & Co., Terry..... Average..... Guarantee.....
3005	Imperial Fertilizer.....	McComb City Mer. Co., McComb City
3006	Imperial Fertilizer.....	Hyman Mer. Co., Summit
3266	Imperial Fertilizer.....	J. R. Gillaspv, Crystal Springs..... Average..... Guarantee.....
3021	Superior Fertilizer.....	J. R. Gillaspv, Crystal Springs..... Guarantee.....

Laboratory Number.	Moisture—Per Cent.	Phosphoric Acid				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
2954	5.30				23.48 24.58	3.58 4.20	23.38 25.94	
3140	15.36	10.40	3.14	13.54	1.34		13.23	
3141	11.43 13.39	11.62 11.01 10.00	2.32 2.73 4.00	13.94 13.74 14.00	1.77 1.55		13.71 13.47 13.60	
3082	13.06	10.96	2.65	13.6	3.30		13.35	
3142	11.82 12.44	11.04 11.00 10.00	2.94 2.79 4.00	13.98 13.79 14.00	3.06 3.18		13.69 13.52 13.60	
3143	13.97	9.51	3.49	13.00	2.88		12.65	
3.63	12.55 13.26	7.4 8.67 9.00	5.70 4.64 3.00	13.63 13.31 12.00	1.18 2.03		13.05 12.85 11.70	
3083	13.10	7.60	3.05	10.65	2.53	2.01	13.42	
3264	14.66 13.88	6.52 7.06 8.00	4.45 3.75 2.00	10.97 10.81 10.00	1.48 2.00	2.04 2.02 2.00	13.66 13.54 12.80	
3126	11.67	7.19	3.03	10.22	3.34	1.78	18.34	
3144	11.21	7.04	2.81	9.85	3.28	1.77	18.14	
3265	9.36 10.75	6.61 6.95 6.00	3.27 3.03 3.00	9.88 9.98 9.00	2.70 3.11	1.63 1.73 1.65	1.55 1.66 1.50	
3035	12.06	14.02	3.22	17.24	1.48		16.92	
3128	12.82 12.44	12.61 13.31 12.00	3.67 3.45 2.00	16.28 16.76 14.00	2.26 1.87 1.00		15.91 16.42 13.80	
3005	11.24	8.87	2.96	11.83	.97	1.87	20.67	
3006	10.10	8.80	2.69	11.49	1.09	1.91	20.57	
3266	11.05 10.80	8.14 8.60 7.00	1.31 2.32 2.00	9.45 10.92 9.00	.73 .93 1.00	1.97 1.92 1.65	1.77 1.88 1.75	
3021	10.97	9.22 7.00	2.39 2.00	11.61 9.00	1.36 2.00	1.86 1.65	1.62 1.50	

Laboratory Number.	Name of Brand and Manufacturer.	Where and From Whom Collected.
	JACKSON FERTILIZER CO., Jackson, Miss.	
2931	H. G. Acid Phosphate-----	T. M. Steele, Forest-----
3022	H. G. Acid Phosphate-----	J. H. South, Florence-----
3085	H. G. Acid Phosphate-----	J. W. McKay, Waynesboro-----
3268	H. G. Acid Phosphate-----	Irving & Torbert, Wiers-----
		Average-----
		Guarantee-----
3267	Black Hawk Acid Phosphate	M. D. Graham & Co., Forest-----
		Guarantee-----
2948	Chicago R. B. Superphos.---	Moody & Smith, Poplarville-----
3007	Chicago R. B. Superphos.---	Holmes Bros. McComb City-----
		Average-----
		Guarantee-----
3086	Gulf States Guano-----	T. B. Gaddis, Morton-----
		Guarantee-----
2936	Lampton's Am. R. B. Superphos-----	Lampton Mer. Co., Magnolia-----
2976	Lampton's Am. R. B. Superphos-----	The Lampton Co., Columbia-----
		Average-----
		Guarantee-----
3008	L. & H's Special Fertilizer.	Lotterhos & Huber, Crystal Springs-----
		Guarantee-----
2946	Royal C. Brand-----	Wm. Atkinson & McDonald, Wesson-----
2947	Royal C. Brand-----	Potts-Jackson Co., Kosciusko-----
2979	Royal C. Brand-----	W. H. Chambliss & Son, Newton-----
3036	Royal C. Brand-----	Taylor Bros. & Nelson, Magee-----
3087	Royal C. Brand-----	J. M. Stephenson, Morton-----
3127	Royal C. Brand-----	J. P. Myer, Ellisville-----
3269	Royal C. Brand-----	A. B. Williamson & Co., Buckatunna-----
3270	Royal C. Brand-----	Centreville Mer. Co., Centreville-----
3271	Royal C. Brand-----	A. C. Seavy & Son, Brookhaven-----
3272	Royal C. Brand-----	H. A. Busick, Brandon-----
3273	Royal C. Brand-----	Irving & Torbert, Wiers-----
		Average-----
		Guarantee-----
2949	Vegetable and Fruit Fertilizer	Lotterhos & Huber, Crystal Springs-----
3037	Vegetable and Fruit Fertilizer	W. W. Alford, Gallman-----
		Average-----
		Guarantee-----
2950	Genuine German Kainit....	Lotterhos & Huber, Crystal Springs-----
		Guarantee-----
	LAUREL OIL & FERT. CO., Laurel, Miss.	
3129	Laurel H. G. Acid Phosphate	The T. B. Bonner Co., Laurel-----
3145	Laurel H. G. Acid Phosphate	T. M. Heidelberg & Son, Heidelberg-----

