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Commercial fertilizers : complete report for 1905

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WEST VIRGINIA UNIVERSITY
AGRICULTURAL EXPERIMENT STATION
MORGANTOWN, W. VA.

BULLETIN 97.

DECEMBER 31, 1905.

Commercial Fertilizers

COMPLETE REPORT

FOR

1905

BY J. H. STEWART AND B. H. HITE

[The Bulletins and Reports of this Station will be mailed free to any citizen of West Virginia upon written application. Address Director of Agricultural Experiment Station, Morgantown, W. Va.]

often officially provide an honest fertilizer made from high grade and expensive materials with a dollar mark and a figure precluding its sale, or "basing the valuation on the 'usual' *assumption* that the fertilizers are uniformly compounded from materials of high quality" (and will somebody please mention a pertinent factor not included in such an assumption,) the fertilizers from low grade materials are all valued too high and some of the worst may be provided with an official price so high that even the most unscrupulous manufacturer or dealer would blush to mention it. The elimination of such opportunities for embarrassment and unfairness, the proper recognition of any and all materials used in the compounding of fertilizers as our law provides and the confidence and respect which its enforcement has inspired among purchasers and makers of fertilizer is responsible for the above noted improvement in the quality of the fertilizers now on sale.

Reasons for official examination and publication of results of analysis of commercial fertilizers are good and sufficient. One can tell so little about a fertilizer by looking at it, but the analysis having been made and the quantity and quality of the various constituents having been determined and duly set forth the commercial fertilizer is on the same footing as other commodities and there is no more reason for adding an official valuation, (not to mention an official cost for mixing, an official price for bags, an official freight rate and an official profit to dealers) than there would be to provide an official valuation for rocking chairs, cooking stoves or other commodities. There is no reason for asking state aid and any endeavors in such behalf, however well intended or earnestly executed, can never be more than a needless source of embarrassment.

The writer, for one farmer and purchaser of commercial fertilizers, has always been disposed to resent any implied necessity on the part of the State to provide him with prices which it is his privilege and business to know, and he is not acquainted with any farmer in this State who feels any other way about it. The state has done enough when it provides such information as to the composition of a fertilizer as only a chemical analysis can disclose. This information as to composition so well pro-

vided by the existing statute puts the commercial fertilizer on the same basis as other commodities and the same methods for arriving at a fair price are the only logical and safe methods to use. The logical source of such information is the agricultural paper. The journals of other industries are replete with the most accurate obtainable quotations on every essential material. If your agricultural paper does not provide such quotations subscribe for a good paper. It is the only way.

This office for two or three years published the various schedules of valuation adopted in adjoining states only to become the more convinced that such makeshifts, however well intended, or however profusely explained, or condoned, have worked mischief enough.

The Fertilizer Law of this State being so far in advance of most existing statutes has come in for much more than its share of opposition at the hands of many manufacturers who seem to feel that the unfairness so abundantly provided by so many existing statutes constituted sufficient ground for attacking so radical a statute as our own and for harassing and embarrassing those with whom the enforcement of our statute was entrusted. But the statute won out. Those who had fought it took another look at it and (as it would seem) discovered for the first time that while it was unusually severe in its requirements it was absolutely fair. Many such manufacturers quickly wheeled into line and really seem to be in earnest in their endeavor to provide higher grade fertilizers for a market such as our own in which *quality* as well as quantity is recognized. In fact a comparison of the following pages with former reports will show many improvements.

The number of brands falling below the guarantee is somewhat lower than last year, while the average shortage is somewhat less. Of course there are about so many brands that may always be safely relied upon to fall about so far short. The manufacturers of some of these brands have inquired very diligently what they must do, adding statements to the effect that the products they are putting on the market are the very best they can make from the materials named. They have been advised to place their guaran-

tees lower. They seem disposed to adopt the suggestion so it is quite possible that the claims in certain instances for the next year may be less presumptuous than heretofore, but that the results of the inspection work will make a correspondingly better showing.

West Virginia has the best fertilizer law in the United States. No other statute provides more protection for the purchaser or less embarrassment for the legitimate trade. It has received its full quota of complaints at the hands of those whose sympathies are so much more easily aroused in behalf of manufacturing and other concerns outside of the State than for the purchasers and users of commercial fertilizers within the State, but it has measured up to every requirement; is accomplishing everything for which it was intended and fulfilling every promise that was urged in behalf of its enactment.

A COMPLETE LIST OF ALL POTASH SALTS USED IN AGRICULTURE AND THEIR COMPOSITION, AS
CALCULATED FROM AN AVERAGE OF MANY ANALYSES.

NAME OF SALTS	In 100 parts are contained.....										
	K ₂ SO ₄	K Cl	MgSO ₄	MgCl ₂	Na Cl	CaSO ₄	Substances Insoluble in Water	Water	K ₂ O	Total Per Cent. Chlorine	Per Cent. of Chlorine for 1 Per cent. of Potash
A. CRUDE SALTS (Natural Products)											
1. Karait.....	21.3	2.0	14.5	12.4	34.6	1.7	0.8	12.7	12.8	31.2	2.50
2. Cernalit.....	—	15.5	21.1	21.5	22.4	1.9	0.2	26.1	9.8	36.9	3.90
3. Syvinit.....	1.5	26.3	2.4	2.6	36.7	2.8	3.2	4.5	17.4	50.1	2.90
B. CONCENTRATED SALTS (Manufact Products)											
a. Sulphates nearly free from Chloride.											
1. Sulphate of Potash } 96 per cent.....	97.2	0.3	0.7	0.4	0.2	0.3	0.2	0.7	52.7	0.6	0.01
2. Sulphate of Potash } 90 per cent.....	90.6	1.6	2.7	1.0	1.2	0.4	0.3	2.2	49.9	2.1	0.04
3. Sulphate of Potash-Magnesia.....	50.4	—	34.0	—	2.5	0.9	0.6	11.6	27.2	1.5	0.06
b. Salts containing Chloride.											
3. Muriate of Potash } 90-95 per cent.....	—	91.8	0.2	0.2	7.1	—	0.2	0.6	57.9	48.1	0.80
4. Muriate of Potash } 80-85 per cent.....	—	83.5	0.4	0.3	14.5	—	0.2	1.1	32.7	47.3	0.90
5. Muriate of Potash } 70-75 per cent.....	1.7	72.5	0.8	0.6	21.2	0.2	0.5	2.5	46.7	47.7	1.00
4. Mannure Salts, containing at least 20 per cent Potash.....	2.3	31.6	10.6	5.3	40.2	2.9	5.3	4.3	21.0	43.3	2.30
5. Mannure Salts, with at least 20 per cent Potash.....	1.2	47.6	9.4	4.8	26.2	2.2	3.3	5.1	30.6	42.0	1.40

RESULTS OF THE
Inspection of Commercial Fertilizers
FOR 1905

GOODS OF

AMERICAN AGRICULTURAL CHEMICAL COMPANY

No. 26 BROADWAY, NEW YORK, AND No. 208 N. CALVERT
STREET, BALTIMORE.

5195. *A. A. C. CO'S. BIG CROP PHOSPHATE.* W. S. Corrothers, Agent, Little Falls, W. Va. *Guarantee:* Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; potash, 5; phosphoric acid from dissolved phosphate rock; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found:* Phosphoric acid, soluble, 0.64; reverted, 7.88; insoluble, 1.24; total, 9.76; available, 8.52; potash, 5.46; *chlorine, 2.3.

*This represents the proportion of chlorine corresponding to one per cent. of potash in the fertilizer. The actual percentage of chlorine may be found by multiplying the above by the actual percentage of potash present. Chlorine is a constituent of muriate of potash, of common salt and of certain compounds of lime and magnesia. When high-grade sulphate is used as the source of potash the fertilizer should contain no more than traces of chlorine. The quantity of the latter increases directly with the inferiority of the source employed and its estimation serves approximately as an indication of such source. Where kainit is guaranteed and the chlorine exceeds 4.5, it may be assumed that an inferior grade of this material has been used. (See page 7.)

5249. *A. A. C. CO'S. BIG CROP PHOSPHATE.* Philippi Mill Company, Agent, Philippi, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 1.36; reverted, 7.16; insoluble, 0.64; total, 9.16; available, 8.52; potash, 5.23; chlorine, 1.8.

5290. *A. A. C. CO'S. BIG CROP PHOSPHATE.* J. E. Peck, Agent, Seebert, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 2.98; reverted, 4.47; insoluble, 0.74; total, 8.19; available, 7.45; potash, 5.96; chlorine, 1.6.

5280. *A. A. C. CO'S. BIG CROP PHOSPHATE.* J. M. Miller & Brother, Agents, Ronceverte, W. Va. *Guarantees* (As above.) *Found:* Phosphoric acid, soluble, 3.51; reverted, 3.71; insoluble, 0.63; total, 7.85; available, 7.22; potash, 5.51; chlorine, 1.7.

5299. *A. A. C. CO'S. BIG CROP PHOSPHATE.* Parley De Berry, agent, Terra Alta, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 1.54; reverted, 7.26; insoluble, 0.63; total, 9.43; available, 8.80; potash, 5.27; chlorine, 1.1.

5196. *A. A. C. CO'S. REGULAR CORN FERTILIZER,* W. S. Stout, agent, Harrisville, W. Va. *Guarantees* Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total 7; available, 6; potash, 3; phosphoric acid from dissolved phosphate rock; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found:* Phosphoric acid, soluble, 1.52; reverted, 5.76; insoluble, 0.65; total, 7.93; available, 7.28; potash, 2.88; chlorine, 5.

Remarks Chlorine excessive.

5226. *A. A. C. CO'S. REGULAR CORN FERTILIZER.* H. E. Sharp, agent, Alderson, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid; soluble, 3.42; reverted, 3.11; insoluble, 0.58; total, 7.11; available, 6.53; potash, 3.28; chlorine, 2.6.

Potash, equivalent to kainit.

5279. *A. A. C. CO'S. REGULAR CORN FERTILIZER.* J. M. Miller & Bro., agent, Ronceverte, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 2.11; reverted, 4.51; insoluble, 0.58; total, 7.20; available, 6.62; potash, 3.02; chlorine, 3.9.

5294. *A. A. C. CO'S. REGULAR CORN FERTILIZER.*
H. Foster Hartman, agent, Terra Alta, W. Va. *Guarantee:*
(As above.) *Found:* Phosphoric acid, soluble, 1.70; reverted,
5.42; insoluble, 0.47; total, 7.59; available, 7.12; potash, 3.10;
chlorine, 4.8.

Remark: Chlorine excessive.

5239. *A. A. C. CO'S. REGULAR CORN FERTILIZER.*
Cicero Phillips, agent, Belington, W. Va. *Guarantee:* (As
above.) *Found:* Phosphoric acid, soluble, 1.78; reverted, 5.21;
insoluble, 0.46; total, 7.55; available, 7.09; potash, 2.98; chlorine,
5.00.

Remark: Chlorine excessive.

5257. *A. A. C. CO'S. REGULAR CORN FERTILIZER.*
Bishop & Barbe, agent, Jane Lew, W. Va. *Guarantee:* (As
above.) *Found:* Phosphoric acid; soluble, 1.10; reverted, 5.45;
insoluble, 0.82; total, 7.37; available, 6.55; potash, 3; chlorine,
5.3.

Remark: Chlorine excessive.

5292. *A. A. C. CO'S REGULAR CORN FERTILIZER.*
J. E. Peck, Seebert, W. Va. *Guarantee:* (As above.) *Found:*
Phosphoric acid, soluble 2.42; reverted, 4.02; insoluble, 0.49;
total, 6.93; available, 6.44; potash, 3.54; chlorine, 2.3.

5227. *A. A. C. CO'S FINE GROUND BONE.* G. A. Her-
ring, agent, Kingwood, W. Va. *Guarantee:* Phosphoric acid,
total, 22.80; nitrogen, 2.46; phosphoric acid from animal bone;
nitrogen from animal bone. *Found:* Phosphoric acid, total,
22.45; nitrogen, 2.56; available nitrogen, 92.

Remark: Phosphoric acid low.

5285. *A. A. C. CO'S FINE GROUND BONE.* Curry &
Rogers, agent, Marlinton, W. Va. *Guarantee:* (As above.)
Found: Phosphoric acid, total, 20.88; nitrogen, 3.25; available
nitrogen, 87.

Remark: Phosphoric acid low.

5231. *A. A. C. CO.'S GEM ALKALINE PHOSPHATE.*
T. B. Drummond, agent, Buckhannon, W. Va. *Guarantee:* Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; potash, 3; phosphoric acid, from dissolved phosphate rock; potash, $\frac{1}{4}$ to $\frac{3}{4}$; from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found:* Phosphoric acid, soluble, 1.13; reverted, 5.82; insoluble 0.59; total, 7.54; available, 6.95; potash, 2.93; chlorine, 5.2.

Remark: Chlorine excessive.

5264. *A. A. C. CO.'S GEM ALKALINE PHOSPHATE.*
Washington & Alexander, agent, Charles Town, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 2.85; reverted, 4.06; insoluble, 0.37; total, 7.27; available, 6.90; potash, 4.20; chlorine, 5.00.

Remark: Chlorine excessive.

5300. *A. A. C. CO.'S GEM ALKALINE PHOSPHATE.*
Parley De Berry, agent, Terra Alta. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 1.05; reverted, 5.70; insoluble, 0.95; total, 7.70; available, 6.75; potash, 2.98; chlorine, 5.2.

Remark: Chlorine excessive.

5303. *A. A. C. CO.'S GEM ALKALINE PHOSPHATE.*
Curry and Rogers, agent, Marlinton, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 2.65; reverted, 3.55; insoluble, 0.36; total, 6.56; available, 6.20; potash, 3.37; chlorine, 2.4.

5268. *A. A. C. CO.'S GENUINE GERMAN KAINIT.*
Washington & Alexander, Charles Town, W. Va. *Guarantee:* Potash, 12; potash from kainit. *Found:* Potash, 12.42; chlorine, 2.7.

5276. *BRADLEY'S SOLUBLE DISSOLVED BONE.* J. M. Thomison, agent, Ronceverte, W. Va. *Guarantee:* Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total 15; available, 14; phosphoric acid from dissolved phosphate rock. *Found:*

Phosphoric acid, soluble, 9.04; reverted, 6.53; insoluble, 1.64; total, 17.21; available, 15.57.

5216. *CANTON POTATO MANURE*. Dean & Reeves, Fairmont, W. Va. *Guarantee*: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; nitrogen, 1.23; potash, 5; Phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from muriate potash. *Found*: Phosphoric acid, soluble, 3.02; reverted, 4.33; insoluble, 1.23; total, 8.58; available, 7.35; nitrogen, 1.50; potash, 5.28; available, 7.35; nitrogen, 1.50; potash, 5.28; available nitrogen*, 79; chlorine, 1.7.

5266. *CANTON POTATO MANURE*. Washington & Alexander, agent, Charles Town. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.58; reverted, 3.89; insoluble, 1.11; total, 8.58; available, 7.47; nitrogen, 1.47; potash, 5.30; available nitrogen, 86; chlorine, 2.

5256. *CANTON POTATO MANURE*. Bishop & Barbe, agent, Jane Lew, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.80; reverted, 4.25; insoluble, 0.69; total, 7.74; available, 7.05; nitrogen, 1.21; potash, 5.70; available nitrogen, 76; chlorine, 2.

