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Commercial Fertilizers : Inspection 1911

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DEPARTMENT OF CHEMISTRY

Commercial Fertilizers

Inspection 1911

BY
B. H. HITE and F. B. KUNST

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Commercial Fertilizers

COMPLETE REPORT OF INSPECTION WORK 1911

This report has to mention very few really serious violations of the fertilizer law, in fact the number of such violations has been decreasing for several years. This has been due to a gradual but real improvement in the fertilizers and to more conservative claims in the affidavits. In the "Remarks" especial attention is directed to every brand, any constituents of which fell as much as two tenths of one percent below the guarantee. Attention is also directed to brands exceeding the guarantee by one percent or more.

Very few serious failures to provide the quantities of the various constituents guaranteed are to be found, in fact, no one reading the following pages and having in mind the variety of materials used and the often wide variations in the composition of the maetrials will seriously question the intention of manufacturers to deliver as much as they agreed to deliver. Farmers preparing fertilizers for their own use may stop with a mixture that will show fairly uniform results when applied to the field, but manufacturers must do a great deal better than this, as any handful of any brand leaving the factory may find its way into an inspector's sample. Such mixing necessarily adds to the cost of the fertilizers. Attempts to secure greater uniformity would make further additions to the cost. It is very doubtful whether better mixing than hereinafter reported is really desirable.

This report shows very few really serious failures to use materials of the quality guaranteed. No low grade sources of phosphoric acid were claimed or used. No one claimed high grade sulphate or muriate of potash, and used kainit or other low grade materials. No one claimed nitrate of soda,

dried blood or other high grade nitrogen and used garbage, muck, tankage or other low grade materials. The violations reported are of a much less serious order and have to do, always, with using low grade materials in somewhat larger proportions than claimed. For example the nitrogen is claimed to be derived three-fifths from garbage and two-fifths from bone-tankage, while three and a half to four-fifths garbage is used. Or the potash is claimed to be derived "four-fifths from kainit and one-fifth from muriate", and a yet higher proportion of kainit is used. These are, of course, violations of the law and all such cases have been faithfully reported, special attention being directed to them and yet it is not to such violations, nor indeed to any violation of the law that the really heavy losses in the purchase of fertilizers is due.

The real losses, the discouraging losses are due to purchasing fertilizers that contain low grade materials in **any** proportion. Such fertilizers may often be used at a profit, but the same amount of money invested in high grade fertilizers would bring yet greater returns. Just here it is to be noted that it is very easy in this State to avoid all low grade fertilizers, for as often as a low grade material is used, it is claimed in the affidavit and on the tags. The inspection work for this year shows no exception to this.

In West Virginia the tags show the materials from which the fertilizer is made and the proportion in which they are used. The purchaser knows just what he is getting; indeed he has very much less reason for uncertainty than if he had bought the materials and mixed them himself, for in such case he must take chances on the materials, which of course may not be as ordered. There is only one way for purchasers of commercial fertilizers in this State to avoid knowing what they are buying, and that way is to refuse to read the tags.

However, it is not quite sufficient that the purchaser be enabled to know the composition of the fertilizers found on sale. It is also necessay that he be able to find on sale or in some way to obtain, the kind of fertilizers he wants to use.

In this is to be found the argument that sells the greater part of the low grade fertilizers in this State. It is the absence of any other sort of fertilizers in the hands of so many of the agents. Even this would not be a serious matter if purchasers would give the agent time to order better fertilizers, but, so many purchasers of fertilizers (like so many purchasers of everything else) will wait until the last moment, and until the only possible choice is between some sort of low grade stuff and nothing at all. All of the larger dealers carry a complete line of most excellent fertilizers, but all dealers must be prepared for those who will have something low priced, while the smaller dealers who in the aggregate handle the greater part of the fertilizers, will often need to be assured of a sale before they will place an order for very much of the more expensive fertilizers.

It would seem that the situation as just stated should provide enough advantages for the low grade fertilizers and enough difficulties to be overcome in any endeavor to cut down the heavy losses which this State must charge every year to the use of such fertilizers, but no statement of the situation would be complete without a mention of the low grade fertilizer laws which in many States provide a tremendous advantage for fertilizers of the same grade. For example the low grade nitrogen, always responsible for the heaviest losses, is in some States reported as equal to the best. It is almost amusing to find a familiar brand reported as containing nitrogen as valuable as that in nitrate of soda or dried blood, while the men who made the brand are stating for the guidance of purchasers in West Virginia that the nitrogen is derived, largely if not entirely, from inferior materials;—and making oath to the statement and pinning it all over the bags. These worthless fertilizer laws and the markets which they provide for low grade materials must have much to do with fixing the standard of a large part of brands regularly on the market. West Virginia is a comparatively small buyer of commercial fertilizers, and with few exceptions the brands found on sale in this State were prepared primarily for other markets. All things considered, it is not surprising that the dealers should carry enough of the low grade brands; nor is

it necessary to look further for the cause of the losses which this State is sustaining on account of low grade fertilizers. The writer has frequently asked manufacturers why they did not put more of the better fertilizers in the State. They always answer by asking where to put them and how to sell them? Here is a suggestion,—put them in the hands of agents who believe in them; who will preach them, and who will at least have some of them where some one can see them and be convinced that there is such a thing. It is all very well to talk about meeting a demand when there is a demand to meet but no one in any other business would think of waiting for such a demand if he is indeed in earnest about building up a trade.

Some persons, disgusted with the class of fertilizers with which so many agents are always stocked up have urged farmers to ignore the agents and go directly to the manufacturers or even to the importers, but the objection to this plan is that it can never reach more than a small part of the losses in question. Not more than one person in a hundred will go to so much trouble, even in States providing no other means of avoiding low grade materials, while the one person who would go to the trouble would certainly not object to letting the agent know what he wanted in time for the agent to order it, and no matter how reluctant any agent may be to carry any sort of fertilizer in stock, no one has ever heard of one who would refuse to place an order for anything already sold. It is idle to talk about eliminating the agent. The great bulk of commercial fertilizers, like other commodities will be sold through the local dealers. The losses so often mentioned are incurred by those who will buy what they find on sale, and these losses need not be expected to decrease very much more rapidly than agents can be induced to handle better fertilizers.

Mention has been made of the fact that the larger dealers always carry a full line of high grade fertilizers. There is a wholesome lesson in this. These larger dealers began (like some of the smaller dealers are beginning now) by advising the use of the high grade fertilizers and having such ferti-

lizers on hand for any one who could be induced to use them. In no other way could any one of these dealers have built up the trade he now enjoys. It may be observed that many of these larger dealers are located in the better agricultural sections, but it is also true that without exception these men have had much to do with making such sections what they are. There are just as good opportunities all over this State for any one who will really try to sell the only sort of fertilizers that ought to be sold.

Results of Inspection of Commercial Fertilizers for 1911

THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK.

6767. **Dissolved Animal Bone.** T. P. Licklider, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 10; reverted 2; insoluble 2; total 14; available 12; nitrogen 2.06; phosphoric acid from animal bone;; nitrogen from animal bone. **Found:** Phosphoric acid, soluble 3.76; reverted 7.73; insoluble 1.19; total 12.68; available 11.49*; nitrogen 1.88; availability of nitrogen 88.

Remark. Phosphoric acid low; nitrogen low.

6700. **Pure Ground Bone.** Nuzum & Robinson, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, available 20.59; nitrogen 3.29; phosphoric acid from animal bone; nitrogen from animal bone. **Found:** Phosphoric acid total 22.64; nitrogen 3.85; availability of nitrogen 70.

6704. **Bone Meal.** Leslie Hawker, Agent, Shinnston, W. Va. **Guarantee:** Phosphoric acid, available 13.73; nitrogen 1. 65; phosphoric acid from animal bone; nitrogen from animal bone. **Found:** Phosphoric acid total 16.23; nitrogen 1.56; availability of nitrogen 91.

*All analyses which fall below the guarantee are indicated by black-faced type.

6730. **Fine Ground Bone.** Farmers Supply Company, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, available 22.88; nitrogen 2.47; phosphoric acid from animal bone; nitrogen from animal bone. **Found:** Phosphoric acid, total 26.40; nitrogen 2.67; availability of nitrogen 90.

6771. **Big Crop Phosphate.** Submitted for analysis by Trippett & Company, Independence, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; potash 5; Phosphoric acid from high grade phosphate rock. Potash ⅓ to ⅔ kainit. ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 4.57; reverted 3.47; insoluble 0.79; total 8.83; available 8.04; potash 5.74; chlorine 2.9.

5707. **Big Crop Phosphate.** The Exchange Mill Company, Agent, Grafton, W. Va. **Guarantee:** (as above). **Found:** Phosphoric acid, soluble 6.44; reverted 1.94; insoluble 0.84; total 9:22; available 8.38; potash 5.25; chlorine 3.1.

Remark. Chlorine excessive.

6772. **Corn, Oats and Buckwheat Fertilizer.** Submitted for analysis by Trippett & Company, Independence, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; total 7; available 6; potash 3; phosphoric acid from high grade phosphate rock, potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 3.32; reverted 3.41; insoluble 0.55; total 7.28; available 6.73; potash 3.28; chlorine 5.0.

Remark. Chlorine excessive.

6708. **Corn, Oats and Buckwheat Fertilizer.** Exchange Mill Company, Agent, Grafton, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, soluble 4.62; reverted 2.45; insoluble 0.43; total 7.50; available 7.07; potash 3.56; chlorine 4.3.

Remark. Chlorine excessive. Phosphoric acid more than 1% above guarantee..

6735. **High Grade Dissolved Phosphate and Potash.** J. M. Hagerty, Agent, Farmington, W. Va. **Guarantee:** Phos-

phoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 5; phosphoric acid from high grade phosphate rock; potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.64; reverted 2.40; insoluble 0.71; total 10.75; available 10.04; potash 5.53; chlorine 2.6.

