

PENGARUH PEMBEKUAN DAGING *PRE* DAN *POST RIGOR* TERHADAP
SIFAT FISIK OTOT *LONGISSIMUS DORSI* DAN *BICEPS FEMORIS*
SAPI PERANAKAN ONGOLE BETINA

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh kondisi daging pra pembekuan (*pre* dan *post rigor*) dan macam otot terhadap kualitas fisik daging sapi Peranakan Ongole betina dewasa. Pembekuan dilakukan selama dua minggu. Sampel daging diambil dari lima ekor sapi Peranakan Ongole betina dewasa dengan berat badan 250-300 kg, bagian punggung pada otot *Longissimus dorsi* (LD) dan bagian paha pada otot *Biceps femoris* (BF). Setiap sampel dibagi menjadi empat bagian : bagian pertama (kontrol) diuji dalam keadaan segar, bagian kedua daging segar (*pre rigor*) langsung dibekukan selama dua minggu, bagian ketiga daging segar langsung di *chilling* selama dua belas jam lalu dibekukan selama dua minggu, bagian keempat daging segar didiamkan sampai pH ultimat tercapai (*rigormortis*) setelah itu di *chilling* selama dua belas jam lalu dibekukan selama dua minggu (selama *chilling* dan pembekuan sampel dikemas dengan plastik polietilen, temperatur *chilling* 0°C dan temperatur pembekuan -18°C). Sampel bagian kedua, ketiga, dan keempat sebelum diuji terlebih dahulu dilakukan *thawing* dengan air mengalir selama tiga jam. Variabel yang diamati meliputi pH, *cooking loss*, WHC (*water-holding capacity*) dan keempukan. Data dianalisis dengan analisis variansi pola faktorial design 2X4 dan dilanjutkan dengan uji *Duncan's new multiple range test* (DMRT) untuk perbedaan rata-ratanya. Hasil analisis statistik menunjukkan perbedaan sangat nyata antara perlakuan dan macam otot terhadap nilai pH, *water-holding capacity* (WHC), *cooking loss*, dan keempukan. Pembekuan *prerigor* menghasilkan kualitas terbaik untuk nilai pH dan WHC dan tidak berpengaruh terhadap nilai *cooking loss* dan keempukan. Interaksi antara perlakuan dan macam otot hanya ditemukan pada nilai pH.

(kata kunci : *Longissimus dorsi*, *Biceps femoris*, Sifat Fisik, *Pre/postrigor*, Sapi peranakan Ongole Betina, Daging

THE EFFECT OF PRE AND POST RIGOR MEAT FREEZING ON
PHYSICAL QUALITY OF *LONGISSIMUS DORSI* AND *BICEPS*
FEMORIS MUSCLES OF FEMALE ONGOLE GRADE CATTLE

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ABSTRACT

The experiment was conducted to find out the effect of pre freezing of meat condition (pre and *post rigor*) and muscle types on physical quality of Ongole grade cattle meat. The freezing was done for two weeks. Meat samples were collected from *Longissimus dorsi* muscle of five Ongole grade cattle weighing 250 - 300 kg, and of thigh muscle of *Biceps femoris* (BF). Each sample was divided into four parts. The first group (control) was tested in fresh condition. The second group of fresh meat (*pre rigor*) was frozen instantly for two weeks. The third group of fresh meat was chilled for twelve hours and then was frozen for two weeks. The fourth group of fresh meat was left in fresh condition until the ultimate pH achieved (*rigormortis*) condition, and then it was chilled, for twelve hours and was frozen for two weeks (during chilling and freezing process, the sample was packed with polyethylene plastic bag, with chilling temperature of 0°C and freezing temperature of 18°C). The second, the third, and the fourth group of samples were firstly *thawed* with water for three hours before being tested. The variables observed included pH, cooking loss, WHC (water-holding capacity) and tenderness. The data were analyzed by analysis of variance factorial pattern 2x4 and continued by Duncan's new multiple range test (DMRT) for the differences between variances. The results showed that a significant difference between treatment and muscle types on pH value, *water - holding capacity* (WHC), *cooking loss*, and tenderness were observed. *Prerigor* freezing resulted the best quality for pH value and WHC and did not affect *cooking loss* value and tenderness. Interaction between treatment and muscle types was found on pH value.

Key words : *Longissimus dorsi*, *Biceps femoris*, Physical Quality, *Pre/Post rigor*, Female Ongole Grade Cattle, Meat.