Connecticut Agricultural Experiment Station.

NEW HAVEN, MAY 12, 1881.

BULLETIN No. 60.

The text of the new law recently passed by the Legislature, obtained from the Office of the Secretary of State, is as follows:

[Substitute for House Bill No. 291.]

CHAPTER CXX.

An Act concerning Commercial Fertilizers.

Be it enacted by the Senate and House of Representatives in General Assembly Convened:

SECTION 1. Every lot or package of commercial manure or fertilizer sold, offered, or exposed for sale, in this State, at a price of one-half cent or more a pound, shall be accompanied by a plainly printed label or stencil mark on each package, which shall clearly and truly state its name or brand, its weight, the name and address of the manufacturer or seller, and its chemical composition, expressed in the terms and manner approved, and currently employed, by the Connecticut Agricultural Experiment Station. Every lot or package of commercial fertilizer or manure sold at a price less than one-half cent a pound shall be accompanied by a printed label, which shall give a correct general statement of its composition and ingredients.

SEC. 2. Every manufacturer or importer of commercial fertilizers or manures, excepting rock plaster or sulphate of lime, shall, before offering the same for sale in this State, procure a license from the Secretary of State, as manufacturer or importer of the same, and shall pay into the treasury of the State the sum of fifty dollars annually for one kind or brand of fertilizer or manure, and fifteen dollars for each other distinct kind or brand of fertilizer, and shall at the same time file with the Secretary of State, and also with the director of the Connecticut Agricultural Experiment Station, a statement of the names of his agents, and also the name or brand, and the composition of each fertilizer or manure, manufactured or imported by him for sale. Every manufacturer of Fish Guano, or fertilizers of which the principal ingredient is fish or fish-mass from which the oil has been extracted, shall, before manufacturing or heating the same, and within thirty-six hours from the time such fish or mass has been delivered to him, treat the same with sulphuric acid or other chemical, approved by the director of said experiment station, in such quantity as to arrest decomposition; *provided, however*, that in lieu of such treatment such manufacturers may provide a means for consuming all smoke and vapors arising from such fertilizers during the process of manufacture.

SEC. 3. Every person who shall bring into the State ashes for the purpose of sale shall, before offering the same for sale, procure a license from the Secretary of State, and shall pay therefor into the treasury of the State the sum of fifty dollars annually.

SEC. 4. All moneys collected by the State as license fees, as provided in sections two and three of this act, shall be appropriated to the support and maintenance of the Connecticut Agricultural Experiment Station, and shall be paid over to the treasurer of said station quarterly.

SEC. 5. Any person violating any provision of sections one, two and three of this act, shall be fined one hundred dollars for the first offense, and two hundred dollars for each subsequent violation.

SEC. 6. The director of the Connecticut Agricultural Experiment Station is hereby authorized, in person or by deputy, to take samples for analysis from any lot or package of manure or fertilizer, which may be in the possession of any dealer.

SEC. 7. This act shall not apply to parties manufacturing fertilizers for their own private use, or in quantities of less than twenty-five tons per year; *provided*, the same is sold only to consumers and on the premises where manufactured.

SEC. 8. Title sixteen, chapter fifteen, sections fifteen and sixteen, and title twenty, chapter twelve, section five of the general statutes are hereby repealed.

SEC. 9. This act shall take effect immediately.

Approved, April 14, 1881.

In respect to this Act, various questions have already been addressed to the Station. As a general answer to such inquiries, the Director would state that the Station cannot assume to give authoritative information, except upon the two points which the Act itself refers to, viz: 1. The labels or stencil marks to accompany fertilizers (Sec. 1,) and 2, the treatment of fish with disinfectants (last part of Sec. 2). On other points, the Secretary of State, from whom licenses are to be obtained, is the proper source of information.

FERTILIZER ANALYSES.

608 Muriate of Potash, from stock of Mapes Formula and Peruvian Guano Co.

609 Muriate of Potash, from stock of Wilson & Burr, Middletown. Both the above sampled and sent by Charles Fairchild, Middletown.

	608	609
Potash,	53.91	50.16
Equivalent Muriate of Potash,	85.3	79.4
Cost per ton,	$38.00	$42.50
Actual Potash costs per 100 lbs.,	3.52	4.24

586 E. Frank Coe's Phosphate, from stock of Simon Banks, Southport.

587 Forrester's Special Manure, from stock of S. B. Wakeman, Saugatuck.

588 Forrester's Special Onion Manure, from stock of S. B. Wakeman, Saugatuck.
Nos. 586, 587, 588, were sampled and sent by George P. Jennings, Greens Farms.

589 No. 1 Standard Peruvian Guano, from stock of F. Ellsworth, 44 Market Street, Hartford.

590 Ammoniated Bone Phosphate, made by Rafferty & Williams, N. Y., from stock of F. Ellsworth, Hartford.

592 Export Bone Superphosphate, from stock of Mapes Formula and Peruvian Guano Co., Conn. Valley Branch, Hartford.

593 "A" Brand, Mapes Complete Manure, from stock of Conn. Valley Branch, Hartford.