6745. **Fruit and Vine Fertilizer.** Submitted for analysis by B. A. Poland, Levels, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1:65; potash 10; phosphoric acid ⅕ to ⅖ from animal bone, ⅖ to ⅘ from high grade phosphate rock. Nitrogen ⅕ to ⅖ from garbage tankage rendered available, ⅕ to ⅖ from animal tankage, ⅕ to ⅖ from sulphate of ammonia; potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 5.17; reverted 3.75; insoluble 1.07; total 9:99; available 8.92; nitrogen 1.80; potash 9.99; availability of nitrogen 88; chlorine 1.1.

6766. **Gem Alkaline Phosphate.** A. P. Russell & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; total 7; available 6; potash 3; phosphoric acid from high grade phosphate rock, potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 3.51; reverted 3.16; insoluble 0.73; total 7.40; available 6.67; potash 3.09; chlorine 5.2.

Remark. Chlorine excessive.

6832. **Fish Guano.** J. W. Hedrick, Agent, Alderson, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 2; phosphoric acid ⅕ to ⅖ from fish; ⅗ to ⅘ from high grade phosphate rock, nitrogen ⅕ to ⅖ from garbage tankage rendered available. ⅗ to ⅘ from fish. **Found:** Phosphoric acid soluble 6.03; reverted 2.70; insoluble 1.26; total 9:99; available 8.73; nitrogen 0.92; potash 2.27; availability of nitrogen 77; chlorine 2.9.

6844. **Superphosphate.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 14; reverted

2; insoluble 1; total 17; available 16; phosphoric acid from high grade phosphate rock. **Found:** phosphoric acid, soluble 15.91; reverted 3.39; insoluble 0.15; total 19.45; available 19.30.

Remark. Phosphoric acid more than 1% above guarantee.

6716. **Bradley's Dissolved Phosphate and Potash.** C. H. Beall, Agent, Wellsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.03; potash 2; phosphoric acid ⅕ to ⅖ from animal bone, ⅗ to ⅘ from high grade phosphate rock. Nitrogen ⅕ to ⅖ from garbage tankage rendered available. ⅕ to ⅖ from animal tankage, ⅕ to⅖ from sulphate of ammonia. Potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 6.26; reverted 1.92; insoluble 0.93; total 9.11; available 8.18; potash 2.20; nitrogen 0.93; availability of nitrogen 81; chlorine 1.7.

Remark. Nitrogen low.

6717. **Bradley's Bean & Potato Phosphate.** O. R. Carmen, Agent, Wellsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 4; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock. Nitrogen ⅕ to ⅖ from garbage tankage rendered available, ⅕ to ⅖ from animal tankage, ⅕ to ⅖ from sulphate of ammonia. Potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid soluble 6.24; reverted 2.79; insoluble 1.14; total 10.17, available 9.03; nitrogen 0.88; potash 4.14; availability of nitrogen 82; chlorine 2.

Remark. Phosphoric acid more than 1% above guarantee.

6815. **Bradley's Alkaline Phosphate and Potash.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 2; phosphoric acid from high grade phosphate rock; potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.93; reverted 2.86; insoluble 0.42; total 11.21; available 10.79; potash 2.16; chlorine 5.5.

Remark Chlorine excessive.

6818. **Bradley's Niagara Phosphate.** Nuzum & Robinson, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 2; insoluble 1; total 8; available 7; nitrogen 0.82; potash 1; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available. ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate ammonia; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 5.26; reverted 2.93; insoluble 1.26; total 9.45; available 8.19; nitrogen 0.90; potash 1.19; availability of nitrogen 63; chlorine 6.9.

Remark. Chlorine excessive. Availability of nitrogen too low for materials guaranteed. Phosphoric acid more than 1% above guarantee.

6819. **Bradley's Justice Brand Phosphate...** Johnson Implement Company, Agent, Parkersburg, W. Va. **Guarantee:** Phosphoric acid, soluble 10; reverted 2; insoluble 1.50; total 13.50; available 12; phosphoric acid from high grade phosphate rock. **Found:** Phosphoric acid soluble 7.14 reverted 5.87; insoluble 1.61; total 14.62; available 13.01.

Remark. Phosphoric acid more than 1% above guarantee.

6820. **Bradley's Corn and Wheat Phosphate.** Johnson Implement Company, Agent, Parkersburg, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1.50; total 9.50; available 8; nitrogen 0.82; potash 2; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available, ⅕ to ⅖ from animal tankage, ⅕ to ⅖ from sulphate of ammonia. Potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 4.39; reverted 3 78; insoluble 1.79; total 9.96; available 8.17; nitrogen 1.16; potash 2.14; availability of nitrogen 77; chlorine 3.2.

Remark. Chlorine excessive.

6732. **Canton Chemical C. C. C. Special Compound.** J. M. Hagerty, Agent, Farmington, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; availa-

ble 8; nitrogen 2.06; potash 6; phosphoris acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available, ⅕ to ⅖ from animal tankage, ⅕ to ⅗ from sulphate of ammonia; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.35; reverted 1.39; insoluble 0.69; total 9.43; available 8.74; nitrogen 1.98; potash 6.39; availability of nitrogen, 82; chlorine 1.3.

6733. **Canton Chemical Harrow Brand Crop Grower.** J. M. Hagerty, Agent, Farmington, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 1; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from a high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 6.26; reverted 3.24; insoluble 0.88; total 10.38; available 9.50; nitrogen 0.73; potash 2.26; availability of nitrogen 76; chlorine 3.8.

Remark. Chlorine excessive; phosphoric acid more than 1% above guarantee. Potash more than 1% above guarantee.

6734. **Canton Chemical Potato & Tobacco Manure.** J. M. Hagerty, Agent, Farmington, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; total 7; available 6; nitrogen 1.23; potash 5; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ sulphate of ammonia. Potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 4.32; reverted 3.18; insoluble 1.08; total 8.58; available 7.50; nitrogen 1.47; potash 4.82; availability of nitrogen 80; chlorine 2.6.

Remark. Phosphoric acid more than 1% above guarantee.

6754. **Canton Chemical Soluble Phosphate and Potash.** Weidenhamer Grocery Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 2; phosphoric acid

from high grade phosphate rock; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.88; reverted 2.47; insoluble 0.63; total 11.; available 10.37; potash 2.20; chlorine 4.1.

Remark. Chlorine excessive.

6840. **Canton Chemical Baker's Special Wheat, Corn and Grass Mixture.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 7; reverted 2; insoluble 1; total 10; available 9; nitrogen 0.82; potash 2; phosphoric acid ⅕ to ⅖ from animal bone; ⅖ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ sulphate of ammonia; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 6.95; reverted 3.14; insoluble 1.39; total 11.48; available 10.09; nitrogen 0.93; potash 2.02; availability of nitrogen 72; chlorine 3.

Remark. Availability of nitrogen too low for materials guaranteed. Phosphoric acid more than 1% above guarantee.

6763. **Canton Chemical Baker's Special Wheat, Corn and Grass Mixture.** Weidenhamer Grocery Company, Agent, Buckhannon, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, soluble 6.63; reverted 2.67; insoluble 1.01; total 10.31; available 9.30; nitrogen 0.83; potash 2.38; availability of nitrogen 73; chlorine 2.6.

Remark. Availability of nitrogen too low for materials guaranteed.

6756. **Canton Chemical Baker's Dissolved S. C. Phosphate.** Weidenhamer Grocery Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 1; total 15; available 14; phosphoric acid from high grade phosphate rock. **Found:** Phosphoric acid, soluble 10.68; reverted 4.03; insoluble 0.99; total 15.60; available 14.61.

6831. **Cleveland Dryer Horsehead Phosphate and Potash.** West Charleston Feed Company, Agent, Charleston, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble

1; total 11; available 10; potash 2; phosphoric acid from high grade phosphate rock; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble **3.21**; reverted 8.31; insoluble 1.21; total 12.73; available 11.52; potash 2.13; chlorine 0.9.

Remark. Phosphoric acid more than 1% above guarantee. Source of potash better than guarantee.

6773. **Detrick Standard Potash Fertilizer.** Submitted for analysis by Trippett & Company, Independence, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; total 7; available 6; nitrogen 1.23; potash 5; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble **3.38**; reverted 2.35; insoluble 0.84; total **6.57**; available **5.73**; nitrogen 1.36; potash 5.83; availability of nitrogen 85; chlorine 3.2.

Remark. Chlorine excessive. Phosphoric acid low.

6718. **Detrick Standard Potash Fertilizer.** C. H. Beall, Agent, Wellsburg, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, soluble 4.55; reverted 1.97; insoluble 0.43; total 6.95; available 6.52; nitrogen 1.20; potash 5.08; availability of nitrogen 84; chlorine 1.9.

6830. **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 ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** phosphoric acid soluble 4.72; reverted 4.73; insoluble 2.35; total 11.80; available 9.45; nitrogen 1.08; potash 2.32; availability of nitrogen 89; chlorine 1.

Remark. Source of potash better than guaranteed. Phosphoric acid more than 1% above guaranteed.

6843. **Detrick's Kangaroo Komplete Kompound.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphric acid soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.65; potash 3; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅗ from sulphate of ammonia; potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid soluble 5:32; reverted 3.80; insoluble 1.29; total 10.41; available 9.12; nitrogen 1.72; potash 3.28; availability of nitrogen 80; chlorine 2.1.

Remark. Phosphoric acid more than 1% above guarantee.

6739. **Great Eastern Corn Fertilizer.** Farmington Mill Company, Agent, Farmington, W. Va. **Guarantee:** Phosphoric acid soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 4; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock, nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅗ from sulphate of ammonia; potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 5.29; reverted 2.90; insoluble 0.98; total 9.17; available 8.19; nitrogen 0.94; potash 4; availability of nitrogen 77; chlorine 2.7.

6740. **Great Eastern Soluble Acid** Phosphate **& Potash.** Farmington Mill Company, Agent, Farmington, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 2; phosphoric acid from high grade phosphate rock; potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.26; reverted 3.17; insoluble 0.54; total 10.97; available 10.43; potash 2.40; chlorine 4.4.

Remark. Chlorine excessive.

6741. **Great Eastern Japanese Wheat Grower.** Farmington Mill Company, Agent, Farmington, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1;

total 7; available 6; potash 3; phosphoric acid from high grade phosphate hock, potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 3.92; reverted 2.76: insoluble 0.55; total 7.23; available 6.68; potash 3.23; chlorine 5.0.

