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**The identification of dark cutting beef carcasses in Australia, using Nix Pro Color Sensor™ colour measures, and their relationship to bolar blade, striploin and topside quality traits**

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**ABSTRACT**

Within 24 h *post-mortem*, loin surfaces of Australian beef carcasses ( $n = 436$ ) were evaluated using the Nix Pro Color Sensor™ (NIX). The potential for colorimetrics ( $L^*$ ,  $a^*$ ,  $b^*$ , hue and chroma) to discriminate between dark cutting (DC) and non-dark cutting (nDC) carcasses was compared. For this purpose, a chroma threshold of 30.5 delivered maximum total sensitivity and specificity. The bolar blade, striploin and topside from a selection of DC and nDC carcasses were also removed, aged for 14 d and tested for shear force, drip loss, cooking loss, ultimate pH, colour change over 3 d display ( $\Delta E$ ), and sarcomere length. Association between chroma values and these quality traits were investigated by linear models. The hypothesis of zero slope was rejected ( $P < 0.05$ ) for pH on striploin and topside, but the models had poor predictive ability ( $R^2 = 0.23$ ). The NIX was found to be a viable grading tool, with limited capacity to provide additional insights into beef quality.

*Keywords: Beef; Colorimeter; Carcass grade; Colour; Prediction; Eating quality*

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