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COMMENTS UPON THE STATE
FERTILIZER LAW

BY A. L. KNISELY

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Comments Upon the State Fertilizer Law.

By A. L. KNISELY.

At the last meeting of the State Legislature a bill was passed for the purpose of controlling the manufacture and sale of commercial fertilizers in the State of Oregon. At the present time fertilizers are used in this State only to a limited extent, the indications are, however, that their use will increase very rapidly in the near future. The law as framed and passed was thought to best suit the present needs and requirements of the agricultural interests of the State.

The law as passed may effect importers or manufacturers of fertilizers or fertilizing materials, agents and sellers of fertilizers or fertilizer materials. It may also affect farmers who buy and use fertilizers or fertilizing materials. The following comments are important to all parties who manufacture, handle or use fertilizing materials in this State.

SECTION I requires that all fertilizing materials, the selling price of which exceeds \$5 per ton (except land plaster and lime), shall be sold upon guaranteed analysis. In other words every lot, parcel or package of such fertilizing material must be accompanied by a statement giving the name and address of the manufacturer, importer, or dealer, the place of manufacture and a chemical analysis of the fertilizer. The statement should also give information as to the raw products or materials from which the plant food elements in the fertilizer are derived.

SECTION II emphasizes the fact that the source of fertilizer ingredients be plainly stated, and requires that no person shall sell, offer, or expose for sale in this State, any pulverized leather, hair, ground hoofs, horns, or wool waste, raw, steamed, roasted or in any form as a fertilizer or as an ingredient of a fertilizer, or manure, without an explicit statement of the fact conspicuously affixed to every package of such material sold.

SECTION III provides that before any fertilizer or material used as a fertilizer, the selling price of which is \$5 or more per ton, is sold, offered or exposed for sale in this State, the manufacturer, importer, or person who caused the same to be sold, offered or exposed for sale, shall file with the Oregon Experiment Station at Corvallis a certified copy of the statement prescribed in Section I of this act.

This statement is to be filed annually during the month of December. This section also provided that during December there shall be paid to the Treasurer of the Board of Regents of the Agricultural College of the State of Oregon a license fee of \$20 for each and every brand of fertilizer bearing a distinctive name, brand, or trademark.

The law empowers the Director of the Agricultural Experiment Station at Corvallis or his duly appointed deputies to seize and confiscate any and all shipments of fertilizers that are not properly licensed, or that do not conform to the law; to sell such shipments at public auction, deducting from the proceeds of such sales sufficient to cover such license and penalties, as well as whatever legitimate expense he may have incurred in the prosecution of such sales, and the balance pay over to the owner of such fertilizer or fertilizer materials, or to his legal representatives.

Much trouble is often caused by a misunderstanding as to the meaning of the term *Brand* of fertilizer. There are almost as many interpretations of this term as there are states in the Union.

New Jersey interprets "Brand of Fertilizer" to mean goods that have been specifically mixed, containing two or more of the essential constituents. Nitrate of Soda, Muriate of Potash and Acid Phosphate are regarded as raw materials. Ground bone is regarded as a manufactured product, though not necessarily mixed, and is considered a brand. Guarantees however accompany all goods selling for \$10 or more per ton except imported guanos.

Rhode Island considers as distinct *brands*, Nitrate of Soda, Muriate of Potash, ground bone, or any substance which sells at or above the limit of price which is specified. Furthermore, if goods differ in analysis or marks in whatsoever way, or in any other particular, they are also considered as distinct brands.

Indiana says: "The term 'Commercial Fertilizer' as used in this Act shall be taken to mean any and every substance imported, manufactured, prepared, or sold for fertilizing or manurial purposes, except barn yard manure, marl, lime, wood-ashes and plaster."

In the State of Oregon at the present time, the fertilizer industry is in its infancy. Probably in this State a few tons of fertilizer are sold whereas in some of the eastern states thousands of tons are handled annually.

In order to encourage the manufacture and sale of fertilizers the interpretation of the term *Brand* is most liberal. By Brand is

meant to signify any and every substance imported, manufactured, prepared, or sold for fertilizing or manurial purposes which bears a distinctive name improvised by the manufacturer or dealer in said materials. Raw materials and certain by-products of factories when sold as such are not to be considered as brands of fertilizer.