Laboratory Number.	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	CitrateSoluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
2931	11.19	14.33	3.23	17.56	1.85			\$17.24
3022	13.23	12.92	3.03	15.95	2.60			15.65
3085	11.89	12.86	3.26	16.12	2.52			15.79
3268	11.72	12.18	5.28	17.46	1.01			16.93
	12.01	13.07	3.70	16.77	1.99			16.40
		10.00	2.00	12.00	1.00			11.80
3267	11.57	9.58	5.11	14.69	1.77			14.18
		10.00	2.00	12.00	1.00			11.80
2948	10.81	6.82	2.91	9.73	3.54	1.66	2.08	17.89
3007	11.82	7.61	2.93	10.57	4.46	1.42	2.09	18.04
	11.31	7.23	2.92	10.15	4.00	1.54	2.09	17.97
		7.50	2.00	9.50	1.00	1.65	1.80	17.41
3086	11.81	9.12	2.39	11.51	1.22	1.73	2.01	20.06
		7.50	2.00	9.50	1.00	1.65	1.80	17.41
2936	11.78	7.23	2.64	9.87	3.74	1.52	2.11	17.64
2976	11.51	7.34	3.74	11.08	3.79	1.50	1.99	18.68
	11.64	7.28	3.19	10.47	3.76	1.51	2.05	18.16
		7.50	2.00	9.50	1.00	1.65	1.80	17.41
3008	9.83	7.37	2.70	10.07	1.14	2.18	3.46	21.35
		6.50	2.00	8.50	1.00	2.00	2.30	17.95
2946	11.65	9.19	2.49	11.68	1.45	1.71	2.04	20.20
2947	11.04	8.96	2.58	11.54	1.78	1.67	1.99	19.85
2979	10.03	8.48	1.73	10.21	1.85	1.70	1.88	18.46
3036	11.51	8.03	3.10	11.13	1.38	1.80	1.95	19.73
3087	13.08	8.64	2.23	10.87	1.92	1.75	1.87	19.29
3127	11.76	9.12	2.57	11.69	1.24	1.72	1.84	20.03
3269	10.78	8.68	2.85	11.53	1.29	1.83	1.89	20.24
3270	11.37	8.38	2.66	11.04	1.52	1.67	1.88	19.19
3271	11.95	8.62	2.30	10.92	1.28	1.83	1.86	19.59
3272	12.76	8.65	2.53	11.18	1.01	1.72	2.42	20.06
3273	11.23	8.44	3.11	11.55	1.33	1.69	1.79	19.68
	11.56	8.65	2.56	11.21	1.46	1.73	1.95	19.68
		7.50	2.00	9.50	1.00	1.65	1.80	17.41
2949	9.21	5.65	1.77	7.42	.91	3.13	4.60	22.76
3037	9.76	5.12	1.97	7.09	.69	2.99	4.11	21.43
	9.50	5.38	1.87	7.25	.80	3.06	4.36	22.09
		3.00	3.00	6.00	1.00	3.00	4.00	20.05
2950	2.38						12.52	12.52
							12.00	12.00
3129	11.03	5.39	7.91	13.50	2.19			12.51
3145	9.11	10.40	5.69	16.09	1.00			15.52

TABLE 1.—Analyses of Commercial Fertilizers

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
3274	Laurel H. G. Acid Phosphate	McLeod & Thornton, Pachuta. ----- Average----- Guarantee-----
3024	K. C. Mixture-----	F. E. Shivers, D'Lo----- Guarantee-----
3023	Plow Brand-----	J. W. Burnett, Braxton-----
3025	Plow Brand-----	W. T. Day, Mt. Olive-----
3130	Plow Brand-----	The Laurel Mer. Co., Laurel-----
3146	Plow Brand-----	M. H. Turner, Vossburg-----
3275	Plow Brand-----	The T. B. Bonner Co., Laurel-----
3276	Plow Brand-----	J. S. Eaton & Bro., Taylorsville----- Average----- Guarantee-----
	Sold by MARBACH & EAGAN, Crystal Springs, Miss.	
2944	Bat Guano-----	Lotterhos & Huber, Crystal Springs Guarantee-----
	MARIETTA FERTILIZER CO., Atlanta, Ga.	
3277	Dissolved Bone with Potash	J. A. Goree, Columbus----- Guarantee-----
3278	Royal Seal Guano-----	J. A. Goree, Columbus----- Guarantee-----
	MERIDIAN FERT. FACTORY, Meridian, Miss.	
3083	Meridian Eng. Acid Phos.---	A. E. Dalrymple & Co., Amory-----
3147	Meridian Eng. Acid Phos.---	W. L. Weems, Shubuta-----
3279	Meridian Eng. Acid Phos.---	I. H. Brown, Hickory----- Average----- Guarantee-----
2930	Meridian South'n Acid Phos.	W. H. Gallaspy, Hickory-----
3026	Meridian South'n Acid Phos.	Walker Durr Co., Mendenhall-----
3089	Meridian South'n Acid Phos.	Floyd Loper, Lake-----
3280	Meridian South'n Acid Phos.	Max Kahn, Gloster----- Average----- Guarantee-----
3090	Meridian Blood and Bone---	Mathews & Cotton, Iuka-----
3148	Meridian Blood and Bone---	McLain & Ratcliff, Gloster-----
3281	Meridian Blood and Bone---	Leggett & Co., McHenry----- Average----- Guarantee-----
3027	Meridian Farmers' Friend---	Gaddis & Slay Co., Magee-----
3149	Meridian Farmers' Friend---	McLain & Ratcliff, Gloster----- Average----- Guarantee-----
2929	Meridian Home Mixture-----	W. B. Richardson, Newton-----
2953	Meridian Home Mixture-----	Seward & Gaston, Ackerman-----