Remark. Chlorine excessive.

6742. **Great Eastern High Grade Acid Phosphate and Potash.** Farmington Mill Company, Agent, Farmington, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 5; phosphoric acid from high grade phosphate rock, potash ⅓ to⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.77; reverted 2.40; insoluble 0.71; total 10.88; available 10.17; potash 5.81; chlorine 2.5.

6764. **Lazaretto Dissolved Phosphate.** A. P. Russel & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 1; total 15; available 14; phosphoric acid from high grade phosphate rock. **Found:** Phosphoric acid soluble 10.97; reverted 3.87; insoluble 0.85; total 15.69; available 14.84.

6703. **Maryland Tornado Fertilizer.** Leslie Hawker, Agent, Shinnston, W. Va. **Guarantee:** Phosphoric acid, soluble 10; reverted 2; insoluble 1; total 13; available 12; potash 5; phosphoric acid from high grade phosphate rock; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 9.31; reverted 2.56; insoluble 0.64; total 12.51; available 11.87; potash 5.60; chlorine 1.8.

6765. **Maryland Special Compound for Potatoes and Tobacco.** A. P. Russell & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.65; potash 10; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash ⅓ to ⅔ kainit; ⅓ to ⅔

muriate. **Found:** Phosphoric acid, soluble 4.38; reverted 4.04; insoluble 1.29; total 9.71; available 8.42; nitrogen 1.57; potash 9.65; availability of nitrogen 82; chlorine 1.

Remark. Potash low. Source of potash better than guarantee.

6795. **Pacific Nobsque Guano.** S. L. Brown, Agent, Sring Creek, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.03; potash 2; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage, ⅕ to ⅖ from sulphate of ammonia; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 4.90; reverted 3.15; insoluble 0.87; total 8.92; available 8.05; nitrogen 1; potash 1.99; availability of nitrogen 80; chlorine 3.9.

Remark. Chlorine excessive.

6845. **Reese's High Grade Potash Mixture.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 10; reverted 2; insoluble 1; total 13; available 12; potash 5; phosphoric acid from high grade phosphate rock; potash ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 10.33; reverted 2.61; insoluble 0.75; total 13.69; available 12.94; potash 5.95; chlorine 1.7.

6712. **Williams & Clark's Prolific Fertilizer.** Wheeling Implement & Buggy Company, Agent, Wheeling, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 2; insoluble 1; total 8; available 7; nitrogen 0.82; potash 1; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia. Potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 5.96; reverted 2.16; insoluble 0.99; total 9.11; available 8.12; nitrogen 0.95; potash 1.42; availability of nitrogen 75; chlorine 1.5.

Remark. Phosphoric acid more than 1% above guarantee.

6817. **Williams & Clark's Good Grower Potato Phosphate.** H. Howell, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; total 7; available 6; nitrogen 1.23; potash 5; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage, ⅕ to ⅖ from sulphate of ammonia. Potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble3.51; reverted 2.93; insoluble 0.97; total 7.41; available 6.44; nitrogen 1.42; potash 5.32; availability of nitrogen 87; chlorine 3.3.

Remark. Chlorine excessive.

6713. **Williams & Clark's Good Grower Potato Phosphate.** Wheeling Implement & Buggy Company, Agent, Wheeling, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, soluble 5.18; reverted 1.63; insoluble 0.45; total 7.26; available 6.81; nitrogen 1.24; potash 5.21; availability of nitrogen 82; chlorine 1.9.

6714. **Williams & Clark's Dissolved Phosphate & Potash.** O. R. Carmen, Agent, Wellsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 2; phosphoric acid from high grade phosphate rock; potash, ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.73; reverted 4.01; insoluble 1.19; total 12.83; available 11.64; potash 2.20; chlorine 2.3.

Remark. Phosphoric acid more than 1% above guarantee.

6794. **Williams & Clark's Acorn Acid Phosphate.** A. G. Crislip, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 1; total 15; available 14; phosphoric acid from high grade phosphate rock. **Found:** Phosphoric acid, soluble 10.86; reverted 3.84; insoluble 0.48; total 15.18; available 14.70.

6715. **Zell's Economizer Phosphate.** C. R. Carmen, Agent, Wellsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitro-

ge 0.82; potash 2; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.04; reverted 1.40; insoluble 1.17; total 9.61; available 8:44; nitrogen 1; potash 2.21; availability of nitrogen 80; chlorine 1.7.

6729. **Zell's Special Compound for Potatoes and Vegetables.** Farmers Supply Company, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 2.47; potash 4; phosphoric acid ⅕ to ⅖ from animal bone, ⅗ to ⅘ from high grade phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash, ⅓ to ⅔ kainit; ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble4.86; reverted 3.04; insoluble 1.28; total 9.18; available 7.90; nitrogen 2.58; potash 4.95; availability of nitrogen 91; chlorine 1.4.

6768. **Zell's Dissolved Phosphate.** G. T. Hodges, Agent, Shepherdstown, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 1; total 15; available 14; phosphoric acid from high grade phosphate rock. **Found:** Phosphoric acid, soluble 11.72; reverted 2.69; insoluble 1.82; total 16.23; available 14.41.

6792. **Zell's Electric Phosphate.** G. T. Hodges, Agent, Shepherdstown, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 2; phosphoric acid from high grade phosphate rock; potash, ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble 7.84; reverted 2.84; insoluble 0.83; total 11.51; available 10.68; potash 2.34; chlorine 3.4.

Remark. Chlorine excessive.

6833. **Zell's Little Giant.** Blue Grass Mill & Supply Company, Agent, Lewisburg, W. Va. **Guarantee:** Phosphor-

ic acid, soluble 5; reverted 2; insoluble 1; total 8; available 7; nitrogen 0.82; potash 1; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from high grade phosphate rock; nitrogen, ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash ⅓ to ⅔ kainit, ⅓ to ⅔ muriate. **Found:** Phosphoric acid, soluble **4.18**; reverted 4.59; insoluble 1.35; total 10.12; available 8.77; nitrogen 0.86; potash 1.20; availability of nitrogen 72; chlorine 6.

Remark. Chlorine excessive, availability of nitrogen, too low for materials guaranteed. Phosphoric acid more than 1% above guarantee.

ARMOUR FERTILIZER WORKS, BALTIMORE, MD.

6726. **Royal Ammoniated.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 0.50; total 8.50; available 8; nitrogen 0.82; potash 4; phosphoric acid, ⅖ to ⅗ from acid phosphate; ⅖ to ⅗ from bone meal; nitrogen, ⅖ to ⅗ from ground animal tankage; ⅗ to ⅗ from bone meal; potash ⅕ to ⅖ from kainit; ⅗ to ⅘ muriate of potash. **Found:** Phosphoric acid, soluble **4.90**; reverted 3.41; insoluble 1.15; total 9.46; available 8.31; nitrogen 0.93; potash 4.32; availability of nitrogen 60; chlorine 2.3.

Remark. Availability of nitrogen, too low for materials guaranteed.

6727. **Sure Crop.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 0.50; total 8.50; available 8; potash 5; phosphoric acid from acid phosphate; potash ⅖ to ⅗ kainit; ⅖ to ⅗ muriate. **Found:** Phosphoric acid, soluble **5.04**; reverted 2.78; insoluble 0.68; total 8.50; available **7.82**; potash 5.40; chlorine 2.1.

6841. **Phosphate and Potash No. 1.** Submitted for analysis by J. W. Gillaspie, Cottageville, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 0.50; total 10.50; available 10; potash 2; phosphoric acid from acid phosphate; potash from kainit. **Found:** Phosphoric acid, soluble

6.38; reverted 4.07; insoluble 0.33; total 10.78; available 10.45; potash 2.40; chlorine 3.

6728. **Phosphate and Potash No. 1.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, soluble 7.35; reverted 2.63; insoluble 0.99; total 10.97; available 9.98; potash 2.17; chlorine 2.7.

6755. **Acid Phosphate.** R. N. Stewart & Son, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 14; reverted 2; insoluble 0.50; total 16.50; available 16; phosphoric acid from acid phosphate. **Found:** Phosphoric acid, soluble 15.01; reverted 2.23; insoluble 0.40; total 17.64; available 17.24.

Remark. Phosphoric acid more than 1% above guarantee.

6731. **Acid Phosphate.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, soluble 13.76; reverted 2.54; insoluble 0.47; total 16.77; available 16.30.

6757. **Bone Meal.** Bishop & Barbe, Agent, Jane Lew, W. Va. **Guarantee:** Phosphoric acid, reverted 10; insoluble 12.50; total 22.50; available 10; nitrogen 2.47; phosphoric acid from animal bone; nitrogen from animal bone. **Found:** Phosphoric acid, total 22.72; nitrogen 2.54; availability of nitrogen 87.

6842. **Bone Meal.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Reverted 10; insoluble 14; total 24; available 10; nitrogen 2.47; phosphoric acid from animal bone; nitrogen from bone. **Found:** Phosphoric acid, total 24.40; nitrogen 2.47; availability of nitrogen 88.

Remark. Not registered this year.

6834. **Wheat, Corn and Oats Special.** G. F. Eliis & Son, Hurricane, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 1; insoluble 0.50.; total 7.50; available 7; nitrogen 0.82; potash 1; phosphoric acid ⅔ to ⅗ from acid phosphate;

⅖ to ⅗ from bone meal; nitrogen ⅕ to ⅗ from ground animal tankage; ⅖ to ⅘ from bone meal; potash from kainit. **Found:** Phosphoric acid, soluble 3.55; reverted 5.67; insoluble 1.11; total 10.33; available 9.22; nitrogen 0.92; potash 1.50; availability of nitrogen 85; chlorine 5.1.

Remark. Chlorine excessive. Sample not properly tagged. Phosphoric acid more than 1% above guarantee.