Example—Nitrate of Soda, Muriate and other crude potash salts—ground bone, plain phosphates, fish scrap and tankage are not to be considered as brands when sold as separate raw materials. On the other hand, any or all of these same or similar substances when coupled with a manufacturer's or dealer's name so as to become distinctive would be considered as brands of fertilizer. Thus if John Smith sold "Fish Scrap" it would not be considered a brand: but if he sold "John Smith's Fish Scrap", it would be considered a brand and would have to be licensed.

Whether fertilizing materials are licensed or not, any and all such materials whose selling price exceeds \$5 per ton (except land plaster and lime) must be sold upon guaranteed analysis.

SECTIONS IV AND V relate to the proper sampling and analysis of fertilizer. When the results of analysis of a sample of fertilizer, made at the Agricultural Experiment Station, compared with the statement of the manufacturer or importer shall show a deficiency of not more than one-fourth of one per cent nitrogen, or of one per cent of soluble or available phosphoric acid, or one-half of one per cent of potash soluble in distilled water, or when the excess of chlorine be not greater than one per cent of that guaranteed, then the statement or guaranteed analysis of the manufacturer or importer shall be deemed as conforming to the requirements of the law.

SECTION VIII of the law provides penalties for parties selling, offering, or exposing for sale fertilizer materials not properly labeled, or that are labeled with misleading statements. Parties deemed guilty, shall upon conviction pay to the State of Oregon the sum of one hundred (\$100) dollars for every such violation.

Suppose a Portland firm placed on the market for sale a hundred pound sack of a complete fertilizer; how should such a sack be marked or tagged so as to comply with the law?

SECTION I of the fertilizer law gives the form and order of stating the guaranteed analysis, also states that the materials from which the constituents are derived be given. The law would require a statement somewhat as follows:

JOHN DOE & COMPANY, PORTLAND, OREGON

100 POUNDS WILLAMETTE POTATO PRODUCER

License, Brand Number 52

Guaranteed Analysis

	Source.
.... per cent nitrogen in nitrates	
.... per cent nitrogen in ammonia	
3½ .. per cent nitrogen total	Dried Blood
8 .. per cent potash soluble in water	Muriate
4 .. per cent phosphoric acid (Water soluble) ...	} Dissolved Bone
2 .. per cent phosphoric acid (reverted)	
2 .. per cent phosphoric acid (Insoluble)	
8 .. per cent phosphoric acid (total)	
6 .. per cent chlorine	

In cases where the manufacturer, or dealer, wishes to handle or sell the crude or raw materials and sell them as such, it is obviously not necessary to have such materials licensed. It would be necessary however to sell such material on guaranteed analysis. Thus suppose the John Doe Company wishes to sell plain Nitrate of Soda or so called Chilean saltpeter, the following statement accompanying such material would conform to the law:

JOHN DOE & COMPANY, PORTLAND, OREGON

100 POUNDS NITRATE OF SODA

Guaranteed Analysis

15 per cent nitrogen
1 per cent chlorine

A word of explanation may be necessary as to why the law requires a statement showing the forms in which the plant food exists in the fertilizer material. Thus phosphoric acid may exist in one or more forms in a fertilizer. It may exist as water soluble, reverted, or insoluble. The water soluble and reverted forms are much more valuable as plant food than the insoluble forms. A fertilizer containing 8 per cent total phosphoric acid of which 6 per cent is either water soluble or reverted (that is available phosphoric acid) is much more valuable than would be a fertilizer containing 8 per cent total phosphoric acid of which only 3 per cent is available.

A statement concerning chlorine is required for this reason: Or-

dinarily it does not matter much whether chlorine in the form of chlorides is present in the fertilizer or not, in fact most fertilizers contain varying amounts of chlorides; however, there are times and with certain special crops when it is desirable for best results not to apply fertilizer materials containing chlorides. At times therefore it may be best to use potash as a sulphate or carbonate, at other times it may be best and cheapest to use potash as a chloride, or muriate as it is sometimes called. Thus it is seen that a statement concerning the presence of chlorides in fertilizer materials works no hardship on either the buyer or seller.

TRADE VALUES.—Each year the Directors of a number of the Eastern Experiment Stations located in states using large quantities of commercial fertilizer meet and set values on the various plant food elements occurring in fertilizer materials. These values vary according to the supply and demand of fertilizer materials in the large wholesale centers of the East.

The following schedule of trade values was arranged at a meeting of the station directors and chemists for use in Connecticut, Massachusetts, New York, Rhode Island, Vermont and New Jersey during the season of 1907:

SCHEDULE OF TRADE VALUES FOR 1907.

