

Session II Lecture 3

New Aspects of fermentation by KOJI,

Aspergillus oryzae

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Summary

The Japanese traditional dietary culture was registered as an intangible heritage by UNESCO in 2013 due to its uniqueness. The flavors of Japanese foods are characterized by traditional fermented ingredients such as Shoyu, Sake and Miso. The microorganism which has been historically used for manufacturing these fermented ingredients is *Aspergillus oryzae* called Koji. We are aiming to utilize Koji fermentation technologies accumulated in Japan to solve upcoming social problems. Because *A. oryzae* cells contains large amounts of protein and *A. oryzae* can grow on various organic materials, we could produce protein-rich edible *A. oryzae* cells from food waste. Additionally, we succeeded in omega-3 fatty acid production in *A. oryzae* cells. We believe that integration of these technologies would realize new food system which simultaneously achieve economic value creation and ecological sustainability.