	586	587	588	589	590	592	593
Nitrogen as Nitrates,							.42
Nitrogen as Ammonia,		4.32	5.42				.32
Organic Nitrogen,	.84			6.73	2.00		1.56
Soluble Phos. Acid,	7.49	4.30	5.09	2.28	8.05	12.99	3.40
Reverted Phos. Acid,	2.11	1.07	.75	4.56	7.23	2.58	7.53
Insoluble Phos. Acid,	2.69	.37	.08	4.70	1.38	.55	2.27
Potash,		9.05	6.76	2.94	2.53		3.25
Chlorine,		4 53	1.12	9.00	2.24		3.18
Estimated Value per ton,	$27.92	42.52	46.70	50.05	34.54	37.76	37.55
Cost per ton,	$36.00	48.00*	48.00*	66.00	†	36.00	42.00

*In New York. †$4.20 per bag of 200 lbs.

The Station is advised by several firms whose character stands high as producers of fertilizers, that the present wholesale cost of the elements of fertilizers is as great or greater than the Station Values for 1881, that accordingly, the Station Valuations of certain fertilizers as recently published, are lower than the articles can possibly be made for, and that therefore these valuations are unjust and injurious to the manufacturers, or at least, are likely to be interpreted to the prejudice of the latter.

The "Explanations" which accompany the manuscript reports of analyses, and which are printed in the Annual Reports, are believed to be sufficient to forestall such a result. Since however the Bulletins may be read by those who do not see those Reports, some passages from the latter are here reproduced.

"Nearly all of the less expensive fertilizers have variable prices, which bear no close relation to their chemical composition, but guanos, superphosphates and other fertilizers, for which $30 to $80 per ton are paid, depend chiefly for their trade-value on the three substances, nitrogen, phosphoric acid and potash, which are comparatively costly and steady in price. The money-value per pound of these ingredients is easily estimated from the market prices of the standard articles which furnish them to commerce."

"These trade-values of the elements of fertilizers are not fixed, but vary with the state of the market, and are from time to time subject to revision. They are not exact to the cent or its fractions, because the same article sells cheaper at commercial or manufacturing centers than in country towns, cheaper in large lots than in small, cheaper for cash than on time. These values are high enough to do no injustice to the dealer*, and accurate enough to serve the object of the consumer."

"The uses of the 'Valuation' are, 1st, to show whether a given lot or brand of fertilizer is worth as a commodity of trade what it costs. If the selling price is no higher than the estimated value, the purchaser may be quite sure that the price is reasonable. If the selling price is but $2 or $3 per ton more than the estimated value it may still be a fair price, but if the cost per ton is $5 or more over the estimated value, it would be well to look further. 2d, Comparisons of the estimated values, and selling prices of a number of fertilizers will generally indicate fairly which is the best for the money. But the 'estimated value' is not to be too literally construed, for analysis cannot always decide accurately what is the *form* of nitrogen, &c., while the mechanical condition of a fertilizer is an item whose influence cannot always be rightly expressed or appreciated."

"For the above first-named purpose of valuation the trade-values of the fertilizing elements which are employed in the computations, should be as exact as possible and should be frequently corrected to follow the changes of the market. For the second-named use of valuation frequent changes of the trade-values are disadvantageous, because two fertilizers cannot be compared as to their relative money-worth, when their valuations are estimated from different data. The greatest good of the greatest number is best served, in an Annual Report,† by a middle course, especially since, in such a document, the fluctuations in trade-value that may occur within the year, cannot be accurately followed, and the comparisons of estimated values are mostly in retrospect."

*Hitherto the trade-values adopted by the Station have been, on the whole, much more favorable to the producer than to the consumer. At present, these values, as given in Bulletin 58, need do no injustice to the dealer or manufacturer, and will not if the consumer is informed that prices have advanced, and especially if he is made aware of the extent of the advance.

Now, the fact of an advance, and the amount of it, are at once learned by the consumer when he begins to negotiate for supplies, and it has therefore seemed unnecessary for the Station to do more than allude to the fact. It is hardly the office of the Station to go into the General Information Business. Its duty is discharged when it puts before the public the special knowledge which there is no other agency for supplying, and which it was created to furnish.

Recent quotations show, as nearly as can be reckoned, the following wholesale rates in New York, with, in most cases, rising market.

Potash per 100 lbs., in	Muriate, scarce,	$3.60–$ 4.00
" " " "	Kainite, no demand,	3.00
Phos. Acid, " " "	Fine-ground South Carolina Rock,	3.40
Nitrogen, " " "	Sulphate Ammonia, scarce.	25.00
" " "	Nitrate Soda,	21.00
" " "	Blood and Tankage, dry and fine, scarce,	18.00

†Since the above was first printed, experience leads to the conclusion that for the sake of comparison, the trade-values adopted at the beginning of the year should be adhered to as nearly as possible, while notice should be taken of considerable changes in the market, in order that due allowance may be made therefor.

CORRECTION.

In Bulletin No. 60 the Nitrogen in E. Frank Coe's Superphosphate, No. 586, should be 2.34 per cent., and the valuation, $35.12. Cost, $36.00.

In the same Bulletin, the Reverted Phosphoric Acid in Rafferty & Williams' Ammoniated Superphosphate, No. 590, should be 1.23 per cent. instead of 7.23 per cent.