

The Production of High Healthy Functional Substance from Germinating Bean or Cereal under High Salty Stress

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Summary

Germinated cereals and beans contain many nutrients and healing food functional substances. Particularly, soybeans are thought to have many such nutrients and healing food functional substances, and to produce more such substances. This study investigated some nutrients and healing food functional substances produced by germinated soybeans. Soybean varieties of *Ohtsuru*, *Toyomasari*, and *Yukihomare* were germinated in 0–10% sodium chloride solution. After germination, free dissolved amino acids and peptides increased during three days, especially in the *Ohtsuru* variety, the free nitrogen as free dissolved amino acid and peptide was increased during germination through the degradation of stored proteins. Moreover, the ratio of free glutamic acid in germinated soybeans was increased. The *Ohtsuru* variety was particularly noteworthy: the 1% sodium chloride was found to have 41% glutamic acid in it. Soybeans have 60–90 (mg/100 mL) of GABA (γ -aminobutyric acid). They have 20–40 times as much as non-germinated soybeans. Moreover, their angiotensin converting enzyme (ACE) inhibitory activity was found to be 12 times as high as that of non-germinated soybeans. Results show that many nutrients and healing food functional substances in soybean were modified through germination in a sodium chloride solution.