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AN INVESTIGATION REGARDING THE USE OF CARBON MONOXIDE FOR COLOUR STABILITY AND INHIBITION OF LIPID AND PROTEIN OXIDATION IN MEAT

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Abstract – The use of carbon monoxide (CO) to enhance and stabilise the colour of red meat is well known. Its use on red meat has however raised concerns due to its ability to mask visible spoilage indicators (discolouration). Thus in an attempt to improve the consumer and scientific perception regarding its use, other suggested benefits such as the inhibition of lipid and protein oxidation were investigated. Yellowfin tuna was used as a model to investigate the effects of CO on the colour, lipid and protein oxidation in red meat. Samples were extracted from the dorsal loin of the tuna, vacuum packaged and frozen for 30 d before being subjected to a 32 d shelf-life trial at 4°C. The surface colour, lipid and protein oxidation was measured every 4 d using the CIE Lab colour system, TBARS and DNPH methods, respectively. It was found that the CO did enhance and stabilise the colour of the tuna muscle, but had no effect on the lipid and protein oxidation. The findings did, however, reiterate the concerns regarding the ability of CO to mask visible spoilage indicators.

Key Words – CIE Lab, DNPH, TBARS

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MEAT QUALITY OF BEEF FROM CROSSBRED ANIMALS FED TWO DIFFERENT DIETS

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Abstract – Meat quality can be affected by breed, diet, production systems, pre and post slaughter conditions. This study aimed to evaluate the meat quality from young bulls from Charolais or Hereford bulls and 1/2 Angus x 1/2 Nellore or 1/2 Simental x 1/2 Nellore cows, fed two different diets. Samples were also aged for 28 days. Shear force, water holding capacity, colour, pH and cooking loss were measured. Meat quality was not affected by bull or cow genetic groups and only water holding capacity was affected by diet. Aging time played a major role affecting all the quality parameters except pH and cooking loss.

Key Words – Charolais, Hereford, Physico-chemical analysis