Development and Utilization of Ultra—low—salted Miso by *Neurospora intermedia*.

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Summary

Miso has various valuable physiological functions and been used in healthy maintenance. However, nowadays the consumption of miso is decreasing along with the popularization of western food in Japan and also due to its high salt content. In Indonesia, *ontjoms*, non—salt traditional fermentation foods made from peanut press cake, soybean curd (okara) etc. by *Neurospora intermedia* have been developed and consumed. Recently I have prepared defatted soybean ontjom using defatted soybean as raw material and found to have various physiological functions. Since *Neurospora* and *Aspergillus* belong to different mycotina, namely, *Ascomycotina* and *Deuteromycotina* respectively, if soybean—ontjom(s—ontjom) and okara—ontjom (o—ontjom) are used together to make miso, new bioactive substances which may never been found in conventional miso might be produced via the collaborative effects of the different fungal enzymes. This study deals with the preparation of ultra—low—salted miso using S—ontjom and O—ontjom in order to preserve the traditional miso—eating habit, to prevent life—style related diseases and to enhance health.

Three kinds of ultra—low—salted misos, namely, soy—miso using 100% soybeans, S—ontjom—miso using 100% S—ontjom and O—ontjom—miso using 90% S—ontjom and 10% O—ontjom respectively, were brewed with 50% rice koji (malted rice), 4% salt, 2% alcohol and 1.0×10^5 *Zygosaccharomyces rouxii* IAM 4114 at 30℃.

Fermentation of S—ontjom—miso and O—ontjom—miso was completed for 5 weeks that was one week shorter than that of soy—miso. 1,1, —Diphenyl—2—picryl—hydrazil(DPPH) and superoxide anion (O_2^-) of scavenging activity of the 3 misos decreased as follows : O—ontjom—miso, S—ontjom—miso and soy—miso. Seventy percent ethanol soluble substances as well as water soluble substances from O — ontjom — miso showed strong O_2^- scavenging and antimutagenesis activity. Therefore, O—ontjom—miso could be expected to be useful for healthy improvement and maintenance. The effects of 70% ethanol soluble substances might be contributed to isoflavone — aglycones. The antioxidative activity of O—ontjom—miso was weakened while it was over—heated. Oben—miso and custardcream prepared with O—ontjom—miso have improved taste that enhanced the preference. Therefore, the more new recipes using ultra—low—salted misos as an ingredient are created, the more popularity O—ontjom—miso will win in the future.