6829. **West Virginia Tobacco Grower.** G. F. Ellis & Sons, Agent, Hurricane, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 0.50; total 8.50; available 8; nitrogen 0.82; potash 4; phosphoric acid ⅖ to ⅗ from acid phosphate; ⅖ to ⅗ from bone meal; nitrogen ⅖ to ⅗ from ground animal tankage; ⅖ to ⅗ from bone meal. Potash from sulphate of potash. **Found:** Phosphoric acid, soluble 4.64; reverted 4.16; insoluble 1.26; total 10.06; available 8.80; nitrogen 1; potash 4.95; availability of nitrogen 86; chlorine 0.07.

6759. **Crop Grower.** Bishop & Barbe, Agent, Jane Lew, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 0.50; total 8.50; available 8; nitrogen 0.82; potash 2; phosphoric acid ⅖ to ⅗ from acid phosphate; ⅖ to ⅗ from bone meal; nitrogen ⅕ to ⅖ from ground animal tankage; ⅖ ⅘ from bone meal; potash ⅖ to ⅗ from kainit; ⅖ to ⅗ from muriate. **Found:** Phosphoric acid, soluble 6.47; reverted 1.72; insoluble 0.69; total 8.88; available 8.29; nitrogen 0.80; potash 2.61; availability of nitrogen 77; chlorine 2.7.

Remark. Chlorine excessive.

6760. **Star Phosphate.** Bishop & Barbe, Agent, Jane Lew, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 0.50; total 14.50; available 14; phosphoric acid from acid phosphate. **Found:** Phosphoric acid, soluble 12.78; reverted 2.32; insoluble 0.60; total 15.80; available 15.20.

Remark. Phosphoric acid more than 1% above guarantee.

6761. **Wheat and Clover.** T. B. Drummond & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid,

soluble 8; reverted 2; insoluble 0.50; total 10.50; available 10; potash 5; phosphoric acid from acid phosphate; potash ⅗ to ⅗ from kainit; ⅗ to ⅗ from muriate. **Found:** Phosphoric acid, soluble 6.34; reverted 3.47; insoluble 0.80; total 10.61; available 9.81; potash 5.57; chlorine 2.

6762. **Potash Mixture.** T. B. Drummond & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, soluble 4.50; reverted 1.50; insoluble 0.50; total 6.50; available 6; potash 3; phosphoric acid from acid phosphate, potash from kainit. **Found:** Phosphoric acid, soluble 3.95; reverted 2.30; insoluble 0.82; total 7.07; available 6.25; potash 2.73; chlorine 2.8.

6783. **Dissolved Animal Bone.** R. N. Stewart & Son, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 3; insoluble 7; total 18; available 11; nitrogen 1.65; phosphoric acid from bone meal; nitrogen from bone meal. **Found:** Phosphoric acid, soluble 5.87; reverted 7.19; insoluble 5.92; total 18.98; available 13.06; nitrogen 1.88; availability of nitrogen 88.

Remark. Phosphoric acid more than 1% above guarantee.

ATLANTIC FERTILIZER CO., BALTIMORE, MD.

6746. **Matchless A. B. C. Food.** Submitted for analysis by B. A. Poland, Levels, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.41; potash 3; phosphoric acid from acid phosphate; nitrogen from bone tankage; potash from manure salts. **Found:** Phosphoric acid, soluble 9.45; reverted 2.28; insoluble 1.19; total 12.92; available 11.73; nitrogen 0.52; potash 3.54; availability of nitrogen 79; chlorine 0.9.

Remark. Phosphoric acid more than 1% above guarantee.

6758. **Arrow Brand Special.** T. B. Drummond & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 4; phosphoric acid from acid phosphate

bone tankage; nitrogen from bone tankage; potash ⅔ muriate, ⅓ kainit. **Found:** Phosphoric acid, soluble 7. 73; reverted 1.96; insoluble 1.24; total 10.93; available 9.69; nitrogen 0.87; potash 3.82; availablity of nitrogen 82; chlorine 1.9.

Remark. Phosphoric acid more than 1% above guarantee.

BAUGH & SONS COMPANY, PHILADELPHIA, PA., NORFOLK, VA.

6743. **Baugh's Raw Bone Meal,(Warranted Pure).** Submitted for analysis by Robert T. Powell, Levels, W. Va. **Guarantee:** Phosphoric acid, total 21.50; nitrogen 3.70; phosphoric acid from animal bone; nitrogen from animal bone; **Found:** Phosphoric acid, total 21.24; nitrogen 4.04; availability of nitrogen 84.

6687. **Baugh's Raw Bone Meal. (Warranted pure).** John Krepps, Agent, Morgantown, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, total 21.19; nitrogen 3.85; availability of nitrogen 80..

Remark. Phosphoric acid low.

6692. **Baugh's Double Eagle Twenty-Fve Dollar Phosphate.** Arch Fleming, Agent, Fairmont, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10.50; available 8.50; nitrogen 1.65; potash 1; phosphoric acid from phosphate rock; nitrogen ⅔ from animal tankage, ⅓ from sulphate of ammonia; potash from kainit. **Found:** Phosphoric acid, soluble 6.59; reverted 1.96; insoluble 1.20; total 9.75; available 8.55; nitrogen 1.74; potash 1.28; availability of nitrogen 85; chlorine 2.5.

6693. **Baugh's Complete Animal Base Fertilizer.** Arch Fleming, Agent, Fairmont, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10; available 8; nitrogen 1.65; potash 5; phosphoric acid from phosphate rock; nitrogen ⅔ from animal tankage; ⅓ from sulphate of ammonia; potash ½ from muriate of potash; ½ from kainit. **Found:** Phosphoric acid, soluble 6.42; reverted 1.88; insoluble 0.88; total 9.18; available 8.30; nitrogen 1.66; potash 5.09; availability of nitrogen 84; chlorine 1.4.

6694. **Baugh's 16% Acid Phosphate.** Arch Fleming, Agent, Fairmont, W. Va. **Guarantee:** Phosphoric acid, insoluble 1; total 17; available 16; phosphoric acid from dissolved phosphate rock. **Found:** Phosphoric acid, soluble 14.53; reverted 2.37; insoluble 1.57; total 18.47; available 16.90.

6695. **Baugh's Potato & Truck Special for all Truck Crops.** Arch Fleming, Agent, Fairmont, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 9; available 7; nitrogen 2.88; potash 7; phosphoric acid from phosphate rock; nitrogen ½ from animal tankage; ½ from sulphate of ammonia; potash from muriate of potash. **Found:** Phosphoric acid, soluble 6.14; reverted 1.63; insoluble 0.41; total 8.18; available 7.67; nitrogen 3.01; potash 7.24; availability of nitrogen 94; chlorine 0.8.

6696. **Baugh's Peruvian Guano Substitute for Potatoes and all Vegetables.** Arch Fleming, Agent, Fairmont, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 8; available 6; nitrogen 4.12; potash 7; phosphoric acid from Phosphate rock; nitrogen ½ from animal tankage, ½ from sulphate of ammonia; potash from muriate of potash. **Found:** Phosphoric acid, soluble 4.99; reverted 1.44; insoluble 0.46; total 6.89; available 6.43; nitrogen 4.06; potash 6.76; availability of nitrogen 96; chlorine 0.8.

6774. **Baugh's General Crop Grower for all Crops.** Submitted for analysis by Trippett & Company, Independence, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10; available 8; nitrogen 0.82; potash 1; phosphoric acid from phosphate rock; nitrogen ½ from animal tankage; ½ from garbage tankage; potash from kainit. **Found:** Phosphoric acid, soluble 0.82; reverted 7.15; insoluble 2.25; total 10.22; available 7.97; nitrogen 0.97; potash 1.22; availability of nitrogen 66; chlorine 3.

6701. **Baugh's General Crop Grower for all Crops.** R. T. Lowndes, Agent, Clarksburg, W. Va. **Guarantee:** (As above) **Found:** Phosphoric acid, soluble 6.24; reverted 2.60; insolu-

ble 0.61; total 9.45; available 8.84; nitrogen 1.06; potash 1.23; availibility of nitrogen 84; chlorine 2.

Remark. Source of nitrogen better than guaranteed.

6702. **Baugh's Wheat Fertilizer for Wheat and Grass.** R. T. Lowndes, Agent Clarksburg, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10; available 8; nitrogen 1.65; potash 2; phosphoric acid from phosphate rock; nitrogen ⅔ from animal tankage; ⅓ from sulphate of ammonia; potash ½ from muriate of potash; ½ from kainit. **Found:** Phosphoric acid, soluble 5.33; reverted 3.97; insoluble 2.98; total 12.28; available 9.30; nitrogen 1.98; potash 2.04; availability of nitrogen 87; chlorine 2.8.

Remark. Chlorine excessive. Phosphoric more than 1% above guarantee.

6736. **Baugh's Excelsior Guano.** Conoway & Clayton, Agent, Barrackville, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10; available 8; nitrogen 0.82; potash 4; phosphoric acid from phosphate rock; nitrogen ½ from animal tankage; ½ from garbage tankage; potash, ½ from kainit; ½ from muriate of potash. **Found:** Phosphoric acid, soluble 5.71; reverted 2.24; insoluble 0.78; total 8.73; available 7.95; nitrogen 0.89; potash 4.23; availability of nitrogen 69; chlorine 2.

6737. **Baugh's Special Potato Manure.** Conoway & Clayton, Agent, Barracksville, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 7; available 5; nitrogen 1.65; potash 10; phosphoric acid from phosphate rock; nitrogen ⅔ from animal tankage; ⅓ from sulphate of ammonia; potash from muriate of potash. **Found:** Phosphoric acid, soluble 2.97; reverted 2.39; insoluble 0.70; total 6.06; available 5.36; nitrogen 1.70; potash 9.40; availability of nitrogen 90; chlorine 1.3.

Remark. Potash low.

6738. **Baugh's Animal Base Potash Compound for all Crops.** Conoway & Clayton, Agent, Barrackville, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10; available

8; nitrogen 1.65; potash 2; phosphoric acid from phosphate rock; nitrogen ⅔ from animal tankage; ⅓ from sulphate of ammonia; potash, ½ from muriate of potash; ½ from kainit. **Found:** Phosphoric acid, soluble 6.02; reverted 2.27; insoluble 0.47; total 8.76; available 8.29; nitrogen 1.70; potash 2.10; availability of nitrogen 87; chlorine 2.8.

