

**25 Influence of wet-aging on bloom stability of beef ribeye rolls.** M. S. Lee\*, J. K. Apple, J. W. S. Yancey, J. T. Sawyer, and M. D. Wharton, *University of Arkansas, Fayetteville.*

Consumers have indicated that color was the single most important factor influencing their meat purchase decision. There is little available information known depicting the factors affecting bloom development in vacuum-packaged subprimal cuts. Over an 18-week trial, USDA Select ribeye rolls (*longissimus muscle*; LM) were allocated randomly to one of six aging periods (0, 7, 14, 21, 28, and 35 d) at 2°C (n = 10/aging period). Each week, aged LM were faced before two 2.54-cm-thick non-adjacent steaks were cut from each subprimal and instrumental color (L\*, a\*, and b\*) was measured by three random scans (HunterLab MiniScan XE spectrophotometer), at 10-min intervals for the two hours after cutting. After color data collection, steaks were vacuