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# Effects of Rigor States of Muscle on Gel Property of Surimi-like Pork

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The objective of this study was to evaluate the effect of rigor conditions of porcine muscle on gel properties of surimi-like material (SLM). The *semimembranosus* muscle was obtained by hot carcass, and the lean muscle was divided into three portions. For pre-rigor sample a SLM was manufactured with one of the three portions immediately while the other portions were used to manufacture SLM at postmortem 24 or 72 hrs for rigor and post-rigor samples, respectively. The SLMs of pre-rigor and in-rigor muscles were lighter than that of post-rigor muscle after cooking. When pre-rigor muscle was used, more color was removed with the first washing step, resulting in lighter water washed material. After cooking of SLM, there were significant differences in Chroma and Hue values among treatments. Yield% of pre-rigor muscle was significantly decreased compared to in-rigor and post-rigor muscles. Results suggested that sarcoplasmic proteins including pigments such as myoglobin and residual hemoglobin in pre-rigor muscle could be removed easily by water washing, resulted in having decreased yield of SLM. This was confirmed in sarcoplasmic proteins fraction of SDS-PAGE. Intensities of some sarcoplasmic enzymes such as phosphorylase were dim in post-rigor and in-rigor muscles. The sarcoplasmic enzymes were still remained with myofibrillar proteins fraction in SLM. Although WHC of SLM from post-rigor muscle was significantly lower, gel strength and hardness of cooked SLM were significantly ($p<0.05$) stronger and harder in post-rigor muscle than those of other muscles. It was assumed that the lower moisture% in SLM from post-rigor muscle might be related to gel strength and hardness. These results indicated that strong gel could be obtained with post-rigor porcine muscle because of higher concentration of protein in SLM. The post-rigor muscle, however, could produce dark color that would be avoided for surimi products.