Remark. Chlorine excessive.

BOWKER'S FERTILIZER COMPANY, BOSTON AND NEW YORK.

6744. **Bowker's 10% Manure.** Submitted for analysis by B. A. Poland, Levels, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 1; insoluble 1; total 6; available 5; nitrogen 0.82; potash 10; phosphoric acid ⅕ to ⅖ from animal bone; ⅗ to ⅘ from phosphate rock; nitrogen ⅕ to ⅖ from garbage tankage rendered available; ⅕ to ⅖ from animal tankage; ⅕ to ⅖ from sulphate of ammonia; potash ⅓ to ⅔ from kainit; ⅓ to ⅔ from muriate. **Found:** Phosphoric acid, soluble 3.30; reverted 2.43; insoluble 0.70; total 6.43; available 5.73; nitrogen 0.92; potash 10.80; availability of nitrogen 71; chlorine 1.3.

Remark. Availability of nitrogen too low for materials guaranteed.

6821. **Bowker's Bone Meal.** Orie Myers, Agent, Clarksburg, W. Va. **Guarantee:** Phosphoric acid, total 25; nitrogen 1.23; phosphoric acid from animal bone; nitrogen from animal bone. **Found:** Phosphoric acid, total 30.41; nitrogen 1.23; availability of nitrogen 99.

Remark. Phosphoric acid more than 1% above guarantee.

GRIFFITH & BOYD COMPANY, BALTIMORE, MD.

6769. **XX Potash Manure.** T. P. Licklider, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 7; reverted 3; insoluble 1; total 11; available 10; potash 5; phosphoric acid from S. C .rock; potash ½ from muriate of potash; ½ from kainit. **Found:** Phosphoric acid, soluble 5.08;

reverted 6.69; insoluble 0.63; total 12.40; available 11.77; potash 5.20; chlorine 2.

Remark. This sample was tagged Gem Phosphate. Phosphoric acid more than 1% above guarantee.

6770. **Farmers' Potato Manure.** T. P. Licklider, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 7; reverted 1; insoluble 1; total 9; available 8; nitrogen 0.85; potash 9; phosphoric acid from S. C. rock ⅓, low grade bone tankage ⅓; dissolved bone ⅓; nitrogen from low grade bone tankage ⅓; dissolved bone ⅓; fish ⅓; potash ½ from muriate of potash; ¼ from sulphate of potash; ¼ from kainit. **Found:** Phosphoric acid, soluble 2.45; reverted 5.08; insoluble 2.32; total 9.85; available 7.53; nitrogen 1.05; potash 8:16; availability of nitrogen 81; chlorine 1.1.

Remark. Phosphoric acid low; potash low.

THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.

6784. **Hubbard's 14% Phosphate.** T. P. Licklider, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 2; total 16; available 14; phosphoric acid from phosphate rock. **Found:** Phosphoric acid, soluble 13.22; reverted 3.60; insoluble 1.84; total 18.66; available 16.82.

Remark. Phosphoric acid more than 1% above guarantee.

6788. **Hubbard's Special Mixture 10 & 4.** G. T. Hodges, Agent, Shepherdstown, W. Va. **Guarantee:** Phosphoric acid, soluble 8.50; reverted 1.50; insoluble 2; total 12; available 10; potash 4; phosphoric acid from phosphate rock; potash from sylvinit. **Found:** Phosphoric acid, soluble 7.58; reverted 4.68; insoluble 0.79; total 13.05; available 12.26; potash 4.06; chlorine 2.9.

Remark. Phosphoric acid more than 1% above guarantee.

THE JARECKI CHEMICAL COMPANY, CINCINNATI, OHIO.

6826. **No. 1 Guano with Phosphate and Potash.** Harbour & Burdett, 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 mineral phosphate; bone and animal tankage; potash from muriate; nitrogen from animal tankage. **Found:** Phosphoric acid, soluble 4.94; reverted 4.18; insoluble 0.82; total 9.94; available 9.12; nitrogen 0.97; potash 2.54; availability of nitrogen 74; chlorine 1.

Remark Not registered this year. Phosphoric acid more than 1% above guarantee.

6827. **No. 1. Formula.** Harbour & Burdette, 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 mineral phosphate, bone and animal tankage; nitrogen from animal matter; potash from muriate of potash. **Found:** Phosphoric acid, soluble 5.63; reverted 3.55; insoluble 0.57; total 9.75; available 9.18; nitrogen 0.94; potash 2.27; availability of nitrogen 75; chlorine 1.

Remark. Phosphoric acid more than 1% above guarantee.

6828. **Fish Phosphate and Potash Tobacco and Potato Food.** Harbour & Burdette, Agent, Hurricane, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 4; phosphoric acid from mineral phosphate, bone and animal tankage; nitrogen from animal matter; potash from muriate of potash. **Found:** Phosphoric acid, soluble 4.72; reverted 4.43; insoluble 0.47; total 9.62; available 9.15; nitrogen 0.99; potash 4.24; availabiity of nitrogen 72; chlorine 1.

Remark. Phosphoric acid more than 1% above guarantee.

THE MARIETTA BONE AND PHOSPHATE COMPANY, MARIETTA, OHIO.

6719. **Pure Raw Bone.** C. F. Braumlich, Agent, Wheeling, W. Va. **Guarantee:** Phosphoric acid, total 20; nitrogen 3.70; phosphoric acid from bone; nitrogen from bone. **Found:** Phosphoric acid, total 20.21; nitrogen 4.40; availability of nitrogen 86.

6720. **Corn, Oats and Wheat Grower.** C. F. Braumlich, Agent, Wheeling, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10; available 8; nitrogen 0.82; potash 2; phosphoric acid ⅔ from acid phosphate; ⅓ from animal tankage; nitrogen from animal tankage; potash from muriate. **Found:** Phosphoric acid, soluble 4.23; reverted 4.20; insoluble 1.89; total 10.32; available 8.43; nitrogen 0.72; potash 2.28; availability of nitrogen 88; chlorine 0.8.

Remark. Nitrogen low.

6721. **Potato and Truck Special.** C. F. Braumlich, Agent, Wheeling, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 10; available 8; nitrogen 2.05; potash 6; phosphoric acid ⅔ from acid phosphate ⅓ from animal tankage; nitrogen ½ from nitrate of soda; ½ from animal tankage; potash from muriate. **Found:** Phosphoric acid, soluble 2.32; reverted 6.34; insoluble 1.47; total 10.13; available 8.66; nitrogen 1.75; potash 6.13; availability of nitrogen 93; chlorine 0.9.

Remark. Nitrogen low.

6722. **Acid Phosphate.** C. F. Braumlich, Agent, Wheeling, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 14; available 12; phosphoric acid from acid phosphate. **Found:** Phosphoric acid, soluble 7.18; reverted 4.52; insoluble 0.94; total 12.64; available 11.70.

Remark. Phosphoric acid low.

THE MILLER FERTILIZER COMPANY, BALTIMORE, MD.

6697. **Hustler Phosphate.** Nuzum & Robinson, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 3; insoluble 0.50; total 8.50; available 8; nitrogen 0.82;

potash 1; phosphoric acid 3-20 from bone and slaughter house tankage; 1-20 from garbage tankage; ⅘ from acid phosphate; nitrogen ⅕ from sulphate of ammonia; ⅗ from bone and slaughter house tankage; ⅗ from garbage tankage; potash from kainit. **Found:** Phosphoric acid, soluble 3.80; reverted 4.30; insoluble 0.50; total 8.60; available 8.10; nitrogen 1.02; potash 1.58; availabiity of nitrogen 70; chlorine 2.8.

6698. **Acid Phosphate.** Nuzum & Robinson, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 11; reverted 3; insoluble 0.50; total 14.50; available 14; phosphoric acid from phosphate rock. **Found:** Phosphoric acid, soluble 8.01; reverted 8.59; insoluble 0.45; total 17.05; available 16.60.

Remark. Phosphoric acid more than 1% above guarantee.

6699. **Club Brand.** Nuzum & Robinson, Agent Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 3; insoluble 0.50; total 8.50; available 8; nitrogen 0.42; potash 2; phosphoric acid 3-20 from bone and slaughter house tankage; 1-20 from garbage tankage; ⅘ from acid phosphate; nitrogen ½ from bone and slaughter house tankage; ½ from garbage tankage; potash ½ from kainit, ½ from manure salt. **Found:** Phosphoric acid, soluble 3.46; reverted 3.82; insoluble 1.65; total 8.93; available 7.28; nitrogen 055; potash 2.22; availability of nitrogen 49.; chlorine 2.8.

Remark. Phosphoric acid low.

6705. **Potato and Vegetable Grower.** Nuzum & Robinson, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 3; insoluble 0.50; total 8.50; available 8; nitrogen 1.65; potash 4; phosphoric acid ⅓ from bone tankage; ⅔ from acid phosphate; nitrogen ⅓ from sulphate of ammonia; ⅔ from bone tankage; potash from manure salt. **Found:** Phosphoric acid, soluble 3.95; reverted 4.08; insoluble 0.43; total 8.46; available 8.03; nitrogen 1.65; potash 3.96; availability of nitrogen 86; chlorine 2.2.

6706. **Ammoniated Dissolved Bone.** Nuzum and Robinson, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid,

soluble 5; reverted 3; insoluble 0.50; total 8.50; available 8; nitrogen 1.65; potash 2; phosphoric acid ⅓ from bone tankage, ⅔ from acid phosphate; nitrogen ⅓ from sulphate of ammonia; ⅔ from bone tankage; potash ½ from kainit; ½ from manure salt. **Found:** Phosphoric acid, soluble3.98; reverted 4.28; insoluble 0.69; total 8.95; available 8.26; nitrogen 1.56; potash 2.17; availability of nitrogen 86; chlorine 2.5.

