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PIYANUCH CHANTAPARK : APPLICATION OF FIBER INGREDIENTS IN
REDUCED-FAT CHINESE PORK SAUSAGES. THESIS ADVISORS : ANADI
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Kunchieng (Chinese pork sausage) is a local meat product which is popular in Thailand. Generally, many kinds of Kunchieng in the market are high in fat content. The use of fat in the formula makes product texture softer, makes the product very appetizing and also reduces cost. However, consumption of a high fat diet is the main cause of obesity and an important risk factor to the development of coronary heart disease, hypertension and some types of cancer. Therefore, the aim of this study is to develop reduced-fat Kunchieng by reducing pork fat by 60, 80 and 100% from the initial level in the control formula. Five kinds of fiber ingredients were added to improve the texture since fat reduction in the meat product changes its texture, making it hard and unappetizing. The fibers used were powdered cellulose, carboxymethyl cellulose (CMC), microcrystalline cellulose (MCC), carrageenan and wheat fiber. The addition of CMC at 0.1 %, 0.2 % and 0.3% by weight to 60, 80 and 100% reduced fat products respectively was found to produce the most acceptable reduced-fat Kunchieng. From sensory evaluation, the acceptability score of modified formulas were like slightly to like moderately (average score 6.8-7.5 from a 9-point hedonic scale) which was not significantly different from the control ($p>0.05$). The texture of these products were just-about-right, and neither too hard nor too soft, (average score 3.3-3.5 from a 5-point just-about-right scale) which was not significantly different from the control ($p>0.05$). From chemical analysis, fat and calorie reduction in the modified products ranged from 25-80% and 7-20%, respectively. The costs of reduced-fat Kunchieng were higher than that of the control by about 10-20 baht/kg (ingredients only).