Schedule of Trade Values Adopted by Experiment Stations for 1907.

	Cents per pound.
Nitrogen in Nitrates.....	18.5
“ “ Ammonia Salts.....	17.5
Organic Nitrogen in dried and fine-ground fish, meat and blood, and in mixed fertilizers.....	20.5
“ “ “ fine-ground bone and tankage.....	20.5
“ “ “ coarse bone and tankage.....	15.0
Phosphoric Acid, soluble in water.....	5.0
“ “ “ ammonia citrate.....	5.0
“ “ “ insoluble, in fine bone and tankage.....	4.0
“ “ “ coarse bone and tankage.....	3.0
“ “ “ mixed fertilizers.....	2.0
“ “ “ fine-ground fish, cotton-seed meal, castor pomace and wood ashes.....	4.0
Potash, as Muriate.....	4.25
“ “ Sulphate, and in forms free from muriates (or chlorides).....	5.0

Values of plant food elements for Oregon would necessarily vary somewhat from this schedule; some might be less, others more, depending upon freight rates and the ease with which the fertilizer material can be obtained.

The Oregon State Fertilizer Law is as Follows:

CHAPTER 10.

AN ACT

(H. B. 95, Twenty-third Biennial Session, 1906)

To regulate the sale of commercial fertilizers or materials used for manurial purposes, and to provide penalties for the infraction thereof, and means for the enforcement of the act.

Be it enacted by the People of the State of Oregon:

**Marking and
labelling
materials.**

Section I. (a) Every lot, parcel, or package of commercial fertilizers or materials to be used for manurial purposes (excepting the excreta of domestic animals) sold, offered or exposed for sale within this State, the selling price of which exceeds \$5 per ton, shall be accompanied by a plainly printed label, stating the name, brand and trade mark, if any there be, under which the fertilizer is sold, also the number of net pounds of fertilizer contained in the packages, the name and address of the manufacturer, importer or dealer, the place of manufacture, and a chemical analysis, stating the percentages claimed to be therein of total nitrogen, also specifying the form, or forms, and percentage amounts in which it is present: of phosphoric acid, stating percentage of soluble, reverted, insoluble and total; of potash, stating the percentage soluble in distilled water; also the percentage of chlorine, and the materials from which all of said constituents are derived.

(b) In stating the chemical composition of the fertilizer only the minimum percentages of nitrogen, phosphoric acid and potash, and the maximum amount of chlorine present should be stated.

Guarantee.

(c) Nothing should be interpolated in the guarantee, which should state the ingredients guaranteed in the following form and order:

- per cent nitrogen in nitrates
- per cent nitrogen in ammonia
- per cent nitrogen total
- per cent phosphoric acid soluble in water
- per cent phosphoric acid reverted
- per cent phosphoric acid insoluble
- per cent phosphoric acid total
- per cent potash soluble in water
- per cent chlorine.

(d) Gypsum (calcium sulphate) and lime (calcium oxide or calcium carbonate) are excluded from the provisions of this act.

(e) All analyses are to be made according to the methods agreed upon by the American Association of Official Chemists.

Ground
leather, wool
waste, etc.

Section 2. No person shall sell, offer, or expose for sale in this State, any pulverized leather, hair, ground hoofs, horns, or wool waste, raw, steamed, roasted, or in any form as a fertilizer, or as an ingredient of a fertilizer, or manure, without an explicit statement of the fact; said statement to be conspicuously affixed to every package of such fertilizer or manure, and to accompany and go with every lot, parcel or package of the same.