6798. **M. B. S.** Gay N. McLaughlin, Agent, Marlington, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 2; insoluble 0.50; total 7.50; availabie 7; nitrogen 0.83; potash 3; phosphoric acid 3-20 from bone and slaughter house tankage, 1-20 from garbage tankage; ⅘ from acid phosphate; nitrogen ⅕ from sulphate of ammonia; ⅗ from bone and slaughter house tankage; ⅗ from garbage tankage; potash from manure salt. **Found:** Phosphoric acid, soluble 2.39; reverted 4.68; insoluble 1.03; total 8.10; available 7.07; nitrogen 0.98; potash 3.24; availability of nitrogen 65; chlorine 3.

Remark. Phosphoric acid low. Availability of nitrogen too low for materials guaranteed. Chlorine excessive.

D. B. MARTIN & COMPANY, PHILADELPHIA, PA., BALTIMORE, MD., MONTREAL, CANADA.

6801. **Martin's Dissolved Organic Compound, (Bull Head).** Submitted for analysis by J. C. Burns, Charles Town, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 3; insoluble 2; total 11; available 9; nitrogen 1.03; potash 2; phosphoric acid from animal bone ¼; and phosphate rock ¾; nitrogen ¼ from bone; and ¾ from animal tankage; potash from kainit. **Found:** Phosphoric acid, soluble 9.61; reverted 2.33; insoluble 0.50; total 12.44; available 11.94; nitrogen 1.16; potash 3.70; availability of nitrogen 84; chlorine 2.2.

Remark. Phosphoric acid more than 1% above guarantee. Potash more than 1% above guarantee.

6802. **Martin's Corn and Cereal Special, (Bull Head).** Submitted for analysis by J. C. Burns, Charles Town, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 4; insoluble

2; total 10; available 8; nitrogen 1.65; potash 2; phosphoric acid from animal bone ½; and phosphate rock ½; nitrogen ¼ from bone; and ¾ from animal tankage; potash ¼ from muriate; and ¾ from kainit. **Found:** Phosphoric acid, soluble 5.10; reverted 2.91; insoluble 1.63; total 9.64; available 8.01; nitrogen 1.64; potash 2.35; availability of nitrogen 85; chlorine 1.9.

6790. **Martin's Pure Ground Bone.** T. P. Licklider, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, total 22.90; nitrogen 1.65; phosphoric acid from animal bone; nitrogen from animal bone. **Found:** Phosphoric acid, total 23.11; nitrogen 2.08; availability of nitrogen 90.

G. OBER & SONS COMPANY, BALTIMORE, MD.

6804. **Ober's Standard Potash Compound.** 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 H. G. Florida phosphate; potash from muriate of potash. **Found:** Phosphoric acid, soluble 10.10; reverted 2.31; insoluble 1.29; total 13.70; available 12.41; potash 5.41; chlorine 0.9.

6805. **Ober's Dissolved Bone Phosphate.** A. G. Chrislip, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 11; reverted 3; insoluble 1; total 15; available 14; phosphoric acid from H. G. Florida phosphate. **Found:** Phosphoric acid, soluble 13.88; reverted 2.30; insoluble 0.61; total 16.79; available 16.18.

Remark. Phosphoric acid more than 1% above guarantee.

6806. **Ober's Stag Guano.** A. G. Chrislip, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 4; phosphoric acid from H. G. Florida phosphate ⅞, bone from tankage and fish ⅛; nitrogen from H. G. bone and blood tankage ⅓ to ½; fish ⅓ to ½; nitrate of soda ⅓ to ½; potash from kainit, hard salts and sylvanit. **Found:** Phosphoric

acid, soluble 6.38; reverted 1.84; insoluble 1.35; total 9.57; available 8.22; nitrogen 0.95; potash 3.93; availability of nitrogen 89; chlorine 2.8.

6813. **Pure Bone Meal.** A. G. Chrislip, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, total 22; nitrogen 2.47; phosphoric acid from animal bone, nitrogen from animal bone. **Found:** Phosphoric acid, total 24.54; nitrogen 2.64; availability of nitrogen 94.

Remark. Phosphoric acid more than 1% above guarantee.

6814. **Ober's Farmers' Mixture.** A. G. Chrislip, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble.7; reverted 2; insoluble 1; total 10; available 9; nitrogen 0.82; potash 2; phosphoric acid from H. G. Florida phosphate 8-9, bone tankage and fish 1-9, nitrogen from high grade bone and blood tankage ¼ to ½, fish ¼ to ½; nitrate of soda ¼ to ½; potash from kainit, hard salts and sylvanit. **Found:** Phosphoric acid, soluble 6.53; reverted 2.67; insoluble 1.40; total 10.60; available 9.20; nitrogen 1.11; potash 2.25; availability of nitrogen 86; chlorine 1.4.

PIEDMONT MT. AIRY GUANO COMPANY, BALTIMORE, MD.

6752. **Piedmont Farmers' High Grade Bone and Potash.** A. P. Russell & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, insoluble 2; total 12; available 10; potash 2; phosphoric acid from high grade Florida rock; potash from kainit. **Found:** Phosphoric acid, soluble 9.22; reverted 1.92; insoluble 0.57; total 11.71; available 11.14; potash 2.14; chlorine 2.4.

Remark. Phosphoric acid more than 1% above guarantee.

6724. **Piedmont Farmers' High Grade Bone and Potash.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** (As above) **Found:** Phosphoric acid; soluble 7.56; reverted 2.19; insoluble 0.63; total 10.38; available 9.75; potash 2.91; chlorine 2.9.

Remark. Phosphoric acid low.

6725. **Piedmont 14% Acid Phosphate.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, insoluble 1; total 15; available 14; phosphoric acid from Florida and Tennessee phosphate. **Found:** Phosphoric acid, soluble 12.60; reverted 2.74; insoluble 0.50; total 15.84; available 15.34.

Remark. Phosphoric acid more than 1% above guarantee.

6723. **Piedmont Farmers' Star Bone and Potash.** E. Shaffer, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, insoluble 1; total 9; available 8; potash 5; phosphoric acid from high grade Florida rock; potash from ½ muriate and ½ kainit. **Found:** Phosphoric acid, soluble 6.03; reverted 1.72; insoluble 0.57; total 8.32; available 7.75; potash 5.94; chlorine 1.9.

Remark. Phosphoric acid low.

6750. **General Crop Grower.** A. P. Russell & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, available 8; nitrogen 0.82; potash 1; phosphoric acid from bone phosphate, nitrogen ½ from blood, ½ from bone tankage; potash ½ from muriate of potash, ½ from kainit. **Found:** Phosphoric acid, soluble 5.10; reverted 2.65; insoluble 2.16; total 9.91; available 7.75; nitrogen 1.26; potash 3.42; availability of nitrogen 79; chlorine 2.6.

Remark. Phosphoric acid low. Potash more than 1% above guarantee.

6751. **Piedmont Raw Bone Meal.** A. P. Russell & Company, Agent, Buckhannon, W. Va. **Guarantee:** Phosphoric acid, total 23; nitrogen 3.60; phosphoric acid from bone, nitrogen from raw bone. **Found:** Phosphoric acid, total 22.76; nitrogen 4.01; availability of nitrogen 86.

Remark. Phosphoric acid low.

6753. **Piedmont Pure Raw Bone Mixture.** A. P. Russell & Company, Agent, Buckhannon, 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 ½ from muriate, ½ from

kainit. **Found:** Phosphoric acid, soluble 6. 67; reverted 2.72; insoluble 2.56; total 11.95; available 9.39; nitrogen 0.73; potash 3.59; availabiiity of nitrogen 85; chlorine 2.7.

Remark. Nitrogen low. Phosphoric acid more than 1% above guarantee. Potash more than 1% above guarantee.

RASIN MONUMENTAL COMPANY, BALTIMORE, MD.

6688. **Raisin's Wheat and Potash Mixture.** W. H. Bailey & Sons, Morgantown, W. Va. **Guarantee:** Phosphoric acid ,soluble 6; reverted 2; insoluble 1; total 9; available 8; potash 5; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate, potash ½ to ¾ from high grade muriate of potash; ¼ to ½ genuine german kainit. **Found:** Phosphoric acid, soluble 5.49; reverted 2.54; insoluble 1.14; total 9.17; available 8.03; potash 5.57; chlorine 1.4.

6689. **Special Formula for Corn and Buckwheat.** W. H. Bailey & Sons, Morgantown, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; total 7; available 6; potash 3; phosphoric acid from high grade Charleston, Florida and Tennessee phosphate; potash ½ to ¾ from high grade muriate of potash; ¼ to ½ from genuine German kainit. **Found:** Phosphoric acid, soluble 3.33; reverted 4.62; insoluble 1.25; total 9.20; available 7.95; potash 2.92; chlorine 2.4.

Remark. Phosphoric acid more than 1% above guarantee.

6690. **Rasin's Acid Phosphate.** W. H. Bailey & Sons, Agent, Morgantown, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 1; total 15; available 14; phosphoric acid from high grade Charleston, Florida and Tennessee phosphate. **Found:** Phosphoric acid, soluble 11.89; reverted 4.67; insoluble 1.90; total 17.46; available 15.56.

Remark. Phosphoric acid more than 1% above guarantee.

6691. **Rasin's Pure Raw Bone.** W. H. Bailey & Sons, Agent, Morgantown, W. Va. **Guarantee:** Phosphoric acid, total 21; nitrogen 3.70; phosphoric acid from pure animal bone; nitrogen from pure animal bone. **Found: Phos-**

phoric acid. total 21.71; nitrogen 4.07; availibility of nitrogen 84.

6778. **Rasin's Bone and Potash Fertilizer.** Miller Supply Company, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 2; phosphoric acid from high grade Charleston, Florida and Tennessee phosphate; potash from ½ to ¾ high grade muriate of potash, ¼ to ½ genuine German kainit. **Found:** Phosphoric acid, soluble 7.70; reverted 2.94; insoluble 1.38; total 12.02; available 10.64; potash 1.97; chlorine 1.5.

6779. **Rasin's Irish Potato Special.** Miller Supply Company, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 2; insoluble 1; total 8; available 7; nitrogen 3.29; potash 8; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate; nitrogen ¼ to ½ from high grade fish; ¼ to ½ high grade animal tankage; ¼ to ½ high grade sulphate of ammonia; potash 9-10 from high grade sulphate of potash; 1-10 from muriate of potash. **Found:** Phosphoric acid, soluble 5.50; reverted 2.15; insoluble 1.33; total 8.98; available 7.65; nitrogen 3.35; potash 8.67; availability of nitrogen 91; chlorine 0.05.