*The figure for the available nitrogen represents that proportion of the total nitrogen of the fertilizer which is immediately available to the plant as food. The test employed is a modification of Street's neutral permanganate method. While the results obtained can be considered as but an approximation to the true values as indicated by actual field tests, nevertheless they are valuable as serving to show the relative availability of the nitrogen in various brands of fertilizers. An availability of 85 or above is considered high, 80-85 medium, below 75, low. The available nitrogen in bone meals is necessarily higher than mixed goods unless nitrate is used in the latter.

5281. *CANTON POTATO MANURE*. J. M. Miller & Bro., agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 6.46; reverted, 3.18; soluble, 0.73; total, 10.38; available, 9.65; nitrogen, 1.69; potash, 4.03; available nitrogen, 93; chlorine, 1.7.

Remark: Potash low.

5217. *CANTON GAME GUANO*. Dean & Reeves, agent, Fairmont, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish, the remainder from base goods, made from animal matter, treated by our own process; potash from kainit. *Found*: Phosphoric acid, soluble, 3.58; reverted, 5.24; insoluble, 2.28; total, 11.10; available, 8.82; nitrogen, 1.87; potash, 2.41; available nitrogen, 87; chlorine, 1.7.

5278. *CANTON BAKER'S SPECIAL WHEAT, CORN AND GRASS MIXTURE*. J. M. Miller & Bro., agent, Ronceverte, W. Va. *Guarantee*: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; Potash from kainit. *Found*: Phosphoric acid, soluble, 4.91; reverted, 3.93; insoluble, 1.11; total, 9.95; available, 8.84; nitrogen, 0.91; potash, 2.83; available nitrogen, 83; chlorine, 6.2.

Remark: Chlorine excessive.

5404. *CANTON BAKER'S SPECIAL WHEAT, CORN AND GRASS MIXTURE*. Wolf & Graham, agent, Reedsville, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.83; reverted 4.12; insoluble, 1.82; total, 11.77; available, 9.95; nitrogen, 1; potash, 2.24; available nitrogen, 77; chlorine, 1.

5288. *CANTON BAKER'S DISSOLVED S. C. BONE.* T. P. Licklider, agent, Martinsburg, W. Va. *Guarantee:* Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. *Found:* Phosphoric acid, soluble, 11.85; reverted, 4.40; insoluble, 0.38; total, 16.63; available, 16.25.

5390. *CANTON BAKER'S DISSOLVED S. C. BONE.* Wolf & Graham, Reedsville, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 11.96; reverted, 4.48; insoluble, 0.75; total, 17.19; available, 16.44.

5267. *CANTON BAKER'S DISSOLVED S. C. BONE.* Washington & Alexander, agent, Charles Town. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 11.92; reverted, 4.68; insoluble, 0.22; total, 16.82; available, 16.60.

5289. *CANTON SOLUBLE BONE AND POTASH.* T. P. Licklider, agent, Martinsburg. *Guarantee:* Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash 2; phosphoric acid from dissolved phosphate rock; potash from kainit. *Found:* Phosphoric acid, soluble, 7.93; reverted, 2.68; insoluble, 0.88; total, 11.49; available, 10.61; potash, 2.14; chlorine, 6.6.

Remark: Chlorine excessive.

5291. *CANTON SOLUBLE BONE AND POTASH.* J. E. Peck, agent, Seebert. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 5.67; reverted, 5.14; insoluble, 1.18; total, 11.99; available, 10.81; potash, 3.36; chlorine, 2.3.

5406. *CANTON SOLUBLE BONE AND POTASH.* Wolf & Graham, agent, Reedsville, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid; soluble, 6.33; reverted, 4.38; insoluble, 1.43; total, 12.14; available, 10.71; potash, 2.37; chlorine, 1.8.

5293. *CANTON EAGLE PHOSPHATE.* J. E. Peck, agent, Seebert. *Guarantee:* Phosphoric acid, soluble, 5; revert-

ed, 2; insoluble, 1; total, 8; available, 7; nitrogen, 0.82; potash, 1. Phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, from kainit. *Found*: Phosphoric acid, soluble, 4.73; reverted, 3.78; insoluble, 1.19; total, 9.70; available, 8.51; nitrogen, 0.93; potash, 1.26; available nitrogen 79; chlorine, 11.7.

Remark: Chlorine excessive.

5380. *BAKER'S CANTON PATRONS BONE MIXTURE*. Wolf & Graham, Reedsville, W. Va.

(Not Registered.)

Found: Phosphoric acid, soluble, 4.52; reverted, 5.28; insoluble, 2.80; total, 12.60; available, 9.80; nitrogen, 1.60; potash, 2.86; available nitrogen, 89; chlorine, 2.9.

5255. *CLEVELAND DRYER FOREST CITY BUCKEYE*. Bishop & Barbe, agent, Jane Lew, W. Va. *Guarantee*: Phosphoric acid; soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitrogen, 2.46; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash from kainit. *Found*: Phosphoric acid, soluble, 6.60; reverted, 3.75; insoluble, 0.84; total, 11.19; available, 10.35; nitrogen, 2.40; potash, 2.45; available nitrogen, 86; chlorine, 2.3.

5188. *DETRICK'S CORN AND OATS FERTILIZER*. H. M. Core, agent, Core, W. Va. *Guarantee*: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitrogen, 0.82; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt and $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found*: Phosphoric acid, soluble, 5.85; reverted, 4.95;

insoluble, 1.05; total, 11.85; available, 10.80; nitrogen, 0.94; potash, 3.03; available nitrogen, 77; chlorine, 2.2.

5189. *DETRICK'S DISSOLVED S. C. BONE.* H. M. Core, agent, Core, W. Va. *Guarantee:* Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. *Found:* Phosphoric acid, soluble, 10.66; reverted, 4.92; insoluble, 1.59; total, 17.17; available, 15.58.

5295. *DETRICK'S DISSOLVED S. C. BONE.* H. Foster Hartman, agent, Terra Alta, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 10.71; reverted, 5.06; insoluble, 1.04; total, 16.81; available, 15.77.

5190. *DETRICK'S STANDARD POTASH FERTILIZER.* H. M. Core, agent, Core, W. Va. *Guarantee:* Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; nitrogen, 1.23; potash, 5; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash $\frac{1}{4}$ to $\frac{3}{4}$ from muriate potash and $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt. *Found:* Phosphoric acid, soluble, 1.64; reverted, 5.61; insoluble, 1.65; total, 8.90; available, 7.25; nitrogen, 1.52; potash, 4.98; available nitrogen, 81; chlorine, 1.7.

5259. *DETRICK'S STANDARD POTASH FERTILIZER.* W. M. McCallister, agent Hurricane, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 1.69; reverted, 4.91; insoluble, 2.21; total, 8.81; available, 6.60; nitrogen, 1.29; potash, 5.02; available nitrogen, 81; chlorine, 1.

5297. *DETRICK'S STANDARD POTASH FERTILIZER.* H. Foster Hartman, agent, Terra Alta. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 3.56; reverted, 4.51; insoluble, 0.74; total, 8.81; available, 8.07; nitrogen, 1.36; potash, 3.90; available nitrogen, 84; chlorine, 2.1.

5191. *DETRICK'S SOLUBLE BONE PHOSPHATE AND POTASH*. H. M. Core, agent, Core, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*: Phosphoric acid, soluble, 6.38; reverted, 5.11; insoluble, 1.02; total, 12.51; available, 11.49; potash, 2; chlorine, 4.8.

Remark: Chlorine excessive.

5192. *DETRICK'S SOLUBLE BONE PHOSPHATE AND POTASH*. W. S. Corrothers, Little Falls, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.85; reverted, 5.51; insoluble, 0.97; total, 12.33; available, 11.36; potash, 2.17; chlorine, 4.5.

5193. *DETRICK'S QUICKSTEP BONE PHOSPHATE*. W. S. Corrothers, agent, Little Falls, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 2.46; potash, 4; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, $\frac{1}{4}$ to $\frac{3}{4}$ muriate potash, and $\frac{1}{4}$ to $\frac{3}{4}$ manure salt. *Found*: Phosphoric acid, soluble, 6.47; reverted, 3.47; insoluble, 0.91; total, 10.85; available, 9.94; nitrogen, 2.43; potash, 5.01; available nitrogen, 86; chlorine, 1.

5194. *DETRICK'S CORN AND OATS FERTILIZER*. W. S. Corrothers, agent, Little Falls, W. Va. *Guarantee*: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitrogen, 0.82; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt and $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found*: Phosphoric acid, soluble, 6.90; reverted, 3.18; insoluble, 0.99; total, 11.07; available, 10.08; nitrogen, 1.21; potash, 2.50; available nitrogen, 77; chlorine, 1.9.

Remark: Potash low.

5286. *DETRICK'S CORN AND OATS FERTILIZER*. Curry & Rogers, agent, Marlinton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.67; reverted, 4.17; insoluble, 1.37; total, 10.21; available, 8.84; nitrogen, 1.19; potash, 4.13; available nitrogen, 85; chlorine, 1.9.

5296. *DETRICK'S CORN AND OATS FERTILIZER*. H. Foster Hartman, agent, Terra Alta. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 6.78; reverted, 3.28; insoluble, 0.79; total, 10.85; available, 10.06; nitrogen, 0.93; potash, 3.39; available nitrogen, 78; chlorine, 2.1.

5258. *DETRICK'S IMPERIAL COMPOUND*. W. H. McCallister, agent, Hurricane, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash from kainit. *Found*: Phosphoric acid, soluble, 3.19; reverted, 5.56; insoluble, 2.60; total, 11.35; available, 8.75; nitrogen, 1.24; potash, 2.32; available nitrogen, 76; chlorine, 1.1.

5260. *DETRICK'S KANGAROO COMPLETE COMPOUND*. W. H. McCallister, Hurricane, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1.65; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, and $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found*: Phosphoric acid, soluble, 2.44; reverted, 6.04; insoluble, 2.56; total, 11.04; available, 8.48; nitrogen, 2.29; potash, 3.34; available nitrogen, 83; chlorine, 1.

5277. *DETRICK'S KANGAROO COMPLETE COMPOUND*. J. M. Miller & Bro., agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.76;

reverted, 3.54; insoluble, 0.88; total, 10.20; available, 9.32; nitrogen, 1.62; potash, 3.79; available nitrogen, 93; chlorine, 1.7.

5202. *GREAT EASTERN ENGLISH WHEAT GROWER*. R. S. Rexroads, agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash from kainit. *Found*: Phosphoric acid, soluble, 5.87; reverted, 2.90; insoluble, 1.37; total, 10.14; available, 8.77; nitrogen, 1.15; potash, 2.57; available nitrogen, 82; chlorine, 2.7.

5238. *GREAT EASTERN ENGLISH WHEAT GROWER*. M. C. Jackson, agent, Buckhannon, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.19; reverted, 3.04; insoluble, 1.34; total, 9.57; available, 8.23; nitrogen, 0.85; potash, 2.09; available nitrogen, 79; chlorine, 2.8.

5243. *GREAT EASTERN ENGLISH WHEAT GROWER*. Draper England, Belington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5; reverted, 3; insoluble, 1.29; total, 9.29; available, 8; nitrogen, 0.85; potash, 2.12; available nitrogen, 78; chlorine, 2.9.

5261. *GREAT EASTERN ENGLISH WHEAT GROWER*. T. M. Harbor, agent, Hurricane, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.22; reverted, 5.55; insoluble, 2.42; total, 11.19; available, 8.77; nitrogen, 1.03; potash, 2.72; available nitrogen, 76; chlorine, 1.

5203. *GREAT EASTERN JAPANESE WHEAT GROWER*. R. S. Rexroads, agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7, available, 6; potash, 3; phosphoric acid from dissolved phosphate rock; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, and $\frac{1}{4}$ to $\frac{3}{4}$ from kainit.

Found: Phosphoric acid, soluble, 2.87; reverted, 4; insoluble, 0.55; total, 7.42; available, 6.87; potash, 3.35; chlorine, 6.

Remark: Chlorine excessive.

5234. *GREAT EASTERN JAPANESE WHEAT GROWER*. M. C. Jackson, agent, Buckhannon, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.53; reverted, 4.30; insoluble, 0.46; total, 7.29; available, 6.83; potash, 3.70; chlorine, 5.8.

Remark: Chlorine excessive.

5204. *GREAT EASTERN SOLUBLE BONE AND POTASH*. R. S. Rexroad, agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*: Phosphoric acid, soluble, 7.88; reverted, 2.69; insoluble, 0.91; total, 11.48; available, 10.57; potash, 2.42; chlorine, 5.1.

Remark: Chlorine excessive.

5236. *GREAT EASTERN SOLUBLE BONE AND POTASH*. M. C. Jackson, agent, Buckhannon, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 6.92; reverted, 3.53; insoluble, 0.92; total, 11.37; available, 10.45; potash, 2.22; chlorine, 5.3.

Remark: Chlorine excessive.

5242. *GREAT EASTERN SOLUBLE BONE AND POTASH*. Draper England, agent, Belington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 7; reverted, 3.63; insoluble, 0.88; total, 11.51; available, 10.63; potash, 2.25; chlorine, 5.2.

Remark: Chlorine excessive.

5272. *GREAT EASTERN SOLUBLE BONE AND POTASH*. J. D. Anderson, agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.19; reverted,

5.35; insoluble, 1.19; total, 11.73; available, 10.54; potash, 1.82; chlorine, 4.2.

5205. *GREAT EASTERN CORN FERTILIZER*. R. S. Rexroad, agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 4; phosphoric acid from dissolved phosphate rock and dissolved animal bone; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found*: Phosphoric acid, soluble, 5.35; reverted, 3.49; insoluble, 1.20; total, 10.04; available, 8.84; nitrogen, 1.07; potash, 4.07; available nitrogen, 83; chlorine, 3.4.

Remark: Source of potash equivalent to kainit.

5235. *GREAT EASTERN CORN FERTILIZER*. M. C. Jackson, agent, Buckhannon, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.54; reverted, 4.11; insoluble, 1.39; total, 10.04; available, 8.65; nitrogen, 0.98; potash, 4.40; available, 8.65; nitrogen, 0.98; potash, 4.40; available nitrogen, 85; chlorine, 2.2.

5244. *GREAT EASTERN CORN FERTILIZER*. Draper England, agent, Belington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.68; reverted, 2.82; insoluble, 1.38; total, 9.88; available, 8.50; nitrogen, 1.01; potash, 4.45; available, nitrogen, 85; chlorine, 2.1.

5269. *GREAT EASTERN CORN FERTILIZER*. J. D. Anderson, agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.77; reverted, 2.97; insoluble, 0.73; total, 9.47; available, 8.74; nitrogen, 0.95; potash, 3.72; available nitrogen, 86; chlorine, 2.3.

5206. *GREAT EASTERN UNAMMONIATED WHEAT SPECIAL*. R. S. Rexroad, agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; phosphoric acid from dissolved phosphate

rock. *Found*: Phosphoric acid, soluble, 11.32; reverted, 3.98; insoluble, 0.45; total, 15.75; available, 15.30.

5245. *GREAT EASTERN UNAMMONIATED WHEAT SPECIAL*. Draper England, agent, Belington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 10.94; reverted, 4.23; insoluble, 0.50; total, 15.67; available, 15.17.

5207. *GREAT EASTERN VEGETABLE, VINE AND TOBACCO*. R. S. Rexroad, agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 2.06; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found*: Phosphoric acid, soluble, 5.10; reverted, 3.93; insoluble, 1.93; total, 10.96; available, 9.03; nitrogen, 2.17; potash, 3.25; available nitrogen, 90; chlorine, 3.7.

Remark: Source of potash equivalent to kainit.

