

Microencapsulation of Isoflavone derived from Pueraria

Jin-Seok Seok, Deok-Han Kim, Song-Hee Kim and Hae-Soo Kwak
Department of Food Science and Technology, Sejong University

This study was carried out to investigate the addition of Pueraria derived isoflavone into milk by means of microencapsulation technique. The yield microencapsulation, sensory attributes, and capsule stability of the isoflavone microcapsules in milk were measured during 12 days. Coating materials used were polyglycerol monostearate (PGMS) and medium-chain triacylglycerol (MCT), and core material was Pueraria derived isoflavone. The encapsulation yield of isoflavone with MCT was 70.1 % and with PGMS 72.5 % when the ratio of coating material to core material was 15 : 1. The rate of Pueraria derived isoflavone release was 15, 20, and 25% when stored at 4, 20, and 30° for 12 days in milk, respectively. In sensory evaluation, beany flavor and color of microencapsuled the isoflavone added into milk were significantly different from control and unencapsuled isoflavone in milk, however, bitterness was not significantly different. *In vitro* study, microcapsules of the isoflavone in simulated gastric fluid with the range of 3 to 6 pHs were released 3.0~15.0%, however, the capsules in simulated intestinal fluid with pH 7 were released 95.7% for 40 min incubation time. In conclusion, this study provided that MCT and PGMS as coating materials were suitable for the microencapsulation of Pueraria derived isoflavone, and the capsule containing milk was not affected with sensory attribute.