6780. **Rasin's Vegetable Special.** Miller Supply Company, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.65; potash 10; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate; nitrogen ½ to ¾ high grade fish; ¼ to ½ high grade animal tankage; potash 9-10 from high grade sulphate of potash; 1-10 from muriate of potash. **Found:** Phosphoric acid, soluble 8.42; reverted 2.28; insoluble 1.65; total 12.35; available 10.70; nitrogen 1.05; potash 5.62; availability of nitrogen 90; chlorine 0.1.

Remark. Potash very low; nitrogen low. Phosphoric acid more than 1% above guarantee.

6781. **Rasin's Royal Fish Bone and Potash.** Miller Sup-

ply Company, Agent, Martinsburg, W. Va. **Guarantee**: Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.65; potash 3; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate; nitrogen ½ to ¾ from high grade fish; ¼ to ⅓ from high grade animal tankage; ⅕ to ⅓ animal bone; potash ½ to ¾ from high grade muriate of potash; ⅓ to ½ genuine German kainit. **Found**: .Phosphoric acid, soluble 7.04; reverted 2.23; insoluble 2.02; total 11.29; available 9.27; nitrogen 1.43; potash 3.58; availability of nitrogen 88; chlorine 0.3.

Remark. Phosphoric acid more than 1% above guarantee. Nitrogen low.

6787. **Washington, Alexander & Cook's Langdon Mixture.** G. T. Hodges, Agent, Shepherdstown, W. Va. **Guarantee**: Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.03; potash 1.23; phosphoric acid, from high grade Florida, Charleston, and Tennessee phosphate; nitrogen ⅕ to ¼ from high grade fish; ⅓ to ½ high grade animal tankage; 1-6 to ⅕ blood; 1-6 to ⅕ high grade sulphate of ammonia; potash ½ to ⅔ high grade muriate of potash; ⅓ to ½ genuine German kainit. **Found**: Phosphoric acid, soluble 5.60; reverted 2.75; insoluble 1.73; total 10.08; available 8.35; nitrogen 1.05; potash 1.54; availability of nitrogen 83; chlorine 0.9.

Remark. Availability of nitrogen too low for materials guaranteed. Source of potash better than guaranteed.

6816. **Rasin's United Grain Grower.** Farmers Supply Company, Agent, Belington, W. Va. **Guarantee**: Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 0.82; potash 2; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate, nitrogen ⅕ to ¼ from high grade fish; ⅓ to ½ from high grade animal tankage; 1-6 to ⅕ from blood; 1-6 to ⅕ from high grade sulphate of ammonia; potash ½ to ⅔ from high grade muriate of potash; ⅓ to ½ from genuine German kainit. **Found**: Phosphoric acid, soluble 4.94; reverted 3.02; insoluble 2.65; total 10.61; available 7.96; nitrogen 0.95; potash 2.29; availability of nitrogen 79; chlorine 0.6.

Remark. Availability of nitrogen too low for materials guaranteed. Source of potash better than guarantee.

6822. **Rasin's Special Bone & Potash.** Guy I. Knotts, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 5; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate; potash ½ to ¾ from high grade muriate of potash; ¼ to ½ from genuine German kainit. **Found:** Phosphoric acid, soluble 5.47; reverted 4.74; insoluble 1.90; total 12.11; available 10.21; potash 5.23; chlorine 1.8.

6823. **Rasin's XXX Fertilizer.** Guy I. Knotts, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.65; potash 5; phosphoric acid from high grade Charleston, Florida and Tennessee phosphate; nitrogen ⅕ to ¼ from high grade fish; ⅓ to ½ from high grade animal tankage; 1-6 to ⅕ from blood; 1-6 to ⅕ from high grade sulphate of ammonia; potash ½ to ⅔ from high grade muriate of potash; ⅓ to ½ from genuine German kainit. **Found:** Phosphoric acid, soluble 6.14; reverted 2.79; insoluble 2.41; total 11.34; available 8.93; nitrogen 1.63; potash 5.03; availability of nitrogen 77; chlorine 0.3.

Remark. Availability of nitrogen too low for materials guaranteed. Source of potash better than guarantee.

6824. **Rasin's I. X. L. Fertilizer.** Guy I. Knotts, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 7; reverted 2; insoluble 1; total 10; available 9; nitrogen 0.82; potash 3; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate; nitrogen ⅕ to ¼ from high grade fish; ⅓ to ½ from high grade animal tankage; 1-6 to ⅕ from blood; 1-6 to ⅕ from high grade sulphate of ammonia; potash ½ to ⅔ from high grade muriate of potash; ⅓ to ½ genuine German kainit. **Found:** Phosphoric acid, soluble 6.44; reverted 2.87; insoluble 2.31; total 11.62; available 9.31; nitrogen 1.16; potash 4.21; availability of nitrogen 75; chlorine 0.6.

Remark. Availability of nitrogen too low for materials guaranteed. Potash more than 1% above guarantee. Source of Potash better than guarantee.

6825. **Rasin's Empire Guano.** Guy I. Knotts, Agent, Grafton, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.65; potash 2, phosphoric acid from high grade Florida, Charleston and Tennessee phosphate; nitrogen 1/5 to 1/4 from high grade fish; 1/3 to 1/2 from high grade animal tankage; 1-6 to 1/5 from blood; 1-6 to 1/5 from high grade sulphate of ammonia; potash 1/2 to 2/3 from high grade muriate of potash; 1/3 to 1/2 genuine German kainit. **Found:** Phosphoric acid, soluble 4.99; reverted 3.09; insoluble 1.91; total 9.99; available 8.08; nitrogen 1.58; potash 2.97; availability of nitrogen 85; chlorine 1.5.

6807. **Rasin's 16% Acid Phosphate.** Farmers' Supply Company, Agent, Belington, W. Va. **Guarantee:** Phosphoric acid, soluble 14; reverted 2; insoluble 1; total 17; available 16; phosphoric acid from high grade Charleston, Florida and Tennessee phosphate. **Found:** Phosphoric acid, soluble 14.58; reverted 3.29; insoluble 1.80; total 19.67; available 17.87.

Remark. Phosphoric acid more than 1% above guarantee.

F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.

6776. **Royster's Peerless Grain and Grass Grower.** T. P. Licklider, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 7; reverted 3; insoluble 1; total 11; available 10; potash 2; phosphoric acid from dissolved Florida rock; potash from kainit. **Found:** Phosphoric acid soluble 6.59; reverted 3.26; insoluble 0.61; total 10.46; available 9.85; potash 2.94; chlorine 3.1.

Remark: Chlorine excessive.

6777. **Royster's Bumper Crop Phosphate.** T. P. Licklider, Agent, Martinsburg, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; potash 5; phosphoric acid from dissolved Florida rock; potash from manure salt ⅔; kainit ⅓; **Found:** Phosphoric acid, soluble 5.27; reverted 2.66; insoluble 0.59; total 8.52; available 7.93; potash 6.41; chlorine 2.4.

Remark. Potash more than 1% above guarantee.

6835. **Royster's 14% Acid Phosphate.** Blue Grass Mill & Supply Company,, Agent, Lewisburg, W. Va. **Guarantee:** Phosphoric acid, soluble 10; reverted 4; insoluble 1; total 15; available 14; phosphoric acid from dissolved Florida rock; **Found:** Phosphoric acid, soluble 10.15; reverted 3.57; insoluble 1.38; total 16.10; available 14.72.

6836. **Royster's Fine Ground Bone Meal.** Blue Grass Mill & Supply Company, Agent, Lewisburg, W. Va. **Guarantee:** Phosphoric acid, available 22.90; nitrogen 2.47; phosphoric acid from animal bone; nitrogen from animal bone; **Found:** Phosphoric acid, total 26.25; nitrogen 2.72; availability of nitrogen 90.

Remark. Phosphoric acid more than 1% above guarantee.

D. A. THOMAS & COMPANY, HAGERSTOWN, MD.

6775. **Pioneer.** W. N. Lemon & Son, Agent, Shepherdstown, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; potash 5; phosphoric acid from high grade acid phosphate; potash from kainit. **Found:** Phosphoric acid, soluble 5.37; reverted 3.20; insoluble 0.69; total 9.26; available 8.57; potash 6.97; chlorine 2.4.

Remark. Potash more than 1% above guarantee.

6791. **Soluble Bone & Potash.** W. N. Lemon & Son, Agent, Shepherdstown, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available

10; potash 2; phosphoric acid from acid phosphate; potash from kainit. **Found:** Phosphoric acid, soluble 6.32; reverted 3.51; insoluble 0.96; total 10.79; available 9.83; potash 2.53; chlorine 2.3.

6796. **Dissolved Bone Phosphate.** Philippi Mill Company, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 4; insoluble 1; total 17; available 16; phosphoric acid from high grade phosphate rock. **Found:** Phosphoric acid, soluble 14.39; reverted 3.54; insoluble 0.68; total 18.51; available 17.83.

Remark. Phosphoric acid more than 1% above guarantee.

6797. **Dissolved Bone Phosphate...** Philippi Mill Company, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 11; reverted 3; insoluble 1; total 15; available 14; phosphoric acid from high grade phosphate rock. **Found:** Phosphoric acid, soluble 9.54; reverted 4.39; insoluble 1.29; total 15.22; available 13.93.

6803. **Crown Jewel.** Submitted for analysis by J. C. Burns, Charles Town, W. Va. **Guarantee:** Phosphoric acid, soluble 7; reverted 2; insoluble 1; total 10; available 9; nitrogen 0.82; potash 3; phosphoric acid from high grade acid phosphate; nitrogen from garbage tankage; potash from kainit. **Found:** Phosphoric acid, soluble 6.45; reverted 2.14; insoluble 1.21; total 9.80; available 8.59; nitrogen 1.01; potash 2.90; availability of nitrogen 76; chlorine 2.