5233. *GREAT EASTERN VEGETABLE, VINE AND TOBACCO*. M. C. Jackson, agent, Buckhannon, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.56; reverted, 3.49; insoluble, 2.14; total, 11.19; available, 9.05; nitrogen, 2.11; potash, 3.12; available nitrogen, 88; chlorine, 2.1.

5262. *GREAT EASTERN VEGETABLE, VINE AND TOBACCO*. T. H. Harbor, agent, Hurricane, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.69; reverted, 5.52; insoluble, 3.35; total, 11.56; available, 8.21; nitrogen, 2.62; potash, 4.04; available nitrogen, 88; chlorine, 1.4.

5270. *GREAT EASTERN VEGETABLE, VINE AND TOBACCO*. J. D. Anderson, agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.87; reverted, 4.63; insoluble, 1.50; total, 10; available, 8.50; nitrogen, 1.91; potash, 4.37; available nitrogen, 93; chlorine, 2.1.

5241. *GREAT EASTERN VEGETABLE, VINE AND TOBACCO.* Draper England, agent, Belington, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 5.51; reverted, 3.81; insoluble, 1.61; total, 10.93; available, 9.32; nitrogen, 2.01; potash, 2.97; available nitrogen, 80; chlorine, 1.9.

5237. *GREAT EASTERN DISSOLVED BONE.* M. C. Jackson, agent, Buckhannon, W. Va. *Guarantee:* Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. *Found:* Phosphoric acid, soluble, 12.75; reverted, 3.29; insoluble, 1.15; total, 17.19; available, 16.04.

5246. *GREAT EASTERN DISSOLVED BONE.* Draper England, agent, Belington, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 12.90; reverted, 3.61; insoluble, 0.38; total, 16.89; available, 16.51.

5271. *GREAT EASTERN DISSOLVED BONE.* J. D. Anderson, agent, Ronceverte, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 7.28; reverted, 7.11; insoluble, 0.96; total, 15.35; available, 14.39.

5301. *GREAT EASTERN DISSOLVED BONE.* Seebert Grocery Co., agent, Seebert, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 8.09; reverted, 6.52; insoluble, 1.16; total, 15.77; available, 14.61.

5232. *LAZARETTO BONE COMPOUND.* T. B. Drummond, agent, Buckhannon, W. Va. *Guarantee:* Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitrogen, 1.03; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found:* Phosphoric acid, soluble, 6.40; reverted, 3.45; insoluble, 1.05; total, 10.90; available, 9.85; potash, 3.65; nitrogen, 1.35; available nitrogen, 81; chlorine, 1.3.

5250. *LAZARETTO HIGH GRADE DISSOLVED BONE AND POTASH.* A. G. Chrislip, agent, Philippi, W. Va. *Guarantee:* Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; potash, 5; phosphoric acid from dissolved phosphate rock; potash, $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt and $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found:* Phosphoric acid, soluble, 7.94; reverted, 4.50; insoluble, 1.45; total, 13.89; available, 12.44; potash, 4.45; chlorine, 1.1.

Remark: Potash low.

5197. *MARYLAND DISSOLVED S. C. BONE.* W. S. Stout, agent, Harrisville, W. Va. *Guarantee:* Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. *Found:* Phosphoric acid, soluble, 9.59; reverted, 4.99; insoluble, 1.55; total, 16.13; available, 14.59.

5228. *MARYLAND AMMONIATED BONE.* J. L. Woodyard, agent, Pruntytown, W. Va. *Guarantee:* Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1.65; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt, $\frac{1}{4}$ to $\frac{3}{4}$ from kainit. *Found:* Phosphoric acid, soluble, 2.72; reverted, 6.99; insoluble, 1.91; total, 11.62; available, 9.71; nitrogen, 1.81; potash, 3.11; available nitrogen, 86; chlorine, 2.

5229. *MARYLAND O. K. AMMONIATED.* J. L. Woodyard, agent, Pruntytown, W. Va. *Guarantee:* Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, from kainit. *Found:* Phosphoric acid, soluble, 5.92; reverted,

3.08; insoluble, 1.62; total, 10.62; available, 9; nitrogen, 1.04; potash, 1.96; available nitrogen, 8; chlorine, 3.2.

5230. *MARYLAND BONE SUPERPHOSPHATE*. J. L. Woodyard, agent, Pruntytown, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*: Phosphoric acid, soluble, 5.80; reverted, 5.75; insoluble, 0.95; total, 12.40; available, 11.55; potash, 2.13; chlorine, 3.

5224. *PACIFIC DISSOLVED BONE AND POTASH*. H. E. Sharp, agent, Alderson, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2. Phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*: Phosphoric acid, soluble, 5.72; reverted, 5.34; insoluble, 1.45; total, 12.51; available, 11.06; potash, 2.27; chlorine, 3.1.

5225. *PACIFIC DISSOLVED BONE PHOSPHATE*. H. E. Sharp, agent, Alderson, W. Va. *Guarantee*: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. *Found*: Phosphoric acid, soluble, 9.76; reverted, 5.33; insoluble, 2.15; total, 17.24; available, 15.09.

5251. *WILLIAMS & CLARK'S DISSOLVED BONE AND POTASH*. A. G. Chrislip, agent, Philippi, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*s Phosphoric acid, soluble, 5.44; reverted, 5.63; insoluble, 0.84; total, 10.91; available, 11.07; potash, 1.99; chlorine, 4.9.

Remark: Chlorine excessive.

5282. *WILLIAMS & CLARK'S DISSOLVED BONE AND POTASH*. Curry & Rogers, agent, Marlinton, W. Va. *Guar-*

antec: (As above.) *Found*: Phosphoric acid: soluble, 5.69; reverted, 3.88; insoluble, 1.34; total, 10.91; available., 9.57; potash, 2.13; chlorine, 3.6.

5274. *WILLIAMS & CLARK'S DISSOLVED BONE AND POTASH*. J. M. Thomison, agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.10; reverted, 5.45; insoluble, 1.09; total, 11.64; available, 10.55; potash, 1.95; chlorine, 4.

5252. *WILLIAMS & CLARK'S GOOD GROWER POTATO PHOSPHATE*. A. G. Chrislip, agent, Philippi, W. Va. *Guarantee*: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; nitrogen, 1.23; potash, 5; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, $\frac{1}{4}$ to $\frac{3}{4}$ from muriate of potash, and $\frac{1}{4}$ to $\frac{3}{4}$ from manure salt. *Found*: Phosphoric acid, soluble, 2.17; reverted, 5.02; insoluble, 1.10; total, 8.29; available, 7.19; nitrogen, 1.35; potash, 5.75; available nitrogen, 76; chlorine, 1.6.

5287. *WILLIAMS & CLARK'S GOOD GROWER POTATO PHOSPHATE*. Curry & Rogers, agent, Marlinton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.82; reverted, 3.25; insoluble, 0.56; total, 9.63; available, 9.07; nitrogen, 1.63; potash, 3.28; available nitrogen, 94; chlorine, 1.9.

Remark: Potash low.

5253. *WILLIAMS & CLARK'S PROLIFIC CROP PRODUCER*. A. G. Chrislip, agent, Philippi, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 2; insoluble, 1; total, 8; available, 7; nitrogen, 0.82; potash, 1; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter;

treated by our own process; potash from kaifit. *Found*: Phosphoric acid, soluble, 3.12; reverted, 5.83; insoluble, 1.68; total, 10.63; available, 8.95; nitrogen, 0.82; potash, 1.12; available nitrogen, 77; chlorine, 3.1.

5275. *WILLIAMS & CLARK'S PROLIFIC CROP PRODUCER*. J. M. Thomison, agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.97; reverted, 4.46; insoluble, 1.45; total, 9.88; available, 8.43; nitrogen, 0.91; potash, 1.49; available nitrogen, 74; chlorine, 11.4.

Remark: Chlorine excessive.

5254. *WILLIAMS & CLARK'S ACORN ACID PHOSPHATE*. A. G. Chrislip, agent, Phillipi, W. Va. *Guarantee*: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. *Found*: Phosphoric acid, soluble, 10.43; reverted, 4.66; insoluble, 1.60; total, 16.69; available, 15.09.

5265. *W. & A. REGULAR CORN MIXTURE*. Washington & Alexander, agent, Charles Town, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 3; phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*: Phosphoric acid, soluble, 7.09; reverted, 3.07; insoluble, 0.51; total, 10.67; available, 10.16; potash, 3.34; chlorine, 3.7.

5198. *ZELL'S ELECTRIC PHOSPHATE*. Benson Jacobs, agent, Little Falls, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*: Phosphoric acid, soluble, 6.35; reverted, 5.42; insoluble, 0.90; total, 12.64; available, 11.77; potash, 2.87; chlorine, 3.4.

5199. *ZELL'S DISSOLVED BONE PHOSPHATE*. Benson Jacobs, Little Falls, W. Va. *Guarantee*: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14;

phosphoric acid from dissolved phosphate rock. *Found*: Phosphoric acid, soluble, 9.31; reverted, 5.28; insoluble, 1.28; total, 16.87; available, 15.59.

5221. *ZELL'S DISSOLVED BONE PHOSPHATE*. Johnson & Gwinn, agent, Alderson, W. Va. *Guarantees* (As above.) *Found*: Phosphoric acid, soluble, 8.87; reverted, 5.72; insoluble, 2.05; total, 16.64; available, 14.59.

5248. *ZELL'S DISSOLVED BONE PHOSPHATE*. Philippi, Mill Co., Philippi, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 9.59; reverted, 4.68; insoluble, 1.96; total, 16.23; available, 14.27.

5200. *ZELL'S LITTLE GIANT*. Benson Jacobs, agent, Little Falls, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 2; insoluble, 1; total, 8; available, 7; nitrogen, .82; potash, 1; phosphoric acid from dissolved animal bone and dissolved phosphate rock: nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash, from kainit. *Found*: Phosphoric acid, soluble, 2.33; reverted, 5.91; insoluble, 1.02; total, 9.26; available, 8.24; nitrogen, 1.07; potash, 1.62; available nitrogen, .73; chlorine, 5.5.

Remark: Chlorine excessive.

5263. *ZELL'S LITTLE GIANT*. Mossman Bros., agent, Huntington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 1.13; reverted, 7.54; insoluble, 2.46; total, 11.13; available, 8.67; nitrogen, 1.05; potash, 1.12; available nitrogen, .73; chlorine, 1.2.

5273. *ZELL'S LITTLE GIANT*. J. M. Thomison, agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.73; reverted, 4.10; insoluble, 1.20; total, 10.03; available, 8.83; nitrogen, 0.96; potash, 1.25; available nitrogen, .83; chlorine, 7.6.

Remark: Chlorine excessive.

5283. *ZELL'S LITTLE GIANI*. Curry & Rogers, agent, Marlinton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.81; reverted, 3.96; insoluble, 1.39; total, 10.16; available, 8.77; nitrogen, 0.93; potash, 1.39; available nitrogen, 89; chlorine, 1.1.

5201. *ZELL'S DISSOLVED S. C. PHOSPHATE*. Benson Jacobs, agent, Little Falls, W. Va. *Guarantee*: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; phosphoric acid from dissolved phosphate rock. *Found*: Phosphoric acid, soluble, 6.05; reverted, 6.41; insoluble, 2.33; total, 14.79; available, 12.46.

5284. *ZELL'S DISSOLVED S. C. PHOSPHATE*. Curry & Rogers, agent, Marlinton. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 7.68; reverted, 6.26; insoluble, 1.78; total, 15.72; available, 13.94.

5298. *ZELL'S DISSOLVED S. C. PHOSPHATE*. Parley De Berry, agent, Terra Alta, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.46; reverted, 7.36; insoluble, 1.88; total, 14.70; available, 12.82.

5220. *ZELL'S ECONOMIZER PHOSPHATE*. Johnson & Gwinn, agent, Alderson, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than 1-10 from bone tankage; not less than 1-10 from fish; the remainder from base goods, made from animal matter, treated by our own process; potash from kainit. *Found*: Phosphoric acid, soluble, 4.73; reverted, 3.34; insoluble, 1.25; total, 10.32; available, 8.07; nitrogen, 86; chlorine, 6.4.

Remark: Chlorine excessive.

5240. *ZELL'S ELECTRIC PHOSPHATE*. Cicero Phillips, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2;

phosphoric acid from dissolved phosphate rock; potash from kainit. *Found*: Phosphoric acid, soluble, 5.83; reverted, 5.23; insoluble, 0.95; total, 12.01; available, 11.06; potash, 2.18; chlorine, 4.3.

5247. *ZELL'S ELECTRIC PHOSPHATE*. Philippi Mill Co., agent, Philippi, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.90; reverted, 6.31; insoluble, 0.83; total, 12.04; available, 11.21; potash, 2.01; chlorine, 4.6.

Remark: Chlorine excessive.

THE ARMOUR FERTILIZER WORKS.

BALTIMORE, MD.

5208. *BONE MEAL*. W. H. Bailey Hardware Co., agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, total, 24; nitrogen, 2.47; phosphoric acid from animal bone; nitrogen all from bone. *Found*: Phosphoric acid, total, 25.52; nitrogen, 2.35; available nitrogen, 92.

Remark: Nitrogen low.

5209. *PHOSPHATE AND POTASH, NO. 2*. W. H. Bailey Hardware Co., agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; potash, 5; phosphoric acid from acid phosphate; potash 2-5 to 3-5 from kainit, and 2-5 to 3-5 from muriate. *Found*: Phosphoric acid, soluble, 6.51; reverted, 2.29; insoluble, 0.33; total, 9.13; available, 8.80; potash, 5.51; chlorine, 2.8.

5210. *HIGH GRADE POTATO*. W. H. Bailey Hardware Co., agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 1.65; potash, 10; phosphoric acid from acid phosphate and animal bone; nitrogen, 8-10 to 9-10 from bone tankage, 1-10 to 2-10 from bone; potash, 1-5 to 3-5 from sulphate, and 2-5 to 4-5 from muriate. *Found*: Phosphoric acid, soluble, 6.27; reverted,

3.43; insoluble, 1.65; total, 11.35; available, 9.70; nitrogen, 1.87; potash, 10.73; available nitrogen, 90; chlorine, 0.5.

5211. *WHEAT, CORN AND OATS SPECIAL*. W. H. Bailey Hardware Co., agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 2; insoluble, 1; total, 8; available, 7; nitrogen, 0.82; potash, 1; phosphoric acid from acid phosphate and animal bone; nitrogen, 1-5 to 3-5 from garbage tankage; 2-5 to 4-5 from bone tankage; potash all from kainit. *Found*: Phosphoric acid, soluble, 4.36; reverted, 5.63; insoluble, 1.42; total, 11.41; available, 9.99; nitrogen, 1; potash, 1.58; available nitrogen, 84; chlorine, 2.8.

5391. *WHEAT, CORN & OATS SPECIAL*. J. W. Gans, agent, Grafton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.81; reverted, 4.40; insoluble, 1.69; total, 9.90; available, 8.21; nitrogen, 0.91; potash, 1.63; available nitrogen, 81; chlorine, 2.6.

5212. *STAR PHOSPHATE*. W. H. Bailey Hardware Co., agent, Morgantown, W. Va. *Guarantee*: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 2; total, 16; available, 14; phosphoric acid from acid phosphate. *Found*: Phosphoric acid, soluble, 11.51; reverted, 4.43; insoluble, 0.59; total, 16.53; available, 15.94.

