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WANNEE THAMKUNAWUT : PRODUCTION OF CALCIUM FORTIFIED SOY YOGURT . THESIS ADVISORS : NAIYANA BOONTAVEEYUWAT, Ph.D.(Bio.Tech.) WICHA PUNGPAPONG, M.P.H.(Nutrition) SUWAT SRISORACHAT, M.A.(Demography)

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The purpose of this study was to produce calcium fortified soy yogurt. The product would be available for vegetarian consumers. In addition the product has no cholesterol so would be suitable for the hypercholesteremia and cardiovascular disease risk groups. However, soy milk has a lower calcium level than cow's milk. Therefore, calcium lactate was added into soymilk to increase calcium before producing soy yogurt in the present study. The study of production process of calcium fortified soy yogurt started from producing soy milk and then studying the suitable amount of soy flour and calcium lactate used. The calcium fortified soy milk which had optimum total solids was chosen to produce yogurt. By using 10% of *L.bulgaricus* and *S.thermophilus* in the ratio of 1:1 at an incubation temperature of 43°C, the optimum incubation time and the amount of pectin were studied. The first sensory evaluation test was conducted with calcium fortified soy yogurt composed of 69.4% soy milk, 12.0% soy flour, 1.0% calcium lactate, 7.0% sugar and 0.6% pectin. Sugar of 7-19% was added to select the most acceptable formula for calcium fortified soy yogurt, to analyze nutritive values and to study the storage time.

The result showed that the most acceptable calcium fortified soy yogurt was composed of 63.4% soy milk, 12% soy flour, 1% calcium lactate, 13% sugar and 0.6% pectin by inoculating 10% starter culture using an incubation temperature of 43°C for 4 hours. The shelf life of the product was 14 days of storage in a refrigerator. Furthermore, calcium fortified soy yogurt contained 4 times more calcium than soy milk and it was full of 1.49% beneficial dietary fiber.