Remark: Phosphoric acid low.

VIRGINIA-CAROLINA CHEMICAL COMPANY, RICHMOND, VA.

6789. **V. C. C. Co's Corn & Buckwheat Special.** G. T. Hodges, Agent, Shepherdstown, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; total 7; available 6; potash 3; phosphoric acid from high grade Charles-

ton, Florida and Tennessee phosphate; potash ½ to ¾ from high grade muriate of potash; ¼ to ½ genuine German kainit. **Found:** Phosphoric acid, soluble 1.94; reverted 5.23; insoluble 0.93; total 8.10; available 7.17; potash 3.79; chlorine 1.4.

Remark. Phosphoric acid more than 1% above guarantee.

6837. **V. C. C. Co's. Special Bone & Potash.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 5; phosphoric acid from high grade Charleston, Florida and Tennessee phosphate; potash ½ to ¾ high grade muriate of potash; ¼ to ½ genuine German kainit. **Found:** Phosphoric acid, soluble 6.38; reverted 4.05; insoluble 1.31; total 11.74; available 10.43; potash 4.96; chlorine 1.6.

6800. **V. C. C. Co's Special Bone and Potash.** E. A. Hanna, Agent, Spring Creek, W. Va. **Guarantee:** (As above). **Found:** Phosphoric acid, soluble 6.37; reverted 3.25; insoluble 1.76; total 11.38; available 9.62; potash 4.84; chlorine 1.2.

Remark. Phosphoric acid low.

6847. **V. C. C. Co's Standard Crop Grower.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 1; total 9; available 8; nitrogen 1.65; potash 2; phosphoric acid from high grade Florida, Charleston and Tennessee phosphate; nitrogen ⅕ to ¼ from high grade fish; ⅓ to ½ high grade animal tankage; 1-6 to ⅕ blood; 1-6 to ⅕ high grade sulphate of ammonia; potash ½ to ⅔ high grade muriate of potash; ⅓ to ½ genuine German kainit. **Found:** Phosphoric acid, soluble 4.94; reverted 3.57; insoluble 1.54; total 10.05; available 8.51; nitrogen 1.11; potash 2.81; availability of nitrogen 83; chlorine 0.5.

Remark. Nitrogen low. Availability of nitrogen too low for materials guaranteed. Source of potash better than guarantee.

6848. **V. C. C. Co's. 20% Acid Phosphate.** J. M. Miller,

Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 16; reverted 4; insoluble 1; total 21; available 20; phosphoric acid from high grade S. C. phosphate rock. **Found:** Phosphoric acid, soluble 16.52; reverted 5.79; insoluble 1.01; total 23.32; available 22.31.

Remark. Phosphoric acid more than 1% above guarantee.

6786. **V. C. C. Co's. Standard Bone and Potash.** G. T. Hodges, Agent, Shepherdstown, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; total 11; available 10; potash 2; phosphoric acid from high grade Charleston, Florida and Tennessee phosphate; potash ⅓ to ¾ from high grade muriate of potash; ⅓ to ½ genuine German kainit. **Found:** Phosphoric acid, soluble 7.18; reverted 2.76; insoluble 1.43; total 11.37; available 9.94; potash 2.27; chlorine 1.3.

6838. **Allison & Addison's B. P. Potash Mixture.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 7; reverted 3; insoluble 1; total 11; available 10; potash 2; phosphoric acid from H. G. S. C. phosphate rock; potash from sulphate of potash ⅓; muriate of potash ⅔. **Found.** Phosphoric acid, soluble 7.31; reverted 4.44; insoluble 0.79; total 12.54; available 11.75; potash 2.09; chlorine 2.9.

Remark. Chlorine excessive. Phosphoric acid more than 1% above guarantee.

6839. **Allison & Addison's Little Giant Grain and Grass Grower.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 2; total 10; available 8; nitrogen 0.82; potash 2; phosphoric acid from high grade S. C. phosphate rock; nitrogen ⅜ from high grade dry fish; ⅛ from L. G. animal tankage; ½ sulphate of ammonia; potash from sulphate of potash ⅓; muriate of potash ⅔. **Found:** Phosphoric acid, soluble 5.46; reverted 3.65; insoluble 1.44; total 10.55; available 9.11; nitrogen 0.90; potash 2.33; availability of nitrogen 81; chlorine 1.5.

Remark. Availability of nitrogen too low for materials guaranteed. Phosphoric acid more than 1% above guarantee.

6846. **Southern Chemical Co's. Sun Brand Guano.** J. M. Miller, Agent, Ronceverte, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 2; insoluble 2; total 10; available 8; nitrogen 2.06; potash 5; phosphoric acid from H. G. S. C. phosphate rock; nitrogen ⅜ from H. G. dry fish; ⅛ L. G. animal tankage; ½ sulphate of ammonia; potash from sulphate of potash. **Found:** Phosphoric acid, soluble 7.28; reverted 1.47; insoluble 1.76; total 10.51; available 8.75; nitrogen 1.83; potash 5.17; availability of nitrogen 96; chlorine 0.3.

Remark. Nitrogen low.

6799. **S. W. Travers & Company, Champion Corn, Wheat and Grass.** E. A. Hanna, Agent, Spring Creek, W. Va. **Guarantee:**. Phosphoric acid, soluble 6; reverted 2; insoluble 2; total 10; available 8; nitrogen 0.82; potash 1; phosphoric acid from H. G. S. C. phosphate rock; nitrogen ⅜ from high grade fish; ⅛ from low grade animal tankage; ½ from sulphate of ammonia; potash from sulphate of potash ⅓; muriate of potash ⅔. **Found:** Phosphoric acid, soluble 5.45; reverted 2.66; insoluble 1.43; total 9.54; available 8.11; nitrogen 0.76; potash 1.63; availability of nitrogen 90; chlorine 1.5.

THE ROBERT A. WOOLDRIDGE COMPANY, BALTIMORE, MD.

6808. **Wooldridge's Florida Acid Phosphate.** J. M. Cutright, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 12; reverted 2; insoluble 1; available 14; phosphoric acid from dissolved phosphate rock. **Found:** Phosphoric acid, soluble 12.73; reverted 3.06; insoluble 0.64; total 16.43; available 15.79.

Remark. Phosphoric acid more than 1% above guarantee.

6809. **Wooldridge's Liberty Bell Potash Mixture.** J. M. Cutright, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 10; reverted 2; insoluble 1; available 12; potash 3; phosphoric acid from dissolved phosphate rock; potash ½ from manure salt; ½ from muriate of potash. **Found:** Phos-

phoric acid, soluble 9.96; reverted 2.44; insoluble 0.92; total 13.32; available 12.40; potash 3.03; chlorine 2.7.

Remark. Chlorine excessive.

6810. **Wooldridge's High Grade Acid Phosphate 16%.** J. M. Cutright, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 13; reverted 3; insoluble 1; available 16; phosphoric acid from dissolved phosphate rock. **Found:** Phosphoric acid, soluble 15.89; reverted 3.02; insoluble 0.22; total 19.13; available 18.91.

Remark. Phosphoric acid more than 1% above guarantee.

6811. **Wooldridge's No. 1 Phosphate and Potash.** J. M. Cutright, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 4; reverted 2; insoluble 1; available 6; potash 3; phosphoric acid from dissolved phosphate rock; potash ½ from muriate of potash; ½ from manure salt. **Found:** Phosphoric acid, soluble 4.27; reverted 2.79; insoluble 0.43; total 7.49; available 7.06; potash 3.12; chlorine 4.8.

Remark. Chlorine excessive. Phosphoric acid more than 1% above guarantee.

6812. **Wooldridge's Ideal Grain and Grass Producer.** J. M. Cutright, Agent, Philippi, W. Va. **Guarantee:** Phosphoric acid, soluble 8; reverted 2; insoluble 1; available 10; potash 4; phosphoric acid from dissolved phosphate rock; potash ½ from muriate of potash; ½ from manure salt. **Found:** Phosphoric acid, soluble 7.76; reverted 2.74; insoluble 0.84; total 11.34; available 10.50; potash 4.14; chlorine 3.

Remark. Chlorine excessive.

ROBERT A. WOOLDRIDGE, TRADING AS THE WOOLDRIDGE FERTILIZER COMPANY.

6710. **Tiger Bone Stock Phosphate.** M. C. Cochran, Agent, Worthington, W. Va. **Guarantee:** Phosphoric acid, soluble 5; reverted 3; insoluble 0.50; total 8.50; available 8; nitrogen 1.03; potash 4.50; phosphoric acid 3-20 from bone and slaughter house tankage; 1-20 from garbage tankage; ⅘ from

acid phosphate; nitrogen ⅓ from sulphate of ammonia; ⅓ from bone and slaughter house tankage; ⅓ from garbage tankage; potash ½ from muriate of potash; ½ from manure salt. **Found:** Phosphoric acid, soluble 3.43; reverted 4.82; insoluble 0.92; total 9.17; available 8.25; nitrogen 1.17; potash 4.94; availabiity of nitrogen 76; chlorine 2.2.

6709. **Virginia Belle.** M. C. Cochran, Agent, Worthington, W. Va. **Guarantee:** Phosphoric acid, soluble 9; reverted 3; insoluble 1; total 13; available 12; potash 3; phosphoric acid from acid phosphate; potash from manure salt. **Found:** Phosphoric acid, soluble 7.81; reverted 4.63; insoluble 1.11; total 13.55; available 12.44; potash 3.49; chlorine 2.2.

6711. **High Grade Potato and Tomato Grower.** M. C. Cochran, Agent, Worthington, W. Va. **Guarantee:** Phosphoric acid, soluble 6; reverted 3; insoluble 0.50; total 9.50; available 9; nitrogen 1.65; potash 5; phosphoric acid ⅔ from acid phosphate; ⅓ from tankage; nitrogen ⅔ from bone tankage; ⅓ from sulphate of ammonia; potash ½ from muriate of potash; ½ from manure salt. **Found:** Phosphoric acid, soluble 4.48; reverted 4.97; insoluble 0.69; total 10.14; available 9.45; nitrogen 1.71; potash 5.34; availability of nitrogen 84; chlorine 1.3.