Laboratory Number.	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
3274	9.40 9.85	7.83 7.87 <i>10.00</i>	7.16 6.92 <i>3.00</i>	14.99 14.79 <i>13.00</i>	2.29 1.83			14.27 14.10 <i>12.70</i>
3024	10.04	4.26 <i>7.00</i>	5.84 <i>2.00</i>	10.10 <i>9.00</i>	1.62	1.81 <i>1.75</i>	1.61 <i>1.50</i>	18.02 <i>16.89</i>
3023	12.80	7.68	3.07	10.75	.78	1.82	1.93	19.36
3025	12.26	6.73	3.87	10.60	.86	1.72	1.83	18.69
3130	11.33	6.36	3.80	10.16	1.00	1.76	1.97	18.49
3146	9.17	7.22	3.09	10.31	1.00	1.84	1.80	18.81
3275	11.00	6.49	3.45	9.94	1.45	1.96	1.79	18.78
3276	10.46 11.17	6.40 6.81 <i>7.00</i>	2.92 3.37 <i>2.00</i>	9.32 10.18 <i>9.00</i>	1.55 1.11	1.96 1.84 <i>1.75</i>	1.67 1.83 <i>1.50</i>	18.00 18.68 <i>16.89</i>
2944	20.45				9.93 <i>5.00</i>	3.94 <i>4.25</i>	.73 <i>.65</i>	18.50 <i>16.96</i>
3277	9.68	4.16 <i>6.00</i>	7.31 <i>4.00</i>	11.47 <i>10.00</i>	1.32 <i>1.00</i>		2.01 <i>2.00</i>	13.90 <i>12.60</i>
3278	11.45	6.60 <i>6.00</i>	3.27 <i>4.00</i>	9.87 <i>10.00</i>	2.80 <i>1.00</i>	1.50 <i>1.65</i>	2.08 <i>2.00</i>	17.49 <i>17.96</i>
3088	14.08	11.74	2.29	14.03	1.59			13.80
3147	14.23	11.36	3.00	14.36	1.20			14.06
3279	13.38 13.89	9.59 10.89 <i>10.00</i>	3.52 2.94 <i>2.00</i>	13.11 13.83 <i>12.00</i>	.72 1.17 <i>1.00</i>			12.76 13.54 <i>11.80</i>
2930	13.75	12.32	1.65	13.98	2.21			13.81
3026	13.29	11.73	2.12	13.85	2.05			13.61
3089	12.25	10.90	3.40	14.30	1.68			13.96
3280	12.61 12.98	10.76 11.43 <i>12.00</i>	1.81 2.25 <i>2.00</i>	12.57 13.68 <i>14.00</i>	1.57 1.86 <i>1.00</i>			12.39 13.45 <i>13.80</i>
3090	13.33	9.91	1.28	11.18	1.87	1.54	1.95	19.13
3148	13.02	8.92	1.54	10.46	2.56	1.60	1.96	18.51
3281	12.02 12.79	7.07 8.93 <i>8.00</i>	2.18 1.67 <i>2.00</i>	10.15 10.60 <i>10.00</i>	1.61 2.01 <i>1.00</i>	1.65 1.60 <i>1.65</i>	2.11 2.01 <i>2.00</i>	18.45 18.70 <i>18.16</i>
3027	12.57	6.86	3.05	9.91	2.01	1.83	1.87	18.41
3149	9.66 11.11	7.55 7.26 <i>8.00</i>	2.65 2.85 <i>2.00</i>	10.20 10.05 <i>1.00</i>	3.21 2.61 <i>1.00</i>	1.10 1.46 <i>.85</i>	2.14 2.01 <i>1.00</i>	16.67 17.54 <i>14.56</i>
2929	12.98	7.74	2.48	10.22	1.33	1.75	2.24	18.92
2953	11.93	7.62	2.65	10.27	1.54	1.70	2.00	18.56

TABLE 1.—Analyses of Commercial Fertilizers

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
2980	Meridian Home Mixture	John McGrath & Sons, Brookhaven.
3038	Meridian Home Mixture	W. W. Pigford, Lumberton.
3091	Meridian Home Mixture	Story & Smythe, Forest.
3131	Meridian Home Mixture	McLeod-Kennedy Co., Hattiesburg.
3282	Meridian Home Mixture	Mathews & Cotten, Iuka.
3283	Meridian Home Mixture	J. D. Causy, Gloster.
3284	Meridian Home Mixture	T. L. Cotten, Summit.
3285	Meridian Home Mixture	Holloway & McRaney, Collins.
3286	Meridian Home Mixture	Kennedy & Co., Wiggins.
3287	Meridian Home Mixture	Wygul Bros., Nettleton.
		Average
		Guarantee
3288	Meridian Soluble Guano	T. M. Steele, Forest.
		Guarantee
3028	Meridian Vegetable Grower	W. H. Barron & Co., Crystal Springs.
3092	Meridian Vegetable Grower	B. B. Davis, Buckatunna.
		Average
		Guarantee
3039	Meridian German Kainit	W. H. Barron & Co., Crystal Springs.
		Guarantee
	NATIONAL FERTILIZER CO., Nashville, Tenn.	
3093	National Acid Phosphate	W. A. Turner & Co., Forest.
3095	National Acid Phosphate	E. M. & W. R. Cain, Caledonia.
		Average
		Guarantee
3094	National Acid Phos. & Potash	E. M. & W. R. Cain, Caledonia.
		Guarantee
3096	National Cotton, Corn and Wheat Guano	W. A. Turner & Co., Forest.
		Guarantee
	NEW ORLEANS ACID & FERTILIZER CO., New Orleans, La.	
2951	Black Diamond Acid Phos.	Seward & Gaston, Ackerman.
3013	Black Diamond Acid Phos.	Wm. Atkinson-Bacot Co., Osyka.
3289	Black Diamond Acid Phos.	R. W. Carter, Iuka.
3290	Black Diamond Acid Phos.	Robinson Mer. Co., Centreville.
		Average
		Guarantee
3150	Crescent City Acid Phos.	J. L. Moyse & Bro., Summit.
3291	Crescent City Acid Phos.	The T. B. Bonner Co., Laurel.
		Average
		Guarantee
3009	Blood, Bone and Beef	J. L. Moyse & Bro., Summit.
		Guarantee
2935	Blood, Bone and Potash	Louis Cohn & Bro., Brookhaven.
3041	Blood, Bone and Potash	Philip Didlake, Star.