5365. *ROYAL AMMONIATED BONE*. J. W. Gans, agent, Grafton, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 0.82; potash, 4; phosphoric acid from acid phosphate and animal bone; nitrogen, 1-5 to 2-5 from garbage tankage, 2-5 to 4-5 from bone tankage; potash, 1-3 to 2-3 from kainit, 1-3 to 2-3 from muriate. *Found*: Phosphoric acid, soluble, 7.39; reverted, 2.62; insoluble, 0.95; total, 10.96; available, 10.01; nitrogen, 0.89; potash, 4.34; available, nitrogen, 76; chlorine, 2.2.

ABBOTT & MARTIN RENDERING COMPANY.

COLUMBUS, OHIO.

5309. *ABBOTT'S TOBACCO AND POTATO SPECIAL.* Johnson Implement Co., agent; Parkersburg. *Guarantee:* Phosphoric acid, soluble, 5; reverted, 3; total, 10; available, 8; nitrogen, 1.64; potash, 4; phosphoric acid from dissolved bone phosphate; nitrogen, 2.5 to 3.5 from bone tankage, 2.5 to 3.5 blood and 1.5 to 2.5 tobacco stems; potash $\frac{3}{4}$ to 4.5 muriate of potash, $\frac{1}{4}$ to $\frac{1}{2}$ tobacco stems. *Found:* Phosphoric acid; soluble, 2.88; reverted, 5.20; insoluble, 1.25; total, 9.33; available, 8.08; nitrogen, 1.80; potash, 3.87; available nitrogen, 73; chlorine, 0.9.

5345. *ABBOTT'S TOBACCO AND POTATO SPECIAL.* T. K. Goddard, agent, Barboursville, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 4.73; reverted, 3.83; insoluble, 1.93; total, 10.49; available, 8.56; nitrogen, 1.93; potash, 3.16; available nitrogen, 86; chlorine, 0.9.

5425. *STAR PHOSPHATE.* Sent in for analysis by A. Hyatt, Baden, W. Va. *Guarantee:* Phosphoric acid, soluble, 7; reverted, 3; total, 12; available, 10; potash, 2; phosphoric acid from phosphate rock; potash from muriate of potash. *Found:* Phosphoric acid, soluble, 1.45; reverted, 8.80; insoluble, 2.26; total, 12.51; available, 10.25; potash, 2.19; chlorine, 1.

5426. *STAR PHOSPHATE.* Sent in for analysis by A. Hyatt, Baden, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 2.26; reverted, 8.86; insoluble, 2.72; total, 13.84; available, 11.12; potash, 2.04; chlorine, 1.

BAUGH & SONS COMPANY,BALTIMORE, MD.

5312. *BAUGH'S GENERAL CROP GROWER.* R. T. Lowndes, agent, Clarksburg, W. Va. *Guarantee:* Phosphoric

acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 0.82; potash, 1; phosphoric acid from green animal bone stock, Peruvian guano and Florida pebble phosphate (or base goods) made up from above; nitrogen, 1-5 to 2-5 slaughter house offall, 1-5 to 2-5 tankage, 1-5 to 2-5 dried fish; potash 1-3 to 2-3 manure salts, 1-3 to 2-3 kainit. *Found*: Phosphoric acid, soluble, 5.63; reverted, 2.90; insoluble, 1.85; total, 10.38; available, 8.53; nitrogen, 1.06; potash, 1.48; available nitrogen, 78; chlorine, 3.

5413. *BAUGH'S GENERAL CROP GROWER*. T. P. Licklider, Martinsburg, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.99; reverted, 3.16; insoluble, 2.21; total, 11.36; available, 9.15; nitrogen, 1.22; potash, 1.81; available nitrogen, 81; chlorine, 1.

5313. *BAUGH'S HIGH GRADE VEGETABLE GUANO*. R. T. Lowndes, agent, Clarksburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 2; total, 8; available, 6; nitrogen, 4; potash, 7; phosphoric acid from green animal bone stock, Peruvian guano and Florida pebble phosphate, of from base goods, made up from above; nitrogen, 1-5 to 2-5 from sulphate of ammonia; 1-5 to 3-5 from nitrate of soda, 1-5 to 3-5 from azotine; 1-5 to 3-5 from tankage; potash 1-3 to 2-3 from sulphate of potash, 1-3 to 2-3 from muriate potash. *Found*: Phosphoric acid, soluble, 5.13; reverted, 2.52; insoluble, 0.86; total, 8.51; available, 7.65; nitrogen, 3.72; potash, 7.41; available nitrogen, 90; chlorine, 0.8.

5314. *BAUGH'S ANIMAL BONE AND POTASH COMPOUND*. R. T. Lowndes, Clarksburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from green animal bone stock, Peruvian guano, and Florida pebble phosphate (or base goods) made up from above; nitrogen, 1-5 to 2-5 slaughter house offall; 1-5 to 2-5 tankage; 1-5 to 2-5 dried fish; potash, 1-3 to 2-3 manure salts, 1-3 to 2-3 kainit. *Found*: Phos-

phoric acid, soluble, 5.95; reverted, 2.60; insoluble, 1.68; total, 10.23; available, 8.55; nitrogen, 1.99; potash, 2.51; available, nitrogen, 84; chlorine, 2.

5334. *BAUGH'S ANIMAL BONE AND POTASH COMPOUND*. West Virginia Implement Company, agent, Elkins, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.48; reverted, 3.08; insoluble, 1.33; total, 9.89; available, 8.57; nitrogen, 2.56; potash, 3.24; available nitrogen, 77; chlorine, 2.1.

5315. *BAUGH'S DOUBLE EAGLE (\$25) PHOSPHATE*. R. T. Lowndes, agent, Clarksburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 1.65; potash, 1; phosphoric acid from green animal bone stock; Peruvian guano and Florida pebble phosphate, or base goods, made up from above; nitrogen, 1-5 to 2-5 from slaughter house offall; 1-5 to 2-5 from tankage; 1-5 to 2-5 from dried fish; potash, 1-3 to 2-3 from manure salts, 1-3 to 2-3 from kainit. *Found*: Phosphoric acid, soluble, 5.28; reverted, 3.38; insoluble, 1.57; total, 10.23; available, 8.66; nitrogen, 1.86; potash, 1.50; available nitrogen, 68; chlorine, 3.1.

5393. *BAUGH'S DOUBLE EAGLE (\$25) PHOSPHATE*. N. C. Musgrave, agent, Grafton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.81; reverted, 3.67; insoluble, 1.78; total, 10.26; available, 8.48; nitrogen, 1.94; potash, 1.50; available nitrogen, 77; chlorine, 3.2.

5412. *BAUGH'S DOUBLE EAGLE (\$25) PHOSPHATE*. T. P. Licklider, agent, Martinsburg, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.73; reverted, 3.92; insoluble, 2.11; total, 10.76; available, 8.65; nitrogen, 2.18; potash, 2.93; available nitrogen, 75; chlorine, 0.7.

5414. *BAUGH'S DOUBLE EAGLE (\$25) PHOSPHATE*. Offutt & Lakin, agent, Terra Alta, W. Va. *Guarantees* (As above.) Phosphoric acid, soluble, 5.40; reverted, 3.73; insoluble, 2.06; total, 11.19; available, 9.13; nitrogen, 1.95; potash, 1.95; available, nitrogen, 78; chlorine, 1.1.

5316. *BAUGH'S CORN FERTILIZER*. R. T. Lowndes, agent, Clarksburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 0.82; potash, 4; phosphoric acid from green animal bone stock, Peruvian guano and Florida pebble phosphate, or from base goods, made up from above; nitrogen, 1-3 to 2-3 from slaughter house offall, 1-3 to 2-3 tankage, 1-3 to 2-3 from dried fish; potash, 1-3 to 2-3 from manure salts, 1-3 to 2-3 from kainit. *Found*: Phosphoric acid, soluble, 5.58; reverted, 2.62; insoluble, 1.77; total, 9.98; available, 8.21; nitrogen, 1.85; potash, 4.71; available nitrogen, 82; chlorine, 1.4.

5333. *BAUGH'S CORN FERTILIZER*. West Virginia Implement Co., agent, Elkins, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 6.73; reverted, 1.98; insoluble, 0.58; total, 9.29; available, 8.71; nitrogen, 1.04; potash, 3.81; available nitrogen, 74; chlorine, 2.3.

5387. *BAUGH'S CORN FERTILIZER*. N. C. Musgrave, agent, Grafton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.64; reverted, 5.74; insoluble, 1.78; total, 10.16; available, 8.38; nitrogen, 1.10; potash, 4.51; available nitrogen, 63; chlorine, 1.8.

5317. *BAUGH'S COMPLETE ANIMAL BONE FERTILIZER*. R. T. Lowndes, agent, Clarksburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 2; potash, 5; phosphoric acid from green animal bone stock, Peruvian guano and Florida pebble phosphate, or from base goods, made up from above; nitrogen, 1-3 to 2-3 from slaughter house offall; 1-3 to 2-3 from tankage, 1-3 to 2-3 from dried fish; potash, 1-3 to 2-3 from sulphate of potash, 1-3 to 2-3 from muriate of potash. *Found*: Phosphoric acid, soluble, 6.19; reverted, 2.70; insoluble, 2.21; total, 11.10; available, 8.89; nitrogen, 2.09; potash, 4.93; available nitrogen, 86; chlorine, 1.

5318. *BAUGH'S BONE MEAL WARRANTED PURE*. R. T. Lowndes, agent, Clarksburg, W. Va. *Guarantee*: Phosphoric acid, total, 21.50; nitrogen, 3.40; phosphoric acid from

raw animal bone; nitrogen from raw animal bone. *Found*: Phosphoric acid, total, 21.93; nitrogen, 3.77; available nitrogen, 79.

5335. *BAUGH'S BONE MEAL WARRANTED PURE*. West Virginia Implement Company, agent, Elkins, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, total, 19.96; nitrogen, 3.66; available nitrogen, 85.

Remark: Total phosphoric acid low.

5385. *BAUGH'S BONE MEAL WARRANTED PURE*. T. P. Licklider, agent, Martinsburg, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, total, 22.07; nitrogen, 3.72; available, nitrogen, 68.

5409. *BAUGH'S BONE MEAL WARRANTED PURE*. Sent in for analysis by Charles Frederick, Catawba, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, total, 21.91; nitrogen, 3.77; available nitrogen, 69.

5319. *BAUGH'S SPECIAL POTATO MANURE*. R. T. Lowndes, agent, Clarksburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 3; reverted, 2; insoluble, 2; total, 7; available, 5; nitrogen, 1.65; potash, 10; phosphoric acid from green animal bone stock, Peruvian guano, and Florida pebble phosphate, or base goods, made up from above; nitrogen, 1-3 to 2-3 from slaughter house offal, 1-3 to 2-3 tankage, 1-3 to 2-3 from dried fish; potash, 1-3 to 2-3 from manure salt, 1-3 to 2-3 from kainit. *Found*: Phosphoric acid, soluble, 2.97; reverted, 3.03; insoluble, 1.80; total, 7.80; available, 6; nitrogen, 1.85; potash, 10.77; available nitrogen, 85; chlorine, 1.

5336. *BAUGH'S SPECIAL POTATO MANURE*. West Virginia Implement Co., Elkins, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.19; reverted, 2.79; insoluble, 1.39; total, 6.37; available, 4.98; nitrogen, 1.96; potash, 9.67; available nitrogen, 84; chlorine, 1.4.

5329. *BAUGH'S HIGH GRADE ACID PHOSPHATE OR DISSOLVED PHOSPHATE ROCK*. Agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, soluble, 11; reverted, 3; insoluble, 1; total, 15; available, 14; phosphoric

acid from rock phosphate. *Found*: Phosphoric acid, soluble, 5.59; reverted, 8.16; insoluble, 1.77; total, 15.54; available, 13.77.

5384. *BAUGH'S HIGH GRADE ACID PHOSPHATE OR DISSOLVED PHOSPHATE ROCK*. Offutt & Lakin, agent, Terra Alta, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 13.89; reverted, 3.21; insoluble, 0.68; total, 17.78; available, 17.10.

5360. *BAUGH'S NITRATE OF SODA*. T. P. Licklider, agent, Martinsburg, W. Va.

(Not Registered.)

Found: Total nitrogen, 15.40.

5364. *BAUGH'S SOLUBLE ALKALINE SUPERPHOSPHATE*. Offutt & Lakin, agent, Terra Alta, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 2; total, 12; available, 10; potash, 2; phosphoric acid from rock phosphate; potash, 1-3 to 2-3 from manure salt; 1-3 to 2-3 from kainit. *Found*. Phosphoric acid, soluble, 2.37; reverted, 7.63; insoluble, 1.09; total, 11.09; available, 10; potash, 2.37; chlorine, 3.9;

Remark: Source of potash equivalent to kainit.

5371. *BAUGH'S POTATO FERTILIZER*. T. P. Licklider, Martinsburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from green animal bone stock, Peruvian guano and Florida pebble phosphate or from base goods made up from above; nitrogen, 1-3 to 2-3 from slaughter house offal, 1-3 to 2-3 from tankage, 1-3 to 2-3 from dried fish; potash, 1-3 to 2-3 from manure salts, 1-3 to 2-3 from kainit. *Found*: Phosphoric acid, soluble, 6.08; reverted, 2.29; insoluble, 1.60; total, 9.97; available, 8.37; potash, 2.31; nitrogen, 1.92; available nitrogen, 90; chlorine, 2.9.

5415. *BAUGH'S POTATO FERTILIZER*. N. G. Musgrave, agent, Grafton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.50; reverted, 4.01; insoluble, 2.30; total, 10.81; available, 8.51; nitrogen, 1.87; potash, 3.44; available nitrogen, 68; chlorine, 1.1.

BOWKER FERTILIZER COMPANY.

BOSTON, NEW YORK AND CINCINNATI.

5222. *BOWKER'S HARVEST BONE*. J. W. Hedrick, agent, Alderson, W. Va. *Guarantee*: Phosphoric acid, insoluble, 1; total, 9; available, 8; nitrogen, .82; potash, 1; phosphoric acid 1-3 from tankage and 2-3 from rock; nitrogen $\frac{1}{2}$ from garbage and $\frac{1}{2}$ from ground tankage, potash from muriate. *Found*: Phosphoric acid, soluble, 3.13; reverted, 6.08; insoluble, 2.84; total, 12.05; available, 9.21; nitrogen, 0.95; potash, 1.34; available nitrogen, 71; chlorine, 1.

5398. *BOWKER'S HARVEST BONE*. J. M. Miller & Bro., agent, Ronceverte, W. Va. *Guarantees* (As above.) *Found*: Phosphoric acid, soluble, 2.35; reverted, 6.86; insoluble, 3.06; total, 12.27; available, 9.21; nitrogen, 0.98; potash, 1.19; available nitrogen, 74; chlorine, 1.4.

5421. *BOWKER'S HARVEST BONE*. W. F. Sill, agent, Pennsboro, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 1.92; reverted, 6.58; insoluble, 3.12; total, 11.62; available, 8.50; nitrogen, 0.81; potash, 1.26; available nitrogen, 72; chlorine, 0.4.

5223. *BOWKER'S POTASH FERTILIZER*. J. W. Hedrick, agent, Alderson, W. Va. *Guarantee*: Phosphoric acid, insoluble, 2; total, 12; available, 10; potash, 5; phosphoric acid from rock; potash from muriate. *Found*: Phosphoric acid, soluble, 4.76; reverted, 6.09; insoluble, 3.57; total, 14.42; available, 10.85; potash, 5.39; chlorine, 1.

5422. *BOWKER'S POTASH FERTILIZER*. W. H. Barlow, agent, Marlinton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.75; reverted, 6.73; insoluble, 3.54; total, 15.03; available, 11.48; potash, 5.47; chlorine, 0.4.

