Agricultural and Food Science - abstract

Vol. 12 (2003), No. 2, p. 107-115

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Effect of liming on yield and quality of peppermint and Sachalin mint in fine sand soil of Northern Finland

Keywords Lamiaceae, lime, Mentha arvensis var. sacchalinensis, Mentha x piperita, menthone,

Abstract

Soil acidity commonly limits plant production in the fine sand soil of Northern Finland, which often has a low pH (5.5-6.5) and
levels of Ca and Mg. The effect of five liming (10% Mg and 19% Ca) levels, 0, 4, 8, 12, and 16 tons ha -1 , on the herb and ess
yield and menthol and menthone content of two mint species (peppermint, Mentha x piperita, a variety of Black Mitcham and Sacha
Mentha arvensis var. sacchalinensis) cultivated in fine sand soil in Northern Finland (6440扤 and 2505扙) was studied during 19
clearly increased the pH levels and the Ca and Mg content of the soil. The dry matter content, essential oil quantity, and the
menthone content in mints were not affected by liming. In comparison with no liming however, liming at a rate of 4 t ha -1 doub
yield. The highest yield was achieved in Sachalin mint by liming at 4 or 8 t ha -1 in the second and third year (soil pH 6-6.5)
l -1 and Mg 122- 219 mg l -1), and in peppermint by liming at 4, 8 or 16 t ha -1 (soil pH 6-6.6) (Ca 725-1272 mg l -1 and Mg 1
1). Therefore, we conclude that a higher peppermint and Sachalin mint yield is achieved by increasing soil pH to values above
sand soil of Northern Finland.

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[Full text] (PDF 126 kt)

Update 25.11.2003.