Laboratory Number	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—PerCent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
2980	9.93	7.38	3.71	11.09	1.39	1.64	2.07	19.23
3038	13.18	6.79	3.06	9.85	1.56	1.83	2.26	18.74
3091	14.25	6.91	2.80	9.71	1.77	1.95	2.13	18.87
3131	13.35	6.63	2.73	9.36	1.33	2.07	2.07	18.82
3282	12.45	6.77	2.52	9.29	1.80	1.79	2.02	17.81
3283	12.42	6.97	2.07	9.04	1.24	1.87	2.45	18.26
3284	14.32	6.69	2.19	8.88	1.73	1.84	2.42	17.95
3285	13.79	7.11	1.29	8.40	1.18	1.92	2.22	17.57
3286	14.05	6.83	1.64	8.47	1.52	2.11	2.18	18.19
3287	12.57	7.20	2.99	10.19	1.20	2.05	2.00	19.57
	12.93	7.05	2.51	9.56	1.46	1.88	2.17	18.55
		8.00	2.00	10.00	1.00	1.65	2.00	18.16
3288	12.20	8.25	1.85	10.10	1.20	1.87	2.06	19.06
		8.00	2.00	10.00	1.00	1.65	2.00	18.16
3028	10.47	5.69	2.29	7.98	1.60	2.36	7.07	23.29
3092	12.03	5.14	2.82	7.96	1.07	2.22	5.80	21.49
	11.25	5.42	2.55	7.97	1.33	2.29	6.43	22.39
		4.00	2.00	6.00	1.00	2.50	6.00	20.53
3039	2.62						12.08	12.08
							12.00	12.00
3093	13.03	7.73	8.11	15.84	1.48			15.03
3095	13.17	7.68	5.69	13.37	1.16			12.80
	13.10	7.70	6.90	14.60	1.32			13.91
		8.00	4.00	12.00	1.00			11.60
3094	12.35	6.42	6.55	12.97	.74		1.76	15.37
		7.00	3.00	10.00	1.00		2.00	12.70
3096	12.13	5.63	3.86	9.49	2.47	1.88	1.29	17.45
		6.00	2.00	8.00	1.00	1.65	2.00	15.96
2951	11.68	11.83	2.85	14.68	2.90			14.40
3013	12.29	11.74	4.9	16.67	2.26			16.18
3289	11.78	12.27	2.05	14.32	3.17			14.12
3290	11.17	12.20	2.57	14.77	3.19			14.51
	11.73	12.01	3.10	15.11	2.88			14.80
		10.00	2.00	12.00	2.00			11.80
3150	10.53	13.18	2.12	15.30	4.04			15.09
3291	11.25	12.22	5.48	17.70	2.33			17.15
	10.89	12.70	3.80	16.50	3.18			16.12
		10.00	2.00	12.00	2.00			11.80
3009	11.45	8.90	2.32	11.22	3.67	1.86	1.24	19.40
		7.00	2.00	9.00	2.00	1.65	1.00	16.06
2935	11.55	9.22	2.32	11.54	3.38	1.56	2.25	19.78
3041	11.95	8.53	2.20	10.73	3.25	1.84	1.50	19.06

TABLE 1.—Analyses of Commercial Fertilizers

Laboratory Number.	Name of Brand and Manufacturer.	Where and From Whom Collected.
3151	Blood, Bone and Potash ----	M H. Clayton, Heidelberg ----- Average----- Guarantee-----
2934	Economizer -----	Louis Cohn & Bros., Brookhaven---
2974	Economizer -----	Wm. Atkinson & McDonald, Wesson
3132	Economizer -----	D. H. Jones, Terry ----- Average----- Guarantee-----
3097	Gold Dust -----	Rew & McClinton, Newton-----
3152	Gold Dust -----	M. H. Rothchild, Woodville-----
3292	Gold Dust -----	R. W. Fagan & Co., Waynesboro --- Average----- Guarantee-----
2932	Goldsmith's Imp. Mixture--	Sones & Dansby, Forest -----
2952	Goldsmith's Imp. Mixture--	W. M. Hyde & Co., Poplarville.---
2981	Goldsmith's Imp. Mixture--	Seward & Gaston, Ackerman -----
3040	Goldsmith's Imp. Mixture--	E. E. Bonner, Sandersville -----
3098	Goldsmith's Imp. Mixture--	J. & B. McClenahan, Pelahatchie--
3293	Goldsmith's Imp. mixture--	Wm. Atkinson-Bacot Co., Osyka----
3291	Goldsmith's Imp. Mixture--	McHenry Mer. Co. McHenry-----
3295	Goldsmith's Imp. Mixture--	Hawkins & Co., Hattiesburg -----
3296	Goldsmith's Imp. Mixture--	K. Greene, Shuqualak-----
3297	Goldsmith's Imp. Mixture--	Gilliland & Doty Co, Kosciusko----
3298	Goldsmith's Imp. Mixture--	Biloxi Milling Co., Biloxi ----- Average----- Guarantee-----
3299	Jack Gaston's H. G. Cotton and Corn Fertilizer -----	Seward & Gaston, Ackerman ----- Guarantee-----
3029	Vegetable Grower -----	J. C. Harvey, Gallman----- Guarantee-----
3153	Kainit -----	McComb City Mer. Co., McComb City Guarantee-----
	PLANTERS' FERT. M'F'G CO., New Orleans, La.	
3133	Planters' Cotton and Corn--	E. R. Wilkinson, Poplarville----- Guarantee-----
	STANDARD GUANO AND CHEMICAL M'F'G CO., New Orleans, La.	
2939	Stern's Acid Phosphate-----	H. B. Lewis, Columbia-----
3014	Stern's Acid Phosphate-----	Magnolia Oil Mill & M'fg Co., M'gno'a
3099	Stern's Acid Phosphate-----	Dr. C. C. Ewing, Aberdeen-----
3300	Stern's Acid Phosphate-----	Hyman Mer. Co., Summit -----
3301	Stern's Acid Phosphate-----	J. M. Kelly, Seminary----- Average----- Guarantee-----

