

**128.—REPORT OF ANALYSIS OF A SAMPLE OF FISH GUANO MADE FROM SALMON OFFAL, BY MR. JOSEPH SPRATT, OF VICTORIA, BRITISH COLUMBIA.**

**By Prof. W. O. ATWATER.**

The sample, as received, was fine, dry, and in excellent mechanical condition. The analysis shows an usually large amount of nitrogen and phosphoric acid.

ANALYSIS.

	Per cent.
Water .....	11.28
Nitrogen.....	9.88
Equivalent to ammonia .....	12.00
Phosphoric acid.....	5.51
Fat (oil).....	11.61

Statements explanatory of the composition, commercial values, and agricultural uses of fish guano may be found in the report of the United States Fish Commission, 1877 (pp. 229, 236, &c.), from which it will be seen that this sample is of unusually high grade. It has indeed higher percentages of both nitrogen and phosphoric acid, and is, consequently, more valuable for fertilizing purposes than any of the specimens mentioned in that report. It has also a large content of fat, which would, with the nitrogenous matter, give it a very high value for food for stock, in case, as is by no means impossible, fish refuse should ever come into use for this purpose.

I learn by inquiry that fish guano, like other nitrogenous fertilizers, is just now rather cheap and not much in demand in the market. "The 10 per cent ammonia grade has," I am told, "been selling in bulk at factory (near New York) at \$24 per ton." This is at the rate of \$2.40 per unit of ammonia. At this rate guano, like Mr. Spratt's sample, with 12 per cent ammonia, would be worth \$28.80 per ton. The percentage of phosphoric acid is very large, and some buyers might make allowance for it. These, however, are matters upon which I am hardly competent to give full information.

As a fertilizer, fish guano is used mainly in connection with phosphates and potash salts. Used alone its effect is generally inferior to that of materials which contain relatively more phosphoric acid and less nitrogen, and it has, on that account, not come into general use among farmers. It is, however, very much employed by manufacturers as an ingredient of mixed fertilizers. Of late nitrate of soda has been very cheap and has reduced (though I presume only temporarily) the demand for fish fertilizers. In short, the sample is one of a very high grade of fish guano, and unless I greatly err such material will be increasingly in demand in the future.

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