

Nitrate of soda and sulphate of ammonia furnish large amounts of readily assimilable nitrogen. Undoubtedly the former, considering the character of the soil, will be the better. On acid soils and soils deficient in lime, sulphate of ammonia may do positive harm. From 100 lbs. to 200 lbs. per acre, applied in several applications, at intervals of a few weeks, as a top dressing during the earlier months of growth. The greater solubility of nitrate points to the advisability of never applying it save when there are growing plants to make use of it, and the economy of several small dressings, rather than one large one at the opening of the season.

#### PHOSPHORIC ACID.

Bone meal, superphosphate and basic slag are the chief phosphatic fertilizers obtainable leaving out of consideration fish pomace, already referred to. Bone meal is also a source of nitrogen, containing from 2.5 to 4 per cent. of this element. Its phosphoric acid is not immediately assimilable, but becomes so gradually in a soil that is warm, moist, and well drained. It is probably better suited for grass lands and orchards than for crops with a short season of growth. The usual application lies between 300 and 500 lbs per acre.

Owing to the sourness of the soil of this tract and its deficiency in lime, the writer is of the opinion that basic slag, finely ground, would be found a very useful source of phosphoric acid. It contains in the neighbourhood of 17 per cent. phosphoric acid and 15 per cent. free lime. Its application may be 300 to 500 lbs. per acre. Such excellent results have been obtained from this fertilizer in England and Germany that it would appear to be well worth trial, especially on such soils as we are now considering. Further information regarding basic slag will be found in the Report of this Division for 1898.

#### POTASH.

Unfortunately, it appears that wood ashes, a most valuable source of this element, are not obtainable in quantities in British Columbia.

To those in proximity to the Coast, sea weed will prove a cheap and valuable manure. A sample of fresh sea weed, examined by us in 1894, contained about 2 per cent. potash and 5 per cent. nitrogen. Unless well dried, it would scarcely pay to freight sea weed any great distance inland, and in any case it is advisable to allow the sea weed to well dry on the shore before hauling to the farm.

Kainit, muriate of potash and sulphate of potash are potassic manures imported from Germany. Kainit contains about 12 per cent actual potash; muriate and sulphate about 50 per cent. actual potash. These fertilizers should always be bought on guaranteed analysis.

The average application of muriate and sulphate is 100 lbs. per acre; of the kainit, about 400 lbs. per acre. As the winter season in this district is always more or less open and rainy, the writer is of the opinion that spring application of these fertilizers would prove the most profitable.

Most poor and exhausted soils usually respond to a complete fertilizer; that is, one that contains all three of the elements of plant food—nitrogen, phosphoric acid and potash. The proportion of each of these most economical to use must, however, be largely determined by the character of the crop to be grown, the nature of the past manuring, and the results of careful experimenting on the soil and with the crop under consideration. The amounts we have given in this report are those commonly employed; more specific instructions require a knowledge of the circumstance, and those desiring such are invited to place themselves in correspondence with this Division.

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*December 28th, 1900.*

No.	S
1	Surface
3	Hardpa from
2	Hardpa from