Laboratory Number	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
3151	11.60	8.01	2.52	10.53	4.23	1.60	1.65	18.18
	11.70	8.58	2.35	10.93	3.62	1.67	1.80	19.01
		7.00	2.00	9.00	2.00	1.65	1.00	16.06
2934	10.95	8.23	2.05	10.28	2.72	1.72	2.20	18.89
2974	8.57	8.76	1.42	10.18	2.90	1.71	2.44	19.05
3132	12.18	7.16	2.34	9.50	3.61	1.98	2.75	19.40
	10.53	8.05	1.94	9.99	3.08	1.80	2.46	19.11
		8.00	2.00	10.00	2.00	1.65	2.00	18.16
3097	9.62	7.62	4.43	12.05	2.28	2.10	1.57	21.21
3152	12.02	6.79	3.87	10.66	2.20	2.24	1.82	20.44
3292	11.04	10.36	2.19	12.55	2.66	1.60	1.57	20.36
	10.89	8.26	3.49	11.75	2.38	1.98	1.65	20.67
		7.00	2.00	9.00	2.00	1.65	1.00	16.06
2932	10.43	7.42	3.93	11.35	2.17	1.78	1.54	19.42
2952	7.86	7.96	2.64	10.60	2.92	1.85	1.42	18.83
2981	9.23	9.77	3.11	12.88	3.15	1.77	1.78	21.39
3040	9.55	7.65	2.93	10.58	1.94	2.17	1.74	20.14
3098	11.09	6.97	2.82	9.79	2.70	1.95	1.54	18.37
3293	12.07	6.82	4.82	11.64	2.21	1.85	1.75	20.08
3294	11.10	7.70	2.30	10.00	2.96	1.97	1.92	19.09
3295	8.18	8.71	2.80	11.51	2.56	2.20	1.45	20.98
3296	13.78	5.83	4.18	10.01	1.70	2.32	1.73	19.86
3297	13.76	9.07	2.11	11.18	3.49	1.91	1.63	19.91
3298	10.50	6.70	2.89	9.59	2.60	2.49	1.40	19.75
	10.69	7.69	3.14	10.83	2.58	2.02	1.63	19.80
		7.00	2.00	9.00	2.00	1.65	1.00	16.06
3299	12.45	8.76	4.22	12.98	2.26	1.97	1.79	22.05
		7.00	2.00	9.00	2.00	1.65	1.00	16.06
3029	10.28	6.40	2.98	9.38	1.57	3.04	2.75	22.65
		6.00	1.25	7.25	2.00	2.80	2.60	19.55
3153	2.14						12.36	12.36
							12.00	12.00
3133	10.29	6.23	2.68	8.91	1.59	1.52	1.42	15.89
		6.50	2.50	9.00	2.00	1.65	1.00	16.01
2939	14.07	10.96	4.17	15.13	1.91			14.71
3014	13.48	12.97	3.54	16.51	1.05			16.16
3099	7.78	10.44	5.71	16.15	1.52			15.58
3300	12.49	11.54	4.61	16.15	1.27			15.69
3301	15.15	11.51	4.46	15.97	2.20			15.52
	12.59	11.49	4.49	15.98	1.59			15.53
		10.00	2.00	12.00	1.00			11.80

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
2940	Stern's Am. R. B. Superphos	C. Atkinson's Sons Co., Summit ----
2941	Stern's Am. R. B. Superphos	The Lampton Co., Columbia ...
2977	Stern's Am. R. B. Superphos	Smith & Ball Co., Columbia -----
3015	Stern's Am. R. B. Superphos	Wm. Atkinson & McDonald, Wesson
3100	Stern's Am. R. B. Superphos	L. C. Smith, Lauderdale-----
3306	Stern's Am. R. B. Superphos	Johnson-Woodward Co., Mt. Olive ..
3307	Stern's Am. R. B. Superphos	E. R. Wilkinson, Poplarville. -----
3308	Stern's Am. R. B. Superpho	J. A. Taylor & Son, Pelahatchie....
3309	Stern's Am. R. B. Superphos	McLeod & Kennedy Co., Hattiesburg
3310	Stern's Am. R. B. Superphos	B. Stevens & Son, New Augusta ----
		Average-----
		Guarantee-----
2943	Blood, Bone and Meat-----	Hyman Mer. Co., Summit
3154	Blood, Bone and Meat-----	E. M. Carter & Co., Centreville-----
3302	Blood, Boue and Meat-----	L. Pittman & Co., Columbia-----
		Average-----
		Guarantee-----
2942	Champion Farmer's Choice.	G. Lowenburg & Co., Kosciusko-----
2978	Champion Farmers' Choice.	H. B. Lewis, Columbia -----
		Average-----
		Guarantee-----
2975	Mississippi Home Guano....	The Lampton Co., Columbia-----
3042	Mississippi Home Guano....	Ford & Eaton, Taylorsville-----
3303	Mississippi Home Guano....	F. M. Brooks, Weathersby-----
3304	Mississippi Home Guano....	Buckley Bros., Enterprise-----
3305	Mississippi Home Guano....	J. S. Eaton & Bro., Taylorsville ----
		Average-----
		Guarantee-----
3084	Pelican R. B. Guano-----	Wm. Atkinson-Bacot Co., Osyka-----
3155	Pelican R. B. Guano-----	Wm. Atkinson & Son, Columbia-----
		Average-----
		Guarantee-----
3156	St'd Am. Soluble Guano....	Dunn Bros., Summit -----
		Guarantee-----
2937	Ground Bone-----	Lampton Mar. Co., Magnolia-----
		Guarantee-----
3157	Kainit-----	Hyman Mer. Co., Summit-----
		Guarantee-----
	SWIFT FERTILIZER WORKS, Atlanta, Ga.,	
3311	Swift's Cotton Plant S. G. Guano -----	A. Batson, Bonds-----
		Guarantee-----
3312	Swift's Golden Harvest S. G. Guano -----	J. R. Dabbs & Bro., Guntown-----
		Guarantee-----
3158	Swift's Monarch H. G. Guano	Wethersbee & Higgins, Waynesboro
		Guarantee-----

