CANADIAN FLUOR-APATITE.

The importance of a supply of Phosphates to the soil is made evident by the fact that the mineral part of the bones of animals is for the greater part Phosphate of Lime, and up to a recent period furnished a sufficient supply of this material for the demands of commerce.

Of late years, the increasing demand for Phosphates as fertilizers has drawn attention to the use of the crystalline mineral phospilate of lime, or Apatite, of which large quantities have been imported from Norway and elsewhere, into England, and attention has recently been turned to the abundant supplies of this mineral existing in Canada.

The question is sometimes as whether the native phosphate of lime may not be directly applied to the soil as a manure, and thus dispense with the costly process of converting it into super-phosphates.

Ground bones, which is used with great advantage as a manure, owes a portion of its efficacy to the organic matter it contains, and which, by its slow decay in the soil, gives rise to ammonia, an important fertilizer.

The more dense phosphate of the crystalline apatites is, however, much less soluble than the phosphate contained in bones, and therefore much slower in its action when applied to the soil. Hence it becomes an object to the agriculturist to apply phosphate in small quantities, and in such a form as will be immediately available to the growing crop.

For this purpose he has recourse to the super-phosphates of lime or to some other soluble phosphate. When this is applied to the soil, it is first taken into solution by the water there present and is then decomposed by the compounds of lime and other bases in the soil, so that it is converted again into an insoluble phosphate, which is