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Section 3. Before any commercial fertilizer or any material to be used as a fertilizer, the selling price of which is five dollars (\$5) or more per ton, is sold, offered or exposed for sale in this State, the manufacturer, importer, or person who causes the same to be sold, offered or exposed for sale, shall file with the Oregon Experiment Station at Corvallis a certified copy of the statement prescribed in Section 1 of this act, and, in addition, such statement shall be filed thereafter annually during the month of December. Each manufacturer, importer, or person, before selling, offering or exposing for sale in this state any brand of commercial fertilizer shall, annually, during the month of December, pay to the treasurer of the board of regents of the Agricultural College of the State of Oregon a license fee of \$20 for each and every brand of fertilizer bearing a distinctive name, brand, or trade mark, which said manufacturer, importer, or person, is to sell, offer or expose for sale in this State during the calendar year next succeeding said payment; *provided, always*, that the placing of any new brand upon the market at any time during said calendar year shall be preceded by such payment. Each manufacturer, importer, or person, who has complied with the provisions of this act relative to filing the aforesaid certified statement and to the payment of the aforesaid license fee, shall be entitled to receive a certificate from the director of the said experiment station setting forth said facts; *provided*, that when a commercial fertilizer or any material to be used as a fertilizer has once been licensed in accordance with Section 3 of this act, it relieves the agents or retailers from procuring a license upon said brand; *and be it further provided*, that where fertilizers or fertilizer materials are sold and shipped into the State of Oregon or shipped into the State of Oregon for sale by persons residing and doing business outside of the State, and such persons have not complied, or shall refuse to comply, with the provisions of this act, it shall then be the duty of the director of the agricultural experiment station at Corvallis, either in person or by his deputies (all of whom are hereby empowered for that purpose), to seize and confiscate any and all such shipments, and, in order to collect the license and penalties due thereon, to sell such shipments at public auction, deducting from the proceeds of such sales sufficient to cover such license and penalties, as well as whatever legitimate expense he may have incurred in the prosecution of such sales, and

License fee.

Seizure of
goods not
properly
marked.

the balance pay over to the owner of such fertilizer or fertilizer materials, or to his legal representatives.

Collection of samples. Section 4. The said director shall annually, on or before the first day of September, take samples in accordance with the provisions of Section 5 hereof of the substance made, sold, or offered for sale, under every such name or brand, and cause analyses to be made thereof in accordance with the provisions of Section 1 hereof and said analyses may include such other determinations as said director may at any time deem advisable. Dealers in, or manufacturers of fertilizers, must give free access to the director of the agricultural experiment station, or his duly authorized deputy, to all the materials which they may place on the market for sale in Oregon. Whenever the analysis certified by the said director shall show a deficiency of not more than one-fourth of one per cent of nitrogen, or one per cent of soluble or available phosphoric acid, or one-half of one per cent of potash soluble in distilled water, or if the excess of chlorine be not greater than one per centum the statement of the manufacturer or importer, as required in Section 1 of this act, shall not be deemed as false in the meaning of this act.

Analysis of samples.

Authority for and method of taking samples. Section 5. The director of the agricultural experiment station at Corvallis, in person or by his deputy, is hereby authorized to take a sample not exceeding two pounds in weight for analysis by the said director, or his deputies, from any lot, parcel, or package of fertilizer, or material, or mixture of materials used for manurial purposes, which may be in the possession of any manufacturer, importer, agent, or dealer, but such sample shall be drawn in the presence of said party or parties in interest, or their representatives. In lots of five tons or less, samples shall be drawn from at least ten packages, or if less than ten packages are present, all shall be sampled; in lots of over five tons, not less than twenty packages shall be sampled. The samples so drawn shall be thoroughly mixed, and from it two equal samples shall be drawn and placed in glass vessels, carefully sealed and a label placed on each, stating the name or brand of the fertilizer or material sampled, the name of the party from whose stock the sample was drawn, and the time and place of drawing and said label shall also be signed by the said director or his deputy making such inspection, and by the party or parties in interest, or their representatives present at the drawing and sealing of said samples. One of said duplicate samples shall be retained by the party whose stock was sampled, and the other by the director of the agricultural experiment station at Corvallis.

Publication of results. Section 6. The director of the agricultural experiment station of the State of Oregon shall publish in bulletin form, from time to time, at least annually, the results of the analysis hereinbefore provided, with such additional information as circumstances may advise.

License money, penalties, etc.

Section 7. All moneys received from licenses and penalties under the provisions of this act shall be expended under the direction of the Board of Regents of the Agricultural College of the State of Oregon, for salaries, laboratory expenses, chemical supplies, traveling expenses, printing and such other expenses as may be found necessary in enforcing the provisions of this act.

Penalties, forfeits, etc.

Section 8. Any party selling, offering, or exposing for sale, any commercial fertilizer without the statement required by Section 1 of this act, or with a label stating that said fertilizer contains a larger percentage of any one or more of the constituents mentioned in said section than is actually contained therein, except as provided for in Section 4 or respecting the sale of which all the provisions of this act have not been fully complied with, shall be deemed guilty of a misdemeanor, and upon conviction thereof before any court of competent jurisdiction, shall forfeit and pay to the State of Oregon the sum of one hundred (\$100) dollars for every such violation.

