Back

Agricultural and Food Science - abstract

Vol. 13 (2004), No. 1-2, p. 88-99

LEHTINEN, PEKKA, LAAKSO, SIMO,
Role of lipid reactions in quality of oat products

Keywords oat, lipids, storage stability,

Abstract

In traditional oat processing practice the control of lipid reactions relies largely on empirical experiences and dogmatic principles rather than on profound understanding of the underlying mechanisms. However, in today担 global food markets, the industry faces strict challenges in the development of new processes and applications where the prior experience is unsatisfactory or insufficient. The storage stability of novel oat products can be greatly enhanced by taking the mechanisms of lipid deterioration into account, and by adjusting the processing conditions accordingly so that these reactions can be minimized. The lipid reactions in oat products result in two different unwanted properties: bitter, astringent, taste or a rancid flavor. Chemically, these properties are associated to enzymatic hydrolysis of ester bonds and non-enzymatic oxidation of unsaturated fatty acyl chains respectively. The processing history oat product has a huge impact on which of these reactions predominates in oat products. The review focuses on the reactions of lipids in processed oat products, and identifies factors that are critical for enhanced shelf-life.

Contact Pekka.Lehtinen@hut.fi

[Full text] (PDF 121 kt)

Update 16.6.2004.

Source: MTT's Publications database Afsf