

Agricultural and Food Science - abstract



Vol. 13 (2004), No. 4, p. 327-337

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Microbial quality of linseed and fibre hemp plants during growing and harvest seasons

Keywords *Linum usitatissimum* L., *Cannabis sativa* L., Microbial quality, Growing season,

Abstract

Linseed (*Linum usitatissimum* L.) and fibre hemp (*Cannabis sativa* L.) can be used as raw materials in various applications. In this study, microbiological quality and metabolic measurements were made during the growing seasons and harvesting periods of 2001 and 2002. The microbiological analyses were carried out with Hygicult® TPC and with a surface spreading method using Plate Count and Potato Dextrose agars. During the growing season of 2001 the conditions were mostly humid, whereas the growing season of 2002 was rather dry and warmer than that of 2001. The lack of water during the growing season of 2002 affected the growth of the plants. In the case of both hemp and flax, bacterial contents (cfu/g dw-1) increased markedly at the end of the growing season of 2001. During the growing season of 2002 the increase in mould and bacterial contents was more constant throughout the whole growing season. At the end of the growing seasons, the mould and bacteria contents were higher in 2001 than in 2002. The genera identified included *Cladosporium*, *Fusarium*, *Penicillium*, *Mucor* and *Alternaria*. The microbiological safety should be controlled during the whole production chain, beginning with the harvesting periods.

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Update 21.3.2005.

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