

A "LOST" VIKING CEREAL GRAIN

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ABSTRACT.—Lyme grass (*Elymus arenarius*), a coastal wild grass of the arctic and sub-arctic of the northern hemisphere, occurs in carbonized form in Viking archaeological sites, especially in Iceland and Greenland. There is also an increase in *elymus* pollen contemporary with the Viking homesteads at L'Anse-aux-Meadows, Newfoundland. In Iceland, lyme grass grain was the main source of bread flour until the eighteenth century, when imports from Europe of wheat flour replaced it. Folk tradition in Iceland held that lyme grass bread was both more tasty and nutritious than wheat bread. Comparison of some basic nutritional values of lyme grass grain with some other standard foodstuffs, including amaranth, shows that lyme grass has considerable nutritional value for human beings. The most remarkable aspect of the restoration of lyme grass as a foodstuff in the future would be that it would form a cereal crop which can be grown in the arctic regions where no other suitable agricultural crop is forthcoming. If the world food shortage becomes more acute in the next few decades, the cultivation of lyme grass would open up millions of acres of food production.

INTRODUCTION

Several peoples of the world have been recorded as having used lyme grass (*Elymus arenarius* L.) as a flour. While this grass (Fig. 1) normally grows in circumpolar contexts, primarily near marine environments, Newberry (1857) cites its collection by Pacific coast "Digger" Indians as far south as northern California. It has also been collected by peoples of the northern Soviet Union (Komarov 1963). The greatest users of lyme grass, however, were the Vikings, especially those Norsemen who came to Iceland, Greenland, and Newfoundland. Different folk names are "strand oats" and "strand wheat" in English, *Strandhvede* (Strand wheat), *Sandhavre* (Sand Oats), *Vild Hvede* (wild wheat), *Melur* and *Sand Melgras* (Sand Meal-grass) in Norwegian and Icelandic. These folk-names (Fernald 1910) reveal a notion of lyme grass bearing an edible grain.

The evidence for lyme grass from mainland North America comes from two sources. The first source is the reference to "self-sown wheat" in the Vinland discovery sagas (Magnusson and Palsson 1965:52). The second source of evidence is from the excavations at L'Anse-aux-Meadows, Newfoundland, where there is a distinct jump in easily recognizable *Elymus* pollen in several zones at the site, although the genus was in Newfoundland thousands of years before the Norse settlements (Henningmoen 1977).

In the pollen at L'Anse-aux-Meadows pond *Elymus* pollen is present at the deep 160-170 cm levels with a C^{14} date of 3,890 ± 110 B.P., but it rapidly drops out of the record at two loci. It picks up again later, at the 60-80 cm levels, roughly at the position of the Norse occupation, judging from the date cited, and another date at 2,000 B.P. obtained from the column. A third sample has *Elymus* only at the 60-70 cm zone where the radiocarbon date falls between 1,130 to 1,450 B.P. at a 95% confidence level.