5423. *BOWKER'S POTASH FERTILIZER*. Baker, Thurston & Co., agent, Charleston, W. Va. *Guarantee*: (As above.)

Found: Phosphoric acid, soluble, 5.27; reverted, 5.82; insoluble, 3.35; total, 14.44; available, 11.09; potash, 6.24; chlorine, 0.4.

5337. *BOWKER'S DISSOLVED BONE WITH POTASH.*

Baker, Thurston Co., agent, Charleston, W. Va. *Guarantee*: Phosphoric acid, insoluble, 2; total, 12; available, 10; potash, 2; phosphoric acid from rock; potash from muriate. *Found*: Phosphoric acid, soluble, 4.31; reverted, 6.62; insoluble, 3.53; total, 14.46; available, 10.93; potash, 2.09; chlorine, 1.

5353. *BOWKER'S SOLUBLE BONE.* W. F. Sill, agent,

Pennsboro, W. Va. *Guarantee*: Phosphoric acid, insoluble, 2; total, 16; available, 14; phosphoric acid from rock. *Found*: Phosphoric acid, soluble, 10.91; reverted, 4.95; insoluble, 1.83; total, 17.69; available, 15.86.

BONORA CHEMICAL COMPANY,

KEARNEY, N. J.

5427. *BONORA.* Sample furnished by West Virginia Secretary of Agriculture, Charleston, W. V. *Guarantee*. Nitrogen, 6; potash, 2; nitrogen 3% from nitrate of soda, 3% from sulphate of ammonia; potash from muriate of potash. *Found*: Nitrogen, 6.02; potash, 2.15; chlorine, 0.9.

5428. *BONORA.* Sample furnished by West Virginia Secretary of Agriculture, Charleston, W. Va. *Guarantee*: (As above.) *Founds* Nitrogen, 6.09; potash, 1.95; chlorine, 0.9.

CINCINNATI PHOSPHATE COMPANY,

CINCINNATI, OHIO.

5305. *CAPITAL WHEAT GROWER.* Sent in for analysis by G. F. Gibson, Philoah, W. Va.

(Not Registered.)

Found: Phosphoric acid, soluble, 8.65; reverted, 7.14; insoluble, 2.35; total, 18.14; available, 15.79.

5330. *CAPITAL GRAIN AND GRASS GROWER*. Dameron Seed & Feed Co., agent, Huntington, W. Va.

(Not Registered.)

Found: Phosphoric acid, soluble, 7.91; reverted, 2.27; insoluble, 2.01; total, 12.29; available, 10.28; nitrogen, 0.70; potash, 1.23; available nitrogen, 83; chlorine, 0.2.

5349. *CAPITAL GRAIN AND GRASS GROWER*. J. F. & C. L. Myne, agent, Hurricane, W. Va.

(Not Registered.)

Found: Phosphoric acid, soluble, 7.43; reverted, 3.61; insoluble, 2.20; total, 13.24; available, 11.04; nitrogen, 0.68; potash, 0.93; available nitrogen, 77; chlorine, 0.02.

CHICAGO FERTILIZER COMPANY,

CHICAGO, ILL.

5346. *WHEAT AND CORN SPECIAL*. T. K. Goddard, agent, Barboursville, W. Va. *Guarantee*: Phosphoric acid, soluble, 4; reverted, 3; total, 9; available, 7; nitrogen, 0.82; potash, 1; phosphoric acid from dissolved bone phosphate; nitrogen, 1-3 to 2-3 from bone tankage; 1-3 to 2-3 from blood; 1-3 to 2-3 from tobacco stems; potash, $\frac{3}{4}$ to $\frac{3}{4}$ from muriate of potash, $\frac{1}{4}$ to $\frac{3}{4}$ from tobacco stems. *Found*: Phosphoric acid, soluble, 2.64; reverted, 4.58; insoluble, 3.12; total, 10.34; available, 7.22; nitrogen, 0.28; potash, 0.86; available nitrogen, 83; chlorine, 0.6.

Remark: Nitrogen low.

5344. *WESTERN BONE BLACK AND POTASH*. T. K. Goddard, agent, Barboursville, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 3; total, 10; available, 8; nitrogen, 0.41; potash, 2.50; phosphoric acid from dissolved bone phosphate; nitrogen 1-3 to 2-3 from bone tankage; 1-3 to 2-3 from blood; 1-3 to 2-3 from tobacco stems; potash 2-3 to 4-5 from muriate of potash, 1-3 to $\frac{1}{4}$ from tobacco stems. *Found*: Phosphoric

acid, soluble, 2.66; reverted, 5.73; insoluble, 1.22; total, 9.61; available, 8.39; nitrogen, 0.46; potash, 2.30; available nitrogen, 76; chlorine, 1.

S. M. HESS & BROTHER,
PHILADELPHIA, PA.

5378. *SOLUBLE BONE & POTASH*. Poling Bros., agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 2; total, 12; available, 10; potash, 2; phosphoric acid from acid phosphate; potash from muriate. *Found*: Phosphoric acid, soluble, 11.97; reverted, 4.03; insoluble, 0.65; total, 16.55; available, 15.90; potash, 0.15.

Remark: Potash very low.

5372. *EMPEROR PHOSPHATE*. Poling Bros., agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 2; total, 12; available, 10; potash, 1; phosphoric acid from acid phosphate; potash from muriate. *Found*: Phosphoric acid, soluble, 6.50; reverted, 3.80; insoluble, 0.64; total, 10.94; available, 10.30; potash, 1.79; chlorine, 6.

JARECKI CHEMICAL COMPANY,
CINCINNATI, OHIO.

5347. *FISH AND POTASH POTATO AND TOBACCO FOOD*. J. F. & C. L. Myne, Hurricane, W. Va.

(Not Registered.)

Found: Phosphoric acid, soluble, 5.69; reverted, 3.11; insoluble, 1.47; total, 10.27; available, 8.80; nitrogen, 0.85; potash, 3.56; available nitrogen, 83; chlorine, 0.8;

ROBIN JONES OR HOWARD PHOSPHATE COMPANY,
NASHVILLE, TENN.

5424. *GROUND PHOSPHATE ROCK*. Sent in for analysis by W. D. Zinn, Philippi, W. Va. *Guarantee*: Phosphoric

acid, insoluble, 27. Phosphoric acid from rock phosphate. *Found*: Phosphoric acid, insoluble, 27.06.

MUSKINGUM VALLEY FERTILIZER CO.,

MARIETTA, OHIO.

5338. *PEERLESS BRAND ACIDULATED BONE PHOSPHATE*. West Charleston Feed Co., agent, Charleston, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 1.50; insoluble, 1.50; total, 11.00; available, 10.00; nitrogen, 82; potash, 1.00; phosphoric acid from rock; nitrogen, 60% from sheep guano, 22% from animal tankage, potash, 25% from sheep guano, 75% from high grade muriate. *Found*: Phosphoric acid, soluble, 6.00; reverted, 4.03; insoluble, 1.84; total, 11.87; available, 10.03; nitrogen, 1.06; potash, 1.07; available nitrogen, 68; chlorine, 0.4:

5339. *PEERLESS BRAND ACID PHOSPHATE*. West Charleston Feed Co., agent, Charleston, W. Va. *Guarantee*: Phosphoric acid, soluble, 10; reverted, 1.50; insoluble, 1.50; total, 13; available, 12; phosphoric acid from rock. *Found*: Phosphoric acid, soluble, 8.92; reverted, 4.37; insoluble, 2.96; total, 16.25; available, 13.29.

5340. *PEERLESS BRAND SPECIAL VEGETABLE GROWER*. West Charleston Feed Co., agent, Charleston, W. Va. *Guarantee*: Phosphoric acid, soluble, 7.00; reverted, 1.50; insoluble, 1.50; total, 10.00; available, 9.00; nitrogen, .82; potash, 4.00; phosphoric acid from rock; nitrogen, 75% from sheep guano, 25% from animal tankage; potash, 40% from sheep guano, 3.6% from high grade muriate. *Found*: Phosphoric acid, soluble, 5.97; reverted, 4.26; insoluble, 2.10; total, 12.33; available, 10.23; nitrogen, 0.99; potash, 2.53; available nitrogen, 66; chlorine, 0.9.

Remark: Potash low.

MONTGOMERY, WARD & CO.,
CHICAGO, ILL.

5408. *RAW BONE*. Sent in for analysis by Charles Frederick, Catawba, W. Va. *Found*: Phosphoric acid, total, 24.11; nitrogen, 4.22; available nitrogen, 71.

G. OBER & SONS COMPANY,
BALTIMORE, MD.

5328. *OBER'S STANDARD POTASH COMPOUND*. W. O. Wall, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; potash, 5; phosphoric acid from H. G. Fla. Phos.; potash, from muriate of potash. *Found*: Phosphoric acid, soluble, 11.85; reverted, 1.83; insoluble, 1.33; total, 15.01; available, 13.68; potash, 6.13; chlorine, 1.

OHIO FARMERS FERTILIZER COMPANY,
COLUMBUS, OHIO.

5306. *RAW BONE MEAL*. Johnson Implement Co., agent, Parkersburg, W. Va. *Guarantee*: Phosphoric acid, total, 27; nitrogen, 1.23; phosphoric acid from bone; nitrogen from bone. *Found*: Phosphoric acid, total, 29.60; nitrogen, 0.78; available nitrogen, 83.

Remark: Nitrogen low.

5418. *RAW BONE MEAL*. W. P. Mason & Co., agent, Mannington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, total, 29.92; nitrogen, 1.31; available nitrogen, 91.

5307. *WHEAT MAKER AND SEEDING DOWN*. Johnson Implement Co., agent, Parkersburg, W. Va. *Guarantee*:

Phosphoric acid, soluble, 5; reverted, 3; total, 10; available, 8; nitrogen, 0.41; potash, 2.50; phosphoric acid from dissolved bone phosphate; nitrogen, 1-3 to 2-5 from tankage; 1-3 to 2-3 from blood, 1-3 to 2-3 from tobacco stems; 2-5 to 4-5 from muriate of potash, and 1-3 to $\frac{1}{2}$ from tobacco stems. *Found*: Phosphoric acid, soluble, 5.16; reverted, 4; insoluble, 1.32; total, 10.48; available, 9.16; nitrogen, 0.57; potash, 2.72; available nitrogen, 77; chlorine, 0.9.

5397. *WHEAT MAKER AND SEEDING DOWN*. W. P. Mason & Co., Mannington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.09; reverted, 6.76; insoluble, 1.24; total, 10.09; available, 8.85; nitrogen, 0.36; potash, 2.57; available nitrogen, 70; chlorine, 1.1.

5308. *CORN, OATS AND WHEAT FISH GUANO*. Johnson Implement Co., agent, Parkersburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 3; total, 10; available, 8; nitrogen, 1.23; potash, 2; phosphoric acid from dissolved bone phosphate; nitrogen, $\frac{1}{4}$ to $\frac{1}{2}$ from bone tankage; $\frac{1}{4}$ to $\frac{1}{2}$ from blood, fish, $\frac{1}{4}$ to $\frac{1}{2}$ from scrap, and $\frac{1}{4}$ to $\frac{1}{2}$ from tobacco stems; potash, $\frac{1}{2}$ to $\frac{3}{4}$ from muriate of potash, and $\frac{1}{2}$ to $\frac{3}{4}$ from tobacco stems. *Found*: Phosphoric acid, soluble, 4.98; reverted, 4.18; insoluble, 1.14; total, 10.30; available, 9.16; nitrogen, 0.70; potash, 3.79; available nitrogen, 83; chlorine, 0.9.

Remark: Nitrogen low.

5396. *CORN, OATS AND WHEAT FISH GUANO*. W. P. Mason & Co., agent, Mannington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.61; reverted, 6.22; insoluble, 1.23; total, 10.06; available, 8.83; nitrogen, 0.39; potash, 2.42; available nitrogen, 75; chlorine, 1.

Remark: Nitrogen very low.

5310. *SUPERIOR PHOSPHATE*. Johnson Implement Co., Parkersburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 7; reverted, 3; total, 12; available, 10; phosphoric acid from from

phosphate rock. *Found*: Phosphoric acid, soluble, 1.89; reverted, 7.15; insoluble, 2.99; total, 12.03; available, 9.04.

Remark: Phosphoric acid low.

5400. *SUPERIOR PHOSPHATE*. W. P. Mason & Co., agent, Mannington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 9.94; reverted, 2.90; insoluble, 3.39; total, 16.23; available, 12.84.

5332. *ALKALINE BONE*. J. M. Beale, agent, Guyandotte, W. Va. *Guarantee*: Phosphoric acid, soluble, 10; reverted, 4; total, 16; available, 14; phosphoric acid from phosphate rock. *Found*: Phosphoric acid, soluble, 7.22; reverted, 6.40; insoluble, 4.85; total, 18.47; available, 13.62.

5417. *ALKALINE BONE*. W. M. Bowles & Son, agent, Belington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 8.99; reverted, 4.87; insoluble, 2.94; total, 16.80; available, 13.86.

5358. *POTATO AND TOBACCO SPECIAL*. W. P. Mason & Co., Mannington, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 3; total, 10; available, 8; nitrogen, 1.64; potash, 4. phosphoric acid from dissolved bone phosphate; nitrogen, 2-5 to 3-5 from bone tankage; 2-5 to 3-5 from blood, and 1-5 to 2-5 from tobacco stems; potash, $\frac{3}{4}$ to 4-5 from muriate of potash, and $\frac{1}{4}$ to $\frac{1}{2}$ from tobacco stems. *Found*: Phosphoric acid, soluble, 3.62; reverted, 4.39; insoluble, 1.46; total, 9.47; available, 8.01; nitrogen, 1.74; potash, 3.59; available nitrogen, 67; chlorine, 1.

Remark: Potash low.

5331. *SOLUBLE BONE AND POTASH*. J. M. Beale, agent, Guyandotte, W. Va. *Guarantee*: Phosphoric acid, soluble, 7; reverted, 3; total, 12; available, 10; potash, 2; phosphoric acid from phosphate rock; potash from muriate of potash. *Found*: Phosphoric acid, soluble, 4.70; reverted, 5.67; insoluble, 2.70; total, 13.07; available, 10.37; potash, 1.61; chlorine, 0.5.

Remark: Potash low.

PIEDMONT-MT. AIRY GUANO CO.,

BALTIMORE, MD.

5311. *PIEDMONT PURE RAW BONE MIXTURE*. G. W. Niswander & Co., agent, Parkersburg, W. Va. *Guarantee*: Phosphoric acid, insoluble, 4; total, 12; available, 8; nitrogen, 1.02; potash, 2; phosphoric acid from dissolved bone tankage; nitrogen from bone tankage; potash $\frac{1}{2}$ from muriate and $\frac{1}{2}$ from kainit. *Found*: Phosphoric acid, soluble, 5.69; reverted, 5.76; insoluble, 1.09; total, 12.54; available, 11.45; nitrogen, 0.69; potash, 2.23; available nitrogen, 91; chlorine, 3.1.

Remark: Nitrogen low; potash equivalent to kainit.

5321. *PIEDMONT PURE RAW BONE MIXTURE*. Geo. A. Herring, agent, Kingwood, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.13; reverted, 7.14; insoluble, 1.38; total, 11.65; available, 10.27; nitrogen, 1.07; potash, 2.46; available nitrogen, 91; chlorine, 3.9.

Remark: Potash equivalent to kainit.