Enforcement of the law.

Section 9. The director of the Oregon Experiment Station at Corvallis is charged with the enforcement of the provisions of this act, and for this purpose, may employ agents, chemists and experts, and whenever he shall know, or have reason to believe that any penalty has been incurred by any person for the violation of any of the provisions of this act, or that any sum has been forfeited, by reason of any such violation, he shall proceed to prosecute the offender for a violation of this law.

Evidence in court.

Section 10. In any action, civil or criminal, in any court of this State, a certificate, duly signed and acknowledged, of a chemist or other expert employed by the director of the Oregon Experiment Station at Corvallis, relating to the analysis of any commercial fertilizer, or material to be used as a fertilizer, shall be presumptive evidence of the fact that the sample or samples mentioned in said analysis or certificate were properly analyzed as in this act provided; that such samples were taken as in this act provided; that the substance analyzed contained the component parts stated in such certificate and analysis, and that the samples were taken from the parcels or packages or lots mentioned or described in said certificate.

Section 11. This act shall take effect and be in force from and after the first day of June, 1905.

Section 12. All former acts relating to the use or sale of commercial fertilizers in the State of Oregon are hereby repealed.

Filed in the office of the Secretary of State, February 5, 1907.

LIST OF BULLETINS

(In print) published by the Oregon Agricultural Experiment Station to January, 1908.

No. 6, 1890—Chemistry, Zoölogy	Washburn
No. 10, 1891—Entomology	Washburn
No. 28, 1894—Pig Feeding, continued	French
No. 32, 1894—Five Farmers' Foes	Craig
No. 33, 1894—Tent Caterpillar	Washburn
No. 34, 1895—Fruits and Vegetables	Coote
No. 35, 1895—Pig Feeding, continued	French
No. 36, 1895—Composition and Use of Fertilizers	Shaw
No. 37, 1895—Experiments in Cattle Feeding	French
No. 38, 1895—Fruit Pests	Washburn
No. 39, 1895—Grasses, Chemistry	Shaw
No. 40, 1896—Prunes, Apples and Pears	Hedrick
No. 42, 1896—Feeding Sheaf Wheat	French
No. 43, 1897—Flax Culture	French
No. 44, 1897—Review of Oregon Sugar Beets	Shaw
No. 47, 1897—Cheat and Clover	Shaw and French
No. 51, 1898—Marketing Fruit	Craig
No. 52, 1898—Nut Culture	Coote
No. 53, 1898—Sugar Beets	Shaw
No. 54, 1898—Flax, Hemp, Dairy, etc.	French and Kent
No. 55, 1898—Chemistry of Cherries	Shaw
No. 57, 1899—Brown Rot	Cordley
No. 59, 1899—Sugar Beet Experiments of 1898	Shaw
No. 61, 1900—The Oregon Prune	Shaw
No. 62, 1900—Miscellaneous Investigations	Shaw
No. 63, 1900—Prevention of Smut on Oats—Preliminary Bulletin	Pernot
Circular Bulletin concerning Acid Soils in Oregon—1900	Knisely
No. 68, 1902—Birds of Oregon	Woodcock
No. 75, 1903—Insecticides and Fungicides	Cordley
No. 76, 1903—Leguminous Forage Plants	Withycombe
No. 78, 1904—Canning Cheese	Pernot
No. 79, 1904—Plant-Food and Use of Fertilizers	Knisely
No. 86, 1905—Irrigation in Klamath County	Kent
No. 87, 1906—Canning Fruit and Vegetables. Preserving Fruit Juices	Pernot
No. 88, 1906—San Jose Scale	Cordley
No. 89, 1906—Part I. Efficiency of Cream Separators Under Farm Conditions. A Thesis by Ira P. Whitney. Part II. Dairy School Cream Separator Tests	Kent
No. 90, 1906—Acid Soils	Knisely
No. 91, 1906—Farm Practice with Forage Crops in Western Oregon and Western Wash- ton	Hunter
No. 92, 1906—The Walnut in Oregon	Lewis
No. 93, 1907—Orchard Management	Lewis and Wicks
No. 94, 1907—The Apple from Orchard to Market	Lewis
No. 95, 1907—Disease of Turkeys	Pernot
No. 96, 1907—The Poultry Industry in Oregon	Dryden

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