Laboratory Number.	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
2940	13.51	6.91	3.37	10.28	2.55	1.49	1.43	17.24
2941	14.86	6.79	4.08	10.87	1.87	1.66	1.48	18.42
2977	11.80	6.86	2.81	9.67	2.12	1.56	1.54	16.97
3015	14.58	8.26	2.51	10.77	1.65	1.68	1.52	18.58
3100	11.08	6.31	4.46	10.77	2.75	1.36	1.39	17.21
3306	14.15	5.00	4.93	9.93	3.86	1.30	1.56	16.22
3307	14.11	5.28	4.38	9.66	3.44	1.47	1.74	16.71
3308	14.22	5.95	4.40	10.35	2.76	1.44	1.69	17.32
3309	12.72	6.03	4.38	10.41	2.75	1.45	1.56	17.29
3310	13.82	5.77	4.29	10.06	2.83	1.44	1.57	16.89
	13.48	6.32	3.96	10.28	2.66	1.49	1.55	17.29
		4.00	5.00	9.00	1.00	1.65	1.50	16.26
2943	12.27	5.76	2.44	8.20	3.86	1.92	2.47	17.49
3154	12.24	6.01	3.58	9.59	2.26	2.04	2.04	18.86
3302	12.37	5.99	3.78	9.77	1.19	1.73	2.06	18.05
	12.29	5.92	3.27	9.19	2.44	1.90	2.19	18.14
		4.00	4.25	8.25	1.00	1.70	2.00	16.18
2942	13.56	9.10	2.32	11.42	2.53	1.48	2.15	19.29
2978	11.05	7.09	1.77	8.86	2.65	1.52	1.79	16.30
	12.30	8.09	2.05	10.14	2.59	1.50	1.97	17.79
		4.00	4.00	8.00	1.00	1.65	1.50	15.26
2975	11.33	8.34	1.53	9.87	3.36	1.70	2.33	18.56
3042	13.93	8.80	2.86	11.66	1.98	1.43	2.13	19.32
3303	12.57	8.12	2.88	11.00	.86	1.82	2.48	20.21
3304	13.71	7.96	3.45	11.41	1.82	1.31	2.01	18.47
3305	7.85	6.98	3.35	10.33	4.45	2.19	2.50	20.65
	11.88	8.04	2.81	10.85	2.49	1.69	2.29	19.44
		5.00	5.00	10.00	1.00	1.65	2.00	17.86
3084	15.92	5.56	4.19	9.75	3.38	1.40	1.64	16.50
3155	9.59	5.56	4.48	10.04	3.57	1.31	1.50	16.35
	12.75	5.56	4.33	9.89	3.47	1.36	1.57	16.43
		4.00	5.00	9.00	1.00	1.65	1.50	16.26
3156	14.16	5.09	4.80	9.89	3.80	1.32	1.69	16.38
		4.00	4.00	8.00	1.00	1.65	1.50	15.26
1937	5.60				22.73	2.92		20.86
					18.50	2.50		17.38
3157	2.02						12.24	12.24
							12.00	12.00
3311	8.25	4.71	4.69	9.40	1.19	1.29	3.08	17.14
		7.00	2.00	9.00	1.00	1.65	1.00	16.06
3312	13.56	5.21	4.23	9.44	1.09	1.43	2.04	16.65
		6.00	2.00	8.00	1.00	1.00	2.00	15.96
3158	7.89	5.33	3.66	8.99	1.69	3.26	4.06	24.18
		6.00	2.00	8.00	1.00	3.29	4.00	23.29

TABLE 1.—Analyses of Commercial Fertilizers

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
3313	Swift's Red Steer S.G. Guano TENNESSEE CHEMICAL CO., Nashville, Tenn.	M. J. L. Hoye's Son, Newton ----- Guarantee-----
3030	Ox Acid Phosphate-----	N. R. Hosey, Soso-----
3314	Ox Acid Phosphate-----	Prather Bros., Baldwyn----- Average----- Guarantee-----
3159	Ox H. G. Dissolved Bone---	T. J. Cotten, Summit-----
3315	Ox H. G. Dissolved Bone---	W. H. Chambliss & Son, Newton-- Average----- Guarantee-----
3160	Ox H. G. Ammoniated Bone	J. L. Bufkin & Son, Vossburg-----
3316	Ox H. G. Ammoniated Bone	J. E. Byrd, Mt. Olive----- Average----- Guarantee-----
3031	Ox Cotton Guano. -----	A. M. Cross & Co., Enterprise -----
3102	Ox Cotton Guano-----	Hoye & Loper, Lake -----
3317	Ox Cotton Guano-----	S. L. Sanders, Corinth -----
3318	Ox Cotton Guano-----	A. L. Myers, Caledonia----- Average----- Guarantee-----
3320	Ox Potash Mixture-----	J. F. Shumaker, Rural Hill----- Guarantee-----
3321	Ox Slaughter House Bone---	T. M. Holder, Burnsville -----
3322	Ox Slaughter House Bone --	D. H. Ravisies, McLaurin----- Average----- Guarantee-----
	TENN. VALLEY FERT. Co., Florence, Ala.	
3103	King Cotton Grower-----	Bourland & Robinson, Amory-----
3323	King Cotton Grower-----	J. J. Rogers & Son, Tupelo----- Average----- Guarantee-----
	Sold by THREEFOOT BROS. & Co., Meridian, Miss.	
2927	Threefoot's H. G. Eng. Acid Phosphate -----	Threefoot Bros. & Co., Meridian--- Guarantee-----
2926	Prolific Acid Phosphate ----	Threefoot Bros. & Co., Meridian---
3043	Prolific Acid Phosphate-----	Threefoot Bros. & Co., Meridian---
3324	Prolific Acid Phosphate-----	J. A. Snowden, Hickory ----- Average----- Guarantee-----
2925	Threefoot's Imp. Mixture---	Threefoot Bros. & Co., Meridian---
3104	Threefoot's Imp. Mixture---	J. L. Wells, Hickory-----

Laboratory Number.	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
3313	8.57	5.46 6.00	2.62 2.00	8.08 8.00	.79 1.00	1.47 1.65	2.00 2.00	15.40 15.96
3030	12.53	9.63	2.83	12.46	.96			12.18
3314	10.90	6.93	5.16	12.09	1.10			11.57
	11.71	8.28	3.99	12.27	1.03			11.87
		7.00	5.00	12.00	1.00			11.50
3159	9.54	11.78	3.15	14.93	.43			14.62
3315	9.37	8.10	5.92	14.02	1.78			13.43
	9.45	9.94	4.53	14.47	1.10			14.02
		8.00	6.00	14.00	1.00			13.40
3160	8.65	10.14	1.13	11.27	2.80	1.58	2.06	19.48
3316	9.23	6.42	4.61	11.03	3.66	1.42	2.00	18.29
	8.94	8.28	2.87	11.15	3.23	1.50	2.03	18.88
		6.00	4.00	10.00	1.00	1.65	2.00	17.96
3031	10.38	8.38	3.10	11.48	1.43	1.55	1.28	18.64
3102	10.10	7.78	3.20	10.98	1.43	1.57	1.26	18.12
3317	7.92	6.50	4.09	10.59	3.67	1.57	1.21	17.55
3318	7.48	6.20	4.34	10.54	3.47	1.53	1.12	17.25
	8.97	7.21	3.68	10.89	2.50	1.56	1.22	17.89
		6.00	4.00	10.00	1.00	1.65	1.00	16.96
3320	10.35	3.99	7.10	11.09	9.63		2.01	13.50
		6.00	4.00	10.00	1.00		2.00	12.60
3321	8.17	4.67	5.46	10.13	.97	1.49	1.75	17.19
3322	9.15	4.35	4.83	9.18	4.14	1.40	1.81	15.98
	8.66	4.51	5.14	9.65	2.55	1.45	1.78	16.59
		6.00	2.00	8.00	1.00	1.65	2.00	15.96
3103	13.60	7.88	3.85	11.73	2.62	.83	1.51	16.73
3323	11.47	5.18	4.57	4.75	3.04	1.09	1.46	15.27
	12.53	6.53	4.21	10.74	2.83	.96	1.48	16.00
		8.00	2.00	10.00	2.15	.82	1.00	14.47
2927	13.76	12.50 13.00	3.19 2.00	15.69 15.00	1.66 2.00			15.37 14.80
2926	13.64	13.23	2.28	15.51	1.25			15.28
3043	11.96	11.72	3.41	15.13	1.80			14.79
3324	11.71	9.94	5.13	15.07	1.14			14.56
	12.44	11.63	3.61	15.24	1.39			14.88
		11.00	2.00	13.00	2.00			12.80
2925	12.34	7.34	2.56	9.90	1.79	1.70	2.07	18.23
3104	14.62	7.79	2.48	10.27	.90	1.91	2.31	19.57