5320. *PIEDMONT SOLUBLE BONE & POTASH*. George A. Herring, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, available, 8; potash, 2; phosphoric acid from dissolved phosphate rock; potash, $\frac{1}{2}$ from muriate of potash, $\frac{1}{2}$ from kainit. *Found*: Phosphoric acid, soluble, 7.07; reverted, 2.03; insoluble, 0.14; total, 9.24; available, 9.10; potash, 2.18; chlorine, 3.3.

Remark: Potash equivalent to kainit.

5322. *PIEDMONT DISSOLVED BONE PHOSPHATE POTASH GOODS*. George A. Herring, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, insoluble, 1; total, 11.50; available, 10.50; potash, 1; phosphoric acid from dissolved bone black and dissolved phosphate rock; potash from muriate. *Found*: Phosphoric acid, soluble, 8.11; reverted, 3.39; insoluble, 0.22; total, 11.72; available, 11.50; potash, 1.84; chlorine, 3.3.

Remark: Potash equivalent to kainit.

5323. *PIEDMONT SPECIAL WHEAT AND GRASS COMPOUND*. George A. Herring, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, available, 8.50; nitrogen, 0.67; potash, 3; phosphoric acid from bone phosphate; nitrogen, 2-3 from bone tankage, 1-3 from blood; potash $\frac{1}{2}$ from kainit, $\frac{1}{2}$ from muriate. *Found*: Phosphoric acid, soluble, 7.80; reverted, 2.16; insoluble, 0.82; total, 10.82; available, 10; nitrogen, 0.67; potash, 2.88; available nitrogen, 60; chlorine, 1.9.

5324. *PIEDMONT HARVEST KING*. George A. Herring, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, insoluble, 2; total, 11; available, 9; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved phosphate rock and dissolved bone tankage; nitrogen, $\frac{1}{2}$ from blood, and $\frac{1}{2}$ from bone tankage; potash, $\frac{1}{2}$ from muriate of potash, $\frac{1}{2}$ from kainit. *Found*: Phosphoric acid, soluble, 7.30; reverted, 2.48; insoluble, 0.86; total, 10.64; available, 9.78; nitrogen, 1.03; potash, 1.87; available nitrogen, 76; chlorine, 3.6.

Remark: Source of potash equivalent to kainit.

5325. *PIEDMONT ROYAL AMMONIATED BONE AND POTASH*. George A. Herring, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, insoluble, 2; total, 8; available, 6; nitrogen, 1.07; potash, 3; phosphoric acid from dissolved bone tankage and dissolved phosphate rock; nitrogen, 2-3 from bone tankage and 1-3 from blood; potash, 1-3 from muriate, 1-3 from sulphate and 1-3 from kainit. *Found*: Phosphoric acid, soluble, 7.33; reverted, 1.19; insoluble, 0.70; total, 9.22; available, 8.52; nitrogen, 1.62; potash, 3.27; available nitrogen, 84; chlorine, 2.

5326. *PIEDMONT FARMER'S HIGH GRADE BONE & POTASH*. George A. Herring, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, insoluble, 2; total, 12; available, 10; potash, 2; phosphoric acid from S. C. Rock; potash from kainit. *Found*: Phosphoric acid, soluble, 7.39; reverted, 2.36; insoluble, 0.28; total, 10.03; available, 9.75; potash, 1.75; chlorine, 3.2.

5327. *PIEDMONT POTATO PRODUCER*. George A.

Herring, agent, Kingwood, W. Va. *Guarantee*: Phosphoric acid, insoluble, 2; total, 7; available, 5; nitrogen, 2.09; potash, 6; phosphoric acid from dissolved bone and phosphate rock; nitrogen, 1-3 from bone tankage, 1-3 from nitrate of soda, 1-3 from blood; potash from High Grade Muriate of Potash. *Found*: Phosphoric acid, soluble, 3.30; reverted, 2.86; insoluble, 0.81; total, 6.97; available, 6.16; nitrogen, 1.83; potash, 5.54; available nitrogen, 89; chlorine, 2.2.

Remark: Source of potash equivalent to manure salts. Nitrogen low. Potash low.

RASIN-MONUMENTAL COMPANY,

BALTIMORE, MD.

5219. *RASIN'S ACID PHOSPHATE*. Bought by the West Virginia Experiment Station. *Guarantee*: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1.50; total, 15.50; available, 14.00; phosphoric acid from Charleston, Florida and Tennessee rock, *Found*: Phosphoric acid, soluble, 10.20; reverted, 4.54; insoluble, 2.12; total, 16.86; available, 14.74.

5357. *RASIN'S ACID PHOSPHATE*. A. G. Chrislip, agent, Philippi, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 10.87; reverted, 5.02; insoluble, 1.34; total, 17.23; available, 15.87.

5394. *RASIN'S ACID PHOSPHATE*. George Carskaddon, agent, Keyser, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 9.71; reverted, 5.55; insoluble, 2.02; total, 17.28; available, 15.26.

5419. *RASIN'S ACID PHOSPHATE*. R. N. Stewart & Son, agent, Martinsburg, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 10.32; reverted, 5.22; insoluble, 0.90; total, 16.44; available, 15.54.

5348. *RASIN'S SPECIAL FORMULA FOR CORN AND BUCKWHEAT.* M. W. Carney, agent, Ronceverte, W. Va. *Guarantee:* Phosphoric acid, soluble, 5; reverted, 1; insoluble, 1.50; total, 7.50; available, 6; potash, 3; phosphoric acid from Charleston, Florida and Tennessee rock; potash 1-3 to $\frac{1}{4}$ muriate of potash, 2-3 to $\frac{3}{4}$ from manure salts. *Found:* Phosphoric acid, soluble, 3.49; reverted, 3.32; insoluble, 0.64; total, 7.45; available, 6.81; potash, 2.72; chlorine, 1.4.

5356. *RASIN'S SPECIAL FORMULA FOR CORN AND BUCKWHEAT.* C. W. Myers' Sons & Co., agent, Terra Alta, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 0.82; reverted, 5.23; insoluble, 0.99; total, 7.04; available, 6.05; potash, 3.07; chlorine, 2.3.

5407. *RASIN'S SPECIAL FORMULA FOR CORN AND BUCKWHEAT.* R. N. Stewart & Son, agent, Martinsburg, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 1.20; reverted, 6.62; insoluble, 0.90; total, 7.82; potash, 2.71; chlorine, 1.

5354. *RASIN'S IXL FERTILIZER.* C. W. Mayers' Sons & Co., Terra Alta, W. Va. *Guarantee:* Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1.50; total, 10.50; available, 9; nitrogen, 0.82; potash, 3; phosphoric acid from Charleston, Florida and Tennessee rock; nitrogen, $\frac{1}{4}$ to 1-3 from blood; $\frac{1}{4}$ to 1-3 from fish, 1-3 to $\frac{1}{2}$ from H. G. concentrated tankage; potash, $\frac{1}{4}$ to 1-3 from muriate of potash, 2-3 to $\frac{3}{4}$ from manure salts. *Found:* Phosphoric acid, soluble, 2.74; reverted, 7.19; insoluble, 2.25; total, 12.18; available, 9.93; nitrogen, 0.96; potash, 2.93; available nitrogen, 74; chlorine, 0.9.

5355. *RASIN'S BONE AND POTASH FERTILIZER.* C. W. Mayers' Sons & Co., agent, Terra Alta, W. Va. *Guarantee:* Phosphoric acid, soluble, 9; reverted, 1; insoluble, 1.50; total, 11.50; available, 10.00; potash, 2; phosphoric acid from Charleston, Florida and Tennessee rock; potash 1-3 to $\frac{1}{4}$ from muriate of potash, 2-3 to $\frac{3}{4}$ from manure salts. *Found:* Phosphoric

acid, soluble, 1.42; reverted, 8.19; insoluble, 2.43; total, 11.94; available, 9.51; potash, 1.70; chlorine, 2.7.

Remark: Phosphoric acid low. Potash equivalent to kainit.

5386. *RASIN'S BONE AND POTASH FERTILIZER.* A. G. Chrislip, agent, Philippi, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 1.38; reverted, 8.52; insoluble, 2.20; total, 12.10; available, 9.90; potash, 1.89; chlorine, 2.4.

Remark: Potash equivalent to kainit.

5361. *SEAWALL SPECIAL.* George Carskaddon, agent, Keyser, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1.50; total, 11.50; available, 10; phosphoric acid from Charleston, Florida and Tennessee rock. *Found*: Phosphoric acid, soluble, 2.98; reverted, 7.40; insoluble, 1.52; total, 11.90; available, 10.48.

5369. *RASIN'S SPECIAL BONE AND POTASH.* C. W. Mayers' Sons & Co., agent, Terra Alta, W. Va. *Guarantee*: Phosphoric acid, soluble, 9; reverted, 1; insoluble, 1.50; total, 11.50; available, 10; potash, 3; phosphoric acid from high grade Tennessee and Florida phosphate; potash from high grade muriate of potash. *Found*: Phosphoric acid, soluble, 0.81; reverted, 9.06; insoluble, 3.26; total, 13.13; available, 9.87; potash, 5.32; chlorine, 1.6.

Remark: Source of potash equivalent to low grade muriate.

5370. *RASIN'S EMPIRE GUANO.* C. W. Mayers' Sons & Co., agent, Terra Alta, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1.50; total, 9.50; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from Charleston, Florida and Tennessee rock; nitrogen $\frac{1}{4}$ to 1-3 blood, $\frac{1}{4}$ to 1-3 from fish, 1-3 to $\frac{1}{2}$ from high grade concentrated tankage; potash $\frac{1}{4}$ to 1-3 from muriate of potash, 2-3 to $\frac{3}{4}$ from manure salts. *Found*: Phosphoric acid, soluble, 5.56; reverted, 3.10; insoluble, 1.66; total, 10.32; available, 8.66; nitrogen, 1.91; potash, 2.58; available nitrogen, 91; chlorine, 2.1.

5392. *RASIN'S EMPIRE GUANO*. A. G. Chrislip, agent, Philippi, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.77; reverted, 2.70; insoluble, 1.82; total, 10.29; available, 8.37; nitrogen, 2; potash, 2.58; available nitrogen, 88; chlorine, 2.3.

5368. *S. & S. SPECIAL WHEAT COMPOUND*. R. N. Stewart & Son, agent, Martinsburg, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1.50; total, 9.50; available, 8; nitrogen, 1.23; potash, 2; phosphoric acid, $\frac{5}{8}$ of high grade Charleston, Tennessee and Florida phosphate, $\frac{1}{8}$ from bone, $\frac{1}{8}$ from fish and $\frac{1}{8}$ from high grade concentrated tankage; nitrogen, $\frac{1}{8}$ to $\frac{1}{4}$ from high grade blood, $\frac{1}{8}$ to $\frac{1}{4}$ from ground bone, $\frac{1}{8}$ to $\frac{1}{4}$ from high grade concentrated tankage, $\frac{1}{8}$ to $\frac{1}{4}$ from fish; potash from high grade sulphate of potash. *Found*: Phosphoric acid, soluble, 6.06; reverted, 3.89; insoluble, 1.96; total, 11.91; available, 9.95; nitrogen, 1.32; potash, 2.07; available nitrogen, 70; chlorine, 1.

Remark: Source of potash equivalent to muriate.

SCIENTIFIC FERTILIZER CO.,

PITTSBURG, PA.

5374. *SCIENTIFIC WHEAT AND CLOVER*. Cicero Phillips, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 4; insoluble, 1; total, 10; available, 9; nitrogen, 0.82; potash, 4; phosphoric acid 1-5 from tankage, 4-5 from mineral phosphate; nitrogen from tankage, potash from muriate of potash. *Found*: Phosphoric acid, soluble, 6.40; reverted, 2.85; insoluble, 1.02; total, 10.27; available, 9.25; nitrogen, 1; potash, 4.13; available nitrogen, 85; chlorine, 1.6.

5375. *SCIENTIFIC CORN AND GRAIN*. Cicero Phillips, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 3; insoluble, 1; total, 9; available, 8; nitrogen,

1.64; potash, 2; phosphoric acid, 1-3 from tankage, 2-3 from mineral phosphate; nitrogen from tankage; potash from muriate of potash. *Found*: Phosphoric acid, soluble, 4.63; reverted, 3.08; insoluble, 1.33; total, 9.04; available, 7.71; nitrogen, 1.06; potash, 2.33; available nitrogen, 81; chlorine, 1.8.

5376. *GRAIN GROWER*. Cicero Phillips, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 3; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 1; phosphoric acid 1-3 from tankage, 2-3 from mineral phosphate; nitrogen from tankage, potash from muriate of potash. *Found*: Phosphoric acid, soluble, 4.41; reverted, 3.61; insoluble, 1.25; total, 9.27; available, 8.02; nitrogen, 0.84; potash, 1.49; available nitrogen, 79; chlorine, 2.4.

Remark: Source of potash equivalent to low grade muriate.

5388. *SCIENTIFIC POTATO FERTILIZER*. Cicero Phillips, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 4; reverted, 4; insoluble, 2; total, 10; available, 8; nitrogen, 2.50; potash, 6; phosphoric acid 2-5 from tankage, 3-5 from mineral phosphate; nitrogen, 2% from tankage, and $\frac{1}{2}$ % from blood; potash, $\frac{1}{2}$ from muriate of potash and $\frac{1}{2}$ from sulphate of potash. *Found*: Phosphoric acid, soluble, 3.62; reverted, 3.89; insoluble, 2.02; total, 9.53; available, 7.51; nitrogen, 2.54; potash, 7.43; available nitrogen, 88; chlorine, 0.8.

Remark: Phosphoric acid low.

SWIFT & CO.,

CHICAGO, ILL.

5341. *SWIFT'S PURE SUPERPHOSPHATE*. P. H. Wees & Son, agent, Elkins, W. Va. *Guarantee*: Phosphoric acid, insoluble, 4; total, 12; available, 8; nitrogen, 1.64; potash, 2; phosphoric acid, $\frac{3}{8}$ from rock phosphate, $\frac{5}{8}$ from animal bone; nitrogen, from animal tankage; potash from muriate. *Found*:

Phosphoric acid, soluble, 4.12; reverted, 5.04; insoluble, 2.53; total, 11.69; available, 9.16; nitrogen, 1.73; potash, 1.95; available nitrogen, 88; chlorine, 0.3.

5366. *SWIFT'S PURE SUPERPHOSPHATE*. R. N. Stewart & Son, agent, Martinsburg, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.65; reverted, 4.41; insoluble, 3.35; total, 11.41; available, 8.06; nitrogen, 1.64; potash, 1.92; available nitrogen, 95; chlorine, 0.5.

5342. *POTATO AND TOBACCO GROWER*. P. H. Wees & Son, agent, Elkins, W. Va. *Guarantee*: Phosphoric acid, insoluble, 1; total, 11; available, 10; nitrogen, 3.25; potash, 5; phosphoric acid $\frac{3}{8}$ from rock phosphate; $\frac{5}{8}$ from animal bone; nitrogen from animal tankage; potash from sulphate. *Found*: Phosphoric acid, soluble, 1; reverted, 9.75; insoluble, 3.05; total, 13.80; available, 10.75; nitrogen, 3.84; potash, 4.91; available nitrogen, 92; chlorine, 0.01.

5543. *COMPLETE FERTILIZER*. P. H. Wees & Son, agent, Elkins, W. Va. *Guarantee*: Phosphoric acid, insoluble, 3; total, 11; available, 8; nitrogen, 0.82; potash, 1; phosphoric acid, $\frac{3}{8}$ from rock phosphate, $\frac{5}{8}$ from animal bone; nitrogen from animal tankage; potash from muriate. *Found*: Phosphoric acid, soluble, 3.44; reverted, 4.04; insoluble, 2.66; total, 10.14; available, 7.48; nitrogen, 1.18; potash, 1.02; available nitrogen, 81; chlorine, 0.4.

