Quality Changes of Sterilized Soybean Paste during Its Storage

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Abstract

The sterilization was attempted to improve the quality deterioration of soybean paste during its storage. For this experiment, soybean paste was sterilized at 80°C for 30 minutes and stored during 6 months at 15°C and 30°C, respectively. The total approximate composition contents were moisture 52.5%, crude protein 11.94%, crude fat 2.0%, amino nitrogen 413.3mg%, sodium chloride 11.61% and ash 15.5%. According to the increase of storage period, pH was decreased gradually because of the increase of organic acids by the metabolism of microorganisms and the acid accumulation by acid forming bacteria, but titratable acidity was increased during storage. Amino nitrogen was rapidly increased for the first one or two month storage period and maintained as the same level for the rest of them. Each amino acid contents of soybean paste, which were glutamic acid, tryptophan, proline, arginine, and aspartic acid, had much higher level than others. In color changes sterilized soybean paste(SSP) was much lower than that of raw ones(RSP). Hunter L and b values on the surface of soybean paste were decreased during storage, and the decreasing levels were higher at 30°C than at 15°C. Hunter a value, however, was increased a little in the initial storage, and thereafter it was decreased. Lactic acid bacteria, yeasts, and molds were disappeared completely by the sterilization. However, the bacteria of aerobes and anaerobes were not disappeared by this processing.

Key words: soybean paste, sterilization, storage, quality change