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
3325	Threefoot's Imp. Mixture	C. V. Akin, DeSoto Average Guarantee
	VIRGINIA-CAROLINA CHEMICAL CO., Memphis, Tenn.	
2956	Royal Acid Phosphate	H. A. Hearon, Jr., Ackerman
3010	Royal Acid Phosphate	J Niles Boyd, Kosciusko
3017	Royal Acid Phosphate	Donald Bros., Magee
3327	Royal Acid Phosphate	Lann & Carter H'dw. Co., Aberdeen
3328	Royal Acid Phosphate	T. M. Clark & Son, Verona Average Guarantee
2957	I. X. L. Acid Phosphate	Seward & Gaston, Ackerman
3041	I. X. L. Acid Phosphate	Winner & Meyer, Meridian
3105	I. X. L. Acid Phosphate	Barnett-Davis Supply Co., Boonville
3166	I. X. L. Acid Phosphate	C. Snow, Ackerman
3330	I. X. L. Acid Phosphate	I. N. Varnado, Osyka Average Guarantee
3326	Scott's H. G. Acid Phosphate	Rew & McClinton, Newton Guarantee
3161	Eclipse Soluble Guano	R. W. Fagan & Co., Waynesboro Guarantee
3106	Mobile Double Eagle Guano	T. L. Shots, Amory
3162	Mobile Double Eagle Guano	J. P. Wetherbee, Waynesboro
3331	Mobile Double Eagle Guano	J. R. Dabbs & Bro., Guntown Average Guarantee
2928	Mobile Standard Guano	Winner & Meyer, Meridian
2973	Mobile Standard Guano	H. A. Hearon, Jr., Ackerman
2945	Mobile Standard Guano	J. P. Myer, Ellisville
3163	Mobile Standard Guano	Buckley Bros. Enterprise
3332	Mobile Standard Guano	W. M. McGough, Morton Average Guarantee
3333	Royal Animal Bone	The W. C. Ellis Co., Magee Guarantee
3032	Royal Blood, Bone & Potash	Donald Bros. Magee
3334	Royal Blood, Bone & Potash	Clark & Co., Tupelo Average Guarantee
3135	Royal Cotton Boll Guano	Moody Bros. & Smith, Poplarville
3164	Royal Cotton Boll Guano	J. H. Rogers, Pachuta
3335	Royal Cotton Boll Guano	Parson, Moreton, Wentworth Co, Brookhaven Average Guarantee

Laboratory Number.	Moisture—Per Cent.	Phosphoric Acid				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
3325	14.57 13.84	7.36 7.50 8.00	2.34 2.46 2.00	9.70 9.96 10.00	1.20 1.30 1.00	1.93 1.85 1.65	2.11 2.16 2.00	18.82 18.88 18.16
2956	3.05	.96	12.92	13.88	1.54		12.59	
3010	10.12	4.90	8.49	13.39	2.78		12.54	
3017	9.70	5.77	7.53	13.30	2.81		12.55	
3327	4.20	.78	12.58	13.36	2.03		12.10	
3328	7.58 6.93	6.31 3.74 10.00	8.43 9.99 2.00	14.74 13.73 12.00	2.52 2.33 2.00		13.90 12.74 11.80	
2957	11.50	11.56	2.87	14.43	2.96		14.14	
3044	10.98	8.14	3.50	11.64	1.18		11.29	
3105	9.49	2.48	11.00	13.48	2.33		12.38	
3166	6.63	1.54	11.30	12.84	2.60		11.71	
3330	11.30 9.98	9.76 6.70 10.00	6.66 7.06 2.00	16.42 13.76 12.00	.43 1.90 2.00		15.75 13.05 11.80	
3326	13.12	10.53 12.00	3.93 2.00	14.46 14.00	1.57 2.00		14.07 13.80	
3161	14.55	7.01 6.00	3.27 3.00	10.28 9.00	.52 2.00	1.70 1.65	1.20 1.00	17.71 15.96
3106	11.69	5.49	4.08	9.57	4.68	1.66	1.90	17.41
3162	14.39	8.70	2.11	10.81	.99	1.62	2.26	19.20
3331	10.31 12.13	7.38 7.19 7.00	3.71 3.30 3.00	11.09 10.49 10.00	1.00 2.22 2.00	1.64 1.64 1.65	2.56 2.24 2.00	19.72 18.78 18.06
2928	10.17	6.10	3.22	9.32	.52	1.75	2.29	17.91
2973	8.17	6.18	3.88	10.06	5.50	1.81	2.23	18.79
2945	14.28	7.87	2.05	9.92	1.50	1.65	2.31	18.38
3163	13.50	6.36	2.03	8.39	1.13	1.60	1.94	16.17
3332	10.67 11.36	7.14 6.73 7.00	3.40 2.92 1.00	10.54 9.65 8.00	2.29 2.19 2.00	1.75 1.71 1.65	2.01 2.16 2.00	18.95 18.04 16.06
3333	8.82	6.84 6.00	3.48 3.00	10.32 9.00	2.96 2.00	1.80 1.65	1.24 1.00	18.09 15.96
3032	10.72	7.28	3.16	10.44	5.64	.95	1.07	15.33
3334	10.62 10.67	7.91 7.59 8.00	2.63 2.90 2.00	10.54 10.49 10.00	1.33 3.48 2.00	1.20 1.07 1.82	1.33 1.20 1.00	16.56 15.94 14.77
3135	12.16	6.17	2.66	8.83	1.75	1.53	2.04	16.46
3164	12.83	7.05	2.85	9.90	2.89	1.49	1.76	17.21
3335	10.42 11.80	4.99 6.07 7.00	2.91 2.82 1.00	7.93 8.89 8.00	7.42 4.02 2.00	1.80 1.61 1.65	2.00 1.93 2.00	16.28 16.65 16.06