Remark: Phosphoric acid low.

5362. *BONE MEAL*. R. N. Stewart & Son, agent, Martinsburg, W. Va. *Guarantee*: Phosphoric acid, total, 25; nitrogen, 2.50; phosphoric acid from animal bone; nitrogen from animal bone. *Found*: Phosphoric acid, total, 27.02; nitrogen, 1.87; available nitrogen, 85.

Remark: Nitrogen low.

5393. *BONE MEAL*. George Carskaddon, agent, Keyser,

W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, total, 27.06; nitrogen, 2.17; available nitrogen, 88.

Remark: Nitrogen low.

VIRGINIA-CAROLINA CHEMICAL CO.,

RICHMOND, VA.

5350. *ALLISON & ADDISON'S LITTLE GIANT GRAIN AND GRASS GROWER*. J. M. Miller & Bro., Ronceverte, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 0.82; potash, 2; phosphoric acid 4-5 from phosphate rock, 1-5 from animal bone; nitrogen, $\frac{3}{4}$ from fish, blood, animal tankage; $\frac{1}{4}$ from nitrate of soda; potash $\frac{1}{2}$ from muriate, $\frac{1}{2}$ from double manure salt. *Found*: Phosphoric acid, soluble, 3.65; reverted, 4.95; insoluble, 0.67; total, 9.27; available, 8.60; nitrogen, 0.91; potash, 1.74; available nitrogen, 80 chlorine, 1.6.

5383. *ALLISON & ADDISON'S LITTLE GIANT GRAIN AND GRASS GROWER*. E. Shoemaker, agent, Marlinton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.94; reverted, 5.10; insoluble, 0.79; total, 8.83; available, 8.04; nitrogen, 1.17; potash, 2.29; available nitrogen, 82; chlorine, 1.6.

5403. *ALLISON & ADDISON'S LITTLE GIANT GRAIN AND GRASS GROWER*. Sidenstricker & Co., Seebert, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.56; reverted, 5.30; insoluble, 0.90; total, 9.76; available, 8.86; nitrogen, 0.89; potash, 1.90; available nitrogen, 82; chlorine, 0.6.

5351. *ALLISON & ADDISON'S B. P. POTASH MIXTURE*. J. M. Miller & Bro., agent, Ronceverte, W. Va. *Guarantee*: Phosphoric acid, soluble, 7; reverted, 3; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from phosphate rock; potash, $\frac{1}{2}$ from muriate, $\frac{1}{2}$ from double manure

salts. *Found*: Phosphoric acid, soluble, 4.16; reverted, 5.82; insoluble, 1; total, 10.98; available, 9.98; potash, 1.56; chlorine, 1.1.

5402. *ALLISON & ADDISON'S B. P. POTASH MIXTURE*. Sidenstricker & Co., agent, Seebert, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.85; reverted, 5.73; insoluble, 1.38; total, 11.96; available, 10.58; potash, 1.70; chlorine, 0.4.

5381. *ALLISON & ADDISON'S B. P. POTASH MIXTURE*. E. Shoemaker, agent, Marlinton, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 2.75; reverted, 7.76; insoluble, 0.86; total, 11.37; available, 10.51; potash, 1.45; chlorine, 2.1.

Remark: Potash low.

5352. *ALLISON & ADDISON'S STANDARD ACID PHOSPHATE*. E. Shoemaker, Seebert, W. Va. *Guarantee*: Phosphoric acid, soluble, 9; reverted, 3; insoluble, 1; total, 13; available, 12; phosphoric acid from phosphate rock. *Found*: Phosphoric acid, soluble, 6.69; reverted, 5.43; insoluble, 1.57; total, 13.69; available, 12.12.

5399. *ALLISON & ADDISON'S STANDARD ACID PHOSPHATE*. Sidenstricker & Co., agent, Seebert, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 6.40; reverted, 5.62; insoluble, 1.51; total, 13.53; available, 12.02.

5363. *SOUTHERN CHEMICAL COMPANY'S SUN BRAND GUANO*. E. Shoemaker, agent, Marlinton, W. Va. *Guarantee*: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; nitrogen, 2.06; potash, 5.00; phosphoric acid 4-5 from phosphate rock; 1-5 animal bone; nitrogen, $\frac{3}{4}$ from fish, blood, animal tankage, $\frac{1}{4}$ from nitrate of soda; potash, $\frac{1}{2}$ from muriate, $\frac{1}{2}$ from double manure salts. *Found*: Phosphoric acid, soluble, 3.25; reverted, 5.20; insoluble, 0.54; total, 8.99; available, 8.45; nitrogen, 1.78; potash, 4.75; available nitrogen, 91; chlorine, 1.2.

Remark: Nitrogen low.

5405. *SOUTHERN CHEMICAL COMPANY'S SUN BRAND GUANO*. J. M. Miller & Bro., agent, Ronceverte, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 3.48; reverted, 5.39; insoluble, 0.62; total, 9.49; available, 8.87; nitrogen, 2.11; potash, 5.64; available nitrogen, 93; chlorine, 0.4.

WALKER, STRATMAN & CO.,
PITTSBURG, PA.

5213. *PURE RAW BONE MEAL*. Dean & Reeves, agent, Fairmont, W. Va. *Guarantee*: Phosphoric acid, total, 22; nitrogen, 3.25; phosphoric acid from bone; nitrogen from bone. *Found*: Phosphoric acid, total, 21.44; nitrogen, 3.91; available nitrogen, 89.

Remark: Phosphoric acid low.

5420. *PURE RAW BONE MEAL*. W. L. Cole, agent, Clarksburg, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, total, 21.62; nitrogen, 3.69; available nitrogen, 89.

Remark: Phosphoric acid low.

5214. *FOUR FOLD*. Dean & Reeves, agent, Fairmont, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 3; insoluble, 1; total, 9; available, 8; nitrogen, 1.64; potash, 2; phosphoric acid, 1-3 from tankage, 2-3 from mineral phosphate, nitrogen from tankage; potash from muriate of potash. *Found*: Phosphoric acid, soluble, 5.71; reverted, 2.29; insoluble, 1.02; total, 9.02; available, 8; nitrogen, 1; potash, 2.48; available nitrogen, 79; chlorine, 1.3.

Remark: Nitrogen low.

5411. *FOUR FOLD*. Gainor & Talbot, agent, Belington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, solu-

ble, 4.98; reverted, 2.69; insoluble, 1.34; total, 9.01; available, 8.67; nitrogen, 1; potash, 2.48; available nitrogen, 73; chlorine, 0.8.

Remark: Nitrogen low.

5416. *FOUR FOLD.* W. L. Cole, agent, Clarksburg, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 4.62; reverted, 2.97; insoluble, 1.30; total, 8.89; available, 7.59; nitrogen, 0.94; potash, 2.95; available nitrogen, 65; chlorine, 0.7.

Remark: Nitrogen low; phosphoric acid, low.

5215. *POTATO SPECIAL.* Dean & Reeves, agent, Fairmont, W. Va. *Guarantee:* Phosphoric acid, soluble, 4; reverted, 4; insoluble, 2; total, 10; available, 8; nitrogen, 2.50; potash, 6; phosphoric acid from 2-5 tankage, 3-5 from mineral phosphate; nitrogen 2% from tankage and $\frac{1}{2}$ per cent. from blood; potash, $\frac{1}{2}$ from muriate of potash, $\frac{1}{2}$ from sulphate of potash. *Found:* Phosphoric acid, soluble, 4.63; reverted, 3.49; insoluble, 1.50; total, 9.62; available, 8.12; nitrogen, 2.54; potash, 6.55; available nitrogen, 88; chlorine, 1.

5382. *POTATO SPECIAL.* Gainor & Talbott, agent, Belington, W. Va. *Guarantee:* (As above.) *Found:* Phosphoric acid, soluble, 3.31; reverted, 4.09; insoluble, 2.43; total, 9.83; available, 7.40; nitrogen, 2.52; potash, 5.86; available nitrogen, 86; chlorine, 1.

Remark: Available phosphoric acid low.

5359. *GRAIN MANURE.* W. L. Cole, agent, Clarksburg, W. Va. *Guarantee:* Phosphoric acid, soluble, 5; reverted, 3; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 1; nitrogen from animal tankage; potash from Muriate of potash. *Found:* Phosphoric acid, soluble, 4.48; reverted, 2.96; insoluble, 0.91; total, 8.35; available, 7.44; nitrogen, 0.98; potash, 1.74; available nitrogen, 82; chlorine, 2.2.

Remark: Chlorine excessive.

5389. *GRAIN MANURE*. Gainor & Talbott, agent, Belington, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 4.35; reverted, 3.59; insoluble, 1.25; total, 9.19; available, 7.94; nitrogen, 0.93; potash, 1.59; available nitrogen, 82; chlorine, 2.2.

Remark: Chlorine excessive.

5410. *GRAIN MANURE*. T. P. Licklider, agent, Martinsburg, W. Va. *Guarantee*: (As above.) *Found*: Phosphoric acid, soluble, 5.01; reverted, 2.97; insoluble, 1.10; total, 9.08; available, 7.98; nitrogen, 0.91; potash, 1.77; available nitrogen, 84; chlorine, 0.9.

5377. *GRAIN KING*. Gainor & Talbott, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 5; reverted, 4; insoluble, 1; total, 10; available, 9; nitrogen, 82; potash, 4; phosphoric acid, 1-5 from tankage, 4-5 from mineral phosphate; nitrogen from tankage; potash from muriate of potash. *Found*: Phosphoric acid, soluble, 5.08; reverted, 2.84; insoluble, 1.10; total, 9.02; available, 7.92; nitrogen, 0.90; potash, 3.13; available nitrogen, 80; chlorine, 1.4.

Remark: Phosphoric acid low; potash low.

5401. *BONE AND MEAT*. Sent in for analysis by Gray Silver, Martinsburg, W. Va. *Guarantee*: Phosphoric acid, total, 16; nitrogen, 3.25; phosphoric acid from bone and tankage; nitrogen from bone and tankage. *Found*: Phosphoric acid, total, 15.29; nitrogen, 3.16; available nitrogen, 93.

Remark: Phosphoric acid low.

THE ROBERT A. WOOLDRIDGE CO.,

BALTIMORE, MD.

5367. *GERMAN POTASH MIXTURE*. I. J. Lohr, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 8; re-

verted, 2; insoluble, 1; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash $\frac{1}{4}$ from muriate; $\frac{3}{4}$ from kainit. *Found*: Phosphoric acid, soluble, 0.90; reverted, 9.37; insoluble, 0.87; total, 11.14; available, 10.27; potash, 2.10; chlorine, 4.3.

Remark: Potash equivalent to low grade kainit.

5373. *FLORIDA ACID PHOSPHATE*. I. J. Lohr, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 12; reverted, 1; insoluble, 1; available, 14; phosphoric acid from dissolved phosphate rock. *Found*: Phosphoric acid, soluble, 11.77; reverted, 3.71; insoluble, 1.09; total, 16.57; available, 15.48.

5379. *SPECIAL POTATO FERTILIZER*. I. J. Lohr, agent, Belington, W. Va. *Guarantee*: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1.50; available, 9; nitrogen, 1.65; potash, 5; phosphoric acid from dissolved phosphate rock, and dissolved animal bone; nitrogen 2-5 from fish, 2-5 from tankage and 1-5 from blood; potash $\frac{1}{2}$ from muriate of potash and $\frac{1}{2}$ from high grade sulphate. *Found*: Phosphoric acid, soluble, 4.87; reverted, 3.21; insoluble, 1.50; total, 9.58; available, 8.08; nitrogen, 1.67; potash, 5.92; available nitrogen, 89; chlorine, 2.2.

Remark: Source of potash equivalent to low grade muriate.

THE FOLLOWING IS A LIST OF THE MANUFACTURERS, AND THE NAMES OF THE BRANDS OF FERTILIZERS REGISTERED FOR SALE IN WEST VIRGINIA FOR THE YEAR 1905.

AMERICAN AGRICULTURAL CHEMICAL CO.,
 No. 26 BROADWAY, NEW YORK, AND No. 208 NORTH CALVERT
 STREET, BALTIMORE.

A. A. C. Co.'s 16% Superphosphate.	Cleveland Dryer Horse Head Phosphate and Potash.
A. A. C. Co.'s Pure Ground Bone.	Cleveland Dryer XXX Phosphate and Potash.
A. A. C. Co.'s Bone Meal.	Cleveland Dryer Horse Head Phosphate.
A. A. C. Co.'s Fine Ground Bone.	Detrick's Quickstep Bone Phosphate.
A. A. C. Co.'s Gem Alkaline Phosphate.	Detrick's Kangaroo Komplete Compound.
A. A. C. Co.'s Regular Corn Fertilizer.	Detrick's Standard Potash Fertilizer.
A. A. C. Co.'s Big Crop Phosphate.	Detrick's Corn and Oats Fertilizer.
A. A. C. Co.'s Genuine German Kainit.	Detrick's Imperial Compound.
Bradley's Niagara Phosphate.	Detrick's Paragon Ammoniated Bone, Phosphate and Potash.
Bradley's Bean and Potato Phosphate.	Detrick's Soluble Bone, Phosphate and Potash.
Bradley's Alkaline Bone.	Detrick's Dissolved S. C. Bone.
Bradley's Soluble Dissolved Bone.	Great Eastern English Wheat Grower.
Canton Baker's Dissolved S. C. Bone.	Great Eastern Soluble Bone and Potash.
Canton Soluble Bone and Potash.	Great Eastern Japanese Wheat Grower.
Canton Soluble Alkaline Bone.	Great Eastern High Grade Bone and Potash.
Canton Eagle Phosphate.	Great Eastern Dissolved Bone.
Canton Harrow Brand Crop Grower.	Great Eastern Unammoniated Wheat Special.
Canton Resurgum Guano.	Great Eastern Corn Fertilizer.
Wheat, Corn and Grass Mixture.	Great Eastern Vegetable, Vine and Tobacco.
Canton Potato Manure.	Great Eastern Wheat Special.
Canton Game Guano.	
Cleveland Dryer Forest City Buckeye.	

Larazetto Dissolved Bone Phosphate.

Larazetto Bone Compound.

Larazetto Ammoniated Bone Phosphate.

Larazetto High Grade Dissolved Bone and Potash.

Larazetto Dissolved Bone and Potash.

Maryland Tornado Fertilizer.

Maryland Bono Superphosphate.

Maryland Dissolved S. C. Bone.

Maryland Ammoniated Bone.

Maryland O. K. Ammoniated.

Pacific Dissolved Bone Phosphate.

Pacific Dissolved Bone and Potash.

Pacific A No. 1 Phosphate.

Pacific Nobesque Guano.

Pacific Potato Phosphate.

Reese Half and Half.

Reese High Grade Potash Mixture.

Reese Elm Phosphate.

Susquehanna Superior Rock Phosphate.

Susquehanna Crop Grower.

Susquehanna Alkaline Bone.

Susquehanna XXV Phosphate.

Susquehanna Ammoniated Bone Phosphate.

Williams & Clark's Good Grower Potato Phosphate.

Williams & Clark's Royal Bone Phosphate.

Williams & Clark's Prolific Crop Producer.

Williams & Clark's Dissolved Bone and Potash.

Williams & Clark's Acorn Acid Phosphate.

Wheeler's Electric Dissolved Bone.

Wheeler's Wheat and Clover Fertilizer.

