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Gel Property of Surimi-like Materials from Pig Heart, Tenderloin and Ham

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To investigate the functional property of surimi-like materials (SLM) from pig heart (PH), *psoas major muscle* (PM) and *semimembranosus muscle* (SM), the three muscles were obtained immediately after slaughter at a commercial plant. Samples were diced, chopped and washed with 25 mM sodium phosphate buffer (pH 7.0) to extract myofibrillar protein. The resulting residue was centrifuged to prepare SLM, and the SLM was heated for 20 minutes at 75℃ in water bath to determine characteristics of gel. PM showed significantly higher yield percentage of SLM compared with SM and PH ($p<0.05$). PH samples showed the lowest yield percentage of SLM and higher cooking loss percentage than those of SM and PM samples. PH samples showed significantly different SDS-page gel pattern of myofibrillar and sarcoplasmic proteins in 7 specific regions compared to SM and PM samples. Especially the bands of myosin and actin had reduced staining intensity in PH samples. Gel from SM samples had significantly ($p<0.05$) higher moisture content, hardness and stronger gel strength compared with gels from PM and PH samples. Moreover, color of SM gel was more white (lower a* and b* value) and brighter (higher L* value) whereas PH gel showed brown color slightly. Results suggested that SM had better functional properties including texture and color for surimi processing, but PH had poor texture, color and yield percentage for surimi due to different characteristics on myofibrillar proteins. Data implied that gel property of SLM from skeletal muscle depended on condition of muscle fiber.

Key words : surimi-like material, myofibrillar protein, pig heart.