TABLE 1.—Analyses of Commercial Fertilizers

Laboratory Number	Name of Brand and Manufacturer.	Where and From Whom Collected.
3336	Royal Compound -----	Will H. Wood, Pontotoc -----
3337	Royal Compound -----	Lann & Carter H'dw. Co., Aberdeen Average ----- Guarantee -----
3329	Royal Dissolved Bone -----	A. L. Myers, Caledonia ----- Guarantee -----
3107	Royal H. G. Guano -----	McCullar & Co., Booneville ----- Guarantee -----
3338	Royal Potash Compound ---	J. H. Lorick, Rienzi ----- Guarantee -----
3339	Scott's Ammoniated Bone ---	J. E. Byrd, Mt. Olive ----- Guarantee -----
3108	Scott's Gossypium Phospho	W. C. Peeler & Co., Booneville -----
3165	Scott's Gossypium Phospho	E. L. Scott, Summit -----
3340	Scott's Gossypium Phospho	Donald Bros., Magee -----
3341	Scott's Gossypium Phospho	T. M. Clark & Son, Verona -----
3342	Scott's Gossypium Phospho	R. J. Shannon, Tiplersville -----
3343	Scott's Gossypium Phospho	J. D. Bryan, Nettleton ----- Average ----- Guarantee -----
3109	Scott's Meal Formula -----	L. L. Anderson, Shuqualak -----
3344	Scott's Meal Formula -----	Gilliland & Doty Co., Kosciusko ----- Average ----- Guarantee -----
3011	Scott's Potasso Phospho ---	J. Niles Boyd, Kosciusko -----
3345	Scott's Potasso Phospho ---	S. Grunewald, McCool ----- Average ----- Guarantee -----
3110	Scott's State Standard Guano	Mullins & Green, Amory -----
3134	Scott's State Standard Guano	Donnell, McIntyre, Gates Co., D'Lo Average ----- Guarantee -----
3111	Genuine German Kainit. ---	W. C. Peeler & Co., Booneville ----- Guarantee -----
	WESSON COTTON OIL AND FERTILIZER CO., Wesson, Miss.	
3346	Mutual Friend Mixture -----	Wesson Cotton Oil & Fert. Co., Wesson Guarantee -----

Laboratory Number	Moisture—Per Cent.	Phosphoric Acid.				Nitrogen—Per Cent.	Potash—Per Cent.	Relative Value Per Ton.
		Water Soluble Per Cent.	Citrate Soluble Per Cent.	Available Per Cent.	Insoluble Per Cent.			
3336	10.86	.74	9.19	9.93	2.01		2.18	12.18
3337	9.15	1.10	9.33	10.43	1.47		2.31	12.85
	10.00	.92	9.26	10.18	1.74		2.25	12.52
		8.00	2.00	10.00	2.00		2.00	12.80
3329	11.67	9.81	5.06	14.87	.75			14.36
		12.00	2.00	14.00	2.00			13.80
3107	12.41	5.01	5.68	10.69	1.48	1.50	2.12	18.19
		7.00	3.00	10.00	2.00	1.65	2.00	18.06
3338	10.57	.93	8.68	9.61	2.10		4.00	13.70
		8.00	2.00	10.00	2.00		4.00	14.80
3339	9.85	7.80	3.48	11.28	1.68	1.14	1.15	16.92
		6.00	3.00	9.00	2.00	1.65	1.00	15.96
3108	11.58	6.60	4.09	10.69	1.71	1.72	1.68	18.62
3165	12.49	7.11	3.22	10.33	2.23	1.60	2.25	18.49
3340	9.03	2.65	6.43	9.08	2.75	1.77	2.03	17.13
3341	9.05	6.91	4.63	11.54	1.84	1.71	2.36	20.15
3342	9.00	6.29	4.00	10.29	1.29	1.81	2.31	19.11
3343	11.36	9.40	1.08	10.48	1.06	1.60	2.12	18.74
	10.42	6.49	3.91	10.40	1.81	1.70	2.13	18.71
		7.00	3.00	10.00	2.00	1.65	2.00	18.06
3109	14.08	7.29	2.38	9.67	1.32	.88	1.08	14.34
3344	8.17	3.15	8.32	11.47	1.39	1.02	1.31	16.41
	11.12	5.22	5.35	10.57	1.35	.95	1.19	15.37
		8.00	2.00	10.00	2.00	.82	1.00	14.47
3011	11.47	4.08	7.95	12.03	2.34		2.02	14.46
3345	13.32	.95	9.67	10.62	1.84		2.18	12.90
	12.39	2.52	8.81	11.33	2.09		2.10	13.68
		10.00	2.00	12.00	2.00		2.00	15.00
3110	10.53	7.13	2.03	9.16	.79	1.44	1.69	16.24
3134	9.63	3.88	5.31	9.19	1.88	1.72	2.43	17.60
	10.08	5.50	3.67	9.17	1.33	1.58	2.06	16.92
		7.00	1.00	8.00	2.00	1.65	2.00	16.06
3111	1.40						12.54	12.54
							12.00	12.00
3346	8.85	7.23	3.33	10.56	1.68	2.39	1.59	20.64
		7.00	2.00	9.00	1.50	1.90	1.50	17.38