Wheeler's Royal Wheat Grower.

Wheeler's Potato Manure.

Wheeler's Corn Fertilizer.

Wheeler's Unammoniated Wheat Grower.

W. & A. Special Fall Mixture.

W. & A. Regular Corn Mixture.

Zell's Special Compound for Potatoes and Vegetables.

Zell's Ammoniated Bone Superphosphate.

Zell's Economizer Phosphate.

Zell's Little Giant.

Zell's Electric Phosphate.

Zell's Dissolved Bone Phosphate.

Zell's Dissolved S. C. Phosphate.

ABBOTT & MARTIN RENDERING CO.,
COLUMBUS, OHIO.

Tennessee Phosphate.

Hercules Phosphate.

Star Phosphate.

Ideal Grain Grower.

Peerless Bone and Potash.

Harvest King.

Abbott's Tobacco and Potato Special.

Fine Raw Bone Meal.

ARMOUR FERTILIZER WORKS,
BALTIMORE, MD.

16% Acid Phosphate.

Special Mixture.

Phosphate & Potash No. 1.

Cereal Phosphate.

Grain Grower.

Bone Meal.

Wheat Special.

Wheat, Corn and Oats Special.

Star Phosphate.

Phosphate and Potash No. 2.

Ammoniated Bone with Potash.

Raw Bone Meal.

High Grade Potato.

Royal Ammoniated Bone.

BALTIMORE PULVERIZING CO.,

BALTIMORE, MD.

Special Fall Mixture.
Farmers' Favorite Fertilizer.

Special Spring Mixture.
Special Fall Mixture.

BAUGH & SONS COMPANY,

BALTIMORE, MD.

Baugh's Corn Fertilizer.
Baugh's Potato Fertilizer.
Baugh's Fish Mixture.
Baugh's Special Potato Manure
Baugh's Raw Bone Superphosphate.
Baugh's Peninsula Grain Producer.
Baugh's Export Bone and Potash.
Baugh's Ammoniated Soluble Alkaline.
Baugh's One-Quarter Mixture.
Baugh's Bone Meal Warranted Pure.
Baugh's Pure Dissolved Animal Bone.

Baugh's Double Eagle (\$25) Phosphate.
Baugh's General Crop Grower.
Baugh's Animal Bone and Potash Compound.
Baugh's Wheat Fertilizer for Wheat and Grass.
Baugh's High Grade Acid Phosphate or Dissolved Acid Phosphate Rock.
Baugh's Soluble Alkaline Superphosphate.
Genuine Lobos Peruvian Guano.
Baugh's High Grade Vegetable Guano.
Baugh's Complete Animal Bone Fertilizer.

BOWKER FERTILIZER CO.,

BOSTON, NEW YORK AND CINCINNATI.

Bowker's Hill and Drill Phosphate.
Bowker's Sure Crop Phosphate.
Bowker's Super Phosphate and Potash for Grain and Grass.
Bowker's Dissolved Bone Phosphate.

Bowker's Soluble Bone.
Bowker's Harvest Bone.
Bowker's Potash Fertilizer.
Bowker's Bone Meal.
Bowker's Dissolved Bone Phosphate.

S. B. BRODBECK,

BRODBECK, PA.

Ruth's Dissolved Bone Phosphate.

BONORO CHEMICAL COMPANY,
KEARNEY, N. J.

Bonora.

CHICAGO FERTILIZER CO.,
CHICAGO, ILL.

Baugh's Double Eagle (\$25)	Western Bone Black and Potash.
Garden Manure.	Bone, Blood and Potash.
No. 1 Acid Phosphate.	Potato, Truck and Tobacco Fertilizer.
Diamond Phosphate.	Chicago Raw Bone.
Calumet Phosphate.	Potash Special.
Wheat and Corn Special.	

W. S. FARMER & CO.,
BALTIMORE, MD.

Harvest Queen.	"B. & P."
Clyde Brand.	Dissolved S. C. Bone.
Fish Mixture.	

GRIFFITH & BOYD,
BALTIMORE, MD.

Harvest Queen.	Original Super Phosphate.
Farmer's Improved Phosphate.	XX Potash Manure.
Pure Dissolved Animal Bone.	High Grade Acid Phosphate.
Peerless Fertilizer.	Special Grain Grower.

S. M. HESS & BRO.,
PHILADELPHIA, PA.

Keystone Bone Phosphate.	Emperor Phosphate.
Wheat and Grass Manure.	Soluble Bone.
Soluble Bone and Potash.	

W. P. HUBBARD & CO.,

BALTIMORE, MD.

Hubbard's Old Economy Phosphate.

ROBIN JONES, OR HOWARD PHOSPHATE CO.,

NASHVILLE, TENN.

Ground Phosphate Rock.

JARECKI CHEMICAL CO.,

CINCINNATI, OHIO.

No. 1 Fish Guano.

MILLER FERTILIZER CO.,

BALTIMORE, MD.

S. C. Rock.

D. B. MARTIN CO.,

BALTIMORE, MD.

Crop Producer.

Dissolved Organic Compound.

Pure Grower.

Old Virginia Favorite.

Martin's One, Eight and Four.

Claremont Vegetable Grower.

Gilt Edge Potato Manure.

Pure Animal Bone and Potash
Compound.

Pure Raw Bone Meal.

Pure Ground Bone.

Pure Dissolved Animal Bone.

Soluble Bone and Potash.

Acid Phosphate.

MUSKINGUM VALLEY FERTILIZER CO.,

MARIETTA, OHIO.

Peerless Brand Special Vege-
table Grower.

Peerless Brand Acidulated
Bone Phosphate.

Peerless Brand Acid Phos-
phate.

Peerless Brand Bone Meal.

MARIETTA BONE AND PHOSPHATE CO.,

MARIETTA, OHIO.

Horse Brand Acme Phosphate.	Potato and Truck Special.
Horse Brand Phosphate and Potash.	Buckeye.
Pure Raw Bone.	Corn, Oats and Wheat Grower. Acid Phosphate.

OHIO FARMERS FERTILIZER CO.,

COLUMBUS, OHIO.

Superior Phosphate.	Wheat Maker and Seeding Down.
Alkaline Bone.	Potato and Tobacco Special.
Soluble Bone and Potash.	Raw Bone Meal.
General Crop Fish Guano.	
Corn, Oats and Wheat Fish Guano.	

G. OBER & SONS CO.,

BALTIMORE, MD.

Special Mixture for Wheat.	Ober's Dissolved Bone Phos- phate and Potash.
S. & S. Special Wheat Com- pound.	Ober's Dissolved Bone Phos- phate.
Langdon Mixture.	Ober's High Grade Acid Phos- phate.
Ober's Dissolved Animal Bone.	Ober's Standard Potash Com- pound.
Ober's Farmers Standard Am- moniated Phosphate.	Pure Raw Bone Meal.
Ober's Farmers Mixture.	Pure Bone Meal.
Ober's Independent Ammo. Super Phosphate.	

PIEDMONT MT. AIRY GUANO CO.,

BALTIMORE, MD.

Piedmont 16% Acid Phosphate.	Piedmont Dissolved Bone Phos- phate Potash Goods.
Piedmont Plow Brand.	Piedmont Potato Producer.
Piedmont Special Potash Mix- ture.	Piedmont Farmers High Grade Bone and Potash.
Piedmont Soluble Bone and Potash.	Pure Raw Bone Meal.
Levering's Excelsior.	Piedmont Special Wheat and Grass Compound.
Levering's Harvest Queen.	Piedmont Dissolved Animal Bone.
Piedmont Farmer's Favorite.	Levering's IXL Crop Grower.
Piedmont Harvest King.	Piedmont Pure Raw Bone Mixture.
General Crop Grower.	Piedmont High Grade S. C. Bone.
Piedmont High Grade Ammoni- ated Bone and Potash.	
Piedmont P. G. Guano.	
Piedmont Royal Ammoniated Bone and Potash.	

RICHMOND GUANO CO.,

RICHMOND, VA.

High Grade Acid Phosphate.

RASIN-MONUMENTAL CO.,

BALTIMORE, MD.

Rasin's Acid Phosphate.
Rasin's Bone and Potash Fer-
tilizer.

Rasin's Special Bone and Pot-
ash.

Rasin's Special Formula for
Corn and Wheat.

William Penn Crop Grower.

Rasin's Empire Guano.

Rasin's Dissolved Bone.

Rasin's IXL Fertilizer.

Rasin's Special Fish and Pot-
ash Mixture.

Rasin's Special Bone and Pot-
ash.

Washington & Alexander's Spe-
cial Mixture for Wheat.

National Crop Compound.

Rasin's Pure Raw Bone.

Rasin's 16% Acid Phosphate.

Rasin's XXX Fertilizer.

Seawall Special.

S. & S. Special Wheat Com-
pound.

SOUTHERN FERTILIZER CO.,

CHANCEFORD, PA.

Pure Ground Bone 4-40.

General Crop Grower $\frac{1}{2}$ -8-2.

Farmers Mixture 10-2.

Dissolved Bone Phosphate 14-
16.

THE SCIENTIFIC FERTILIZER CO.,

PITTSBURG, PA.

Scientific Phosphate and Pot-
ash.

Dissolved Bone.

Pure Raw Bone Meal.

Bone and Meat.

Scientific Wheat and Clover.

Scientific Bone and Potash.

Scientific Economy.

Scientific Corn and Grain.

Grain Grower.

Scientific Potato Fertilizer.

Bone, Meat and Potash.

SWIFT & CO.,

CHICAGO, ILL.

Swift's Special Bone Meal.	Bone and Potash.
Swift's Pure Superphosphate.	Raw Bone Meal.
Potato and Tobacco Grower.	Pure Bone Meal.
Complete Fertilizer.	Bone Meal and Blood.
Champion Wheat and Corn Grower.	

TUSCARORA FERTILIZER CO.,

BALTIMORE, MD.

Acid Phosphate.	Bone & Potash.
Fruit and Potato.	Ammoniated Phosphate.
Tuscarora Alkaline.	Tuscarora Standard.
Big (4) Four.	Bone and Potash No. 2.
Special Crop Grower.	

I. P. THOMAS & SON CO.,

NO. 2 SOUTH DELAWARE AVE., PHILADELPHIA, PA.

Special Corn Fertilizer.	Alkaline Bone.
Superior Super Phosphate.	Special Alkaline Bone.
S. C. Phosphate.	

VIRGINIA-CAROLINA CHEMICAL CO.,

BALTIMORE, MD.

V. C. C. Co.'s Dissolved Bone.	Allison & Addison's Star Brand Guano.
V. C. C. Co.'s Fish, Bone and Potash.	Allison & Addison's Little Giant Grain and Grass Grower.
V. C. C. Co.'s Standard Crop Grower.	Allison & Addison's V. P. Potash Mixture.
V. C. C. Co.'s Special Compound for Wheat.	Allison & Addison's Standard Acid Phosphate.
V. C. C. Co.'s National Ammoniated Guano.	Southern Chemical Co.'s Sun Brand Guano.
V. C. C. Co.'s Corn and Buckwheat Special.	S. W. Travers & Co.'s Champion Corn, Wheat and Grass Grower.
V. C. C. Co.'s Standard Bone and Potash.	S. W. Travers & Co.'s Beef, Blood and Bone Fertilizer.
V. C. C. Co.'s 14% Acid.	Faultless.
V. C. C. Co.'s Special Bone and Potash.	Tiger Bone Stock Phosphate.
V. C. C. Co.'s Ammoniated Complete.	High Grade Potato and Tomato Grower.

WALKER-STRATMAN & CO.,

PITTSBURG, PA.

Grain Manure.
 Phosphoric Acid and Potash.
 Help Mate.
 Pure Raw Bone Meal.
 Bone and Meat.
 Grain King.
 Acid Phosphate.
 Potash and Bone Phosphate.
 Big Bonanza.
 Potato Special.

Four Fold.
 Meat, Blood and Bone with
 Potash.
 S. W. Travers & Co.,s Capital
 Bone and Potash Compound.
 S. W. Travers & Co.'s Dissolved
 Bone Phosphate.
 S. W. Travers & Co.'s Dis-
 solved S. C. Bone.

THE ROBERT A. WOOLDRIDGE CO.,

BALTIMORE, MD.

Florida Acid Phosphate.
 German Potash Mixture.
 Liberty Bell Potash Mixture.
 Old Sledge Phosphate.
 Champion Giant Phosphate.
 Chieftain Bone Stock Phos-
 phate.

Triumph Pure Bone Phos-
 phate.
 Special Potato Fertilizer.
 High Grade Dissolved Animal
 Bone.
 Pure Raw Bone.

THE WOOLDRIDGE-ORCHILLA CO.,

COMMERCIAL WHARF, BALTIMORE, MD.

Orchilla Guano.
 German Alkaline Mixture.
 Virginia Belle Phosphate Mixture.

Bizzy Bee.
 Old Hickory.

THE FOLLOWING IS A LIST OF AGENTS WHOSE
STOCK WAS SAMPLED DURING 1905.

J. D. Anderson	Ronceverte
Bishop & Barbe	Jane Lew
J. M. Beale	Guyandotte
Baker, Thurston & Co.,	Charleston
W. M. Bowles & Son	Milton
W. H. Barlow	Marlinton
W. H. Bailey Hardware Co.	Morgantown
H. M. Core	Core
W. S. Corrothers	Little Falls
A. G. Chrislip	Philippi
Curry & Rogers	Marlinton
M. W. Carney	Ronceverte
W. L. Cole	Clarksburg
Geo. Carskadon	Keyser
Dean & Reeves	Fairmont
T. B. Drummond	Buckhannon
Dameron Seed and Feed Co.	Huntington
Parley De Berry	Terra Alta
Draper England	Belington
T. K. Goddard	Barboursville
J. W. Gans	Grafton
Gainer & Talbott	Belington
J. W. Hedrick	Alderson
G. A. Herring	Kingwood
T. M. Harbor	Hurricane
H. F. Hartman	Terra Alta
Johnson Implement Co.	Parkersburg
M. C. Jackson	Buckhannon
Benson Jacobs	Little Falls
Johnson & Gwinn	Alderson
T. P. Licklider	Martinsburg
I. J. Lohr	Belington
R. T. Lowndes	Clarksburg
W. H. McCallister	Hurricane

Mossman Bros.	Huntington
J. M. Miller & Bro.	Ronceverte
J. F. & C. L. Myne	Hurricane
W. P. Mason & Co.	Mannington
N. C. Musgrave	Grafton
G. W. Siswander & Co.	Parkersburg
Offcutt & Lakin	Terra Alta
The Philippi Mill Co.	Philippi
J. E. Peck	Seebert
Poling Bros.	Belington
R. S. Rexroad	Morgantown
W. S. Stout	Harrisville
N. E. Sharp	Alderson
The Seebert Grocery Co.	Seebert
E. Shoemaker	Marlinton
W. F. Sill	Pennsboro
R. N. Stewart & Son	Martinsburg
Sidenstricker & Co.	Seebert
J. M. Thomison	Ronceverte
J. L. Woodyard	Pruntytown
Washington & Alexander	Charles Town
W. O. Wall	Kingwood
P. H. Wees & Son	Elkins
Wolf & Graham.	Reedsville
West Charleston Feed Co.	Charleston

LIST OF PERSONS WHO SENT IN SAMPLES OF FERTILIZER FOR ANALYSIS DURING 1905.

Charles Fredrick	Catawba
G. F. Gibson	Philoah
A. Hyatt	Baden
Gray Silver	Martinsburg
L. M. Wolf	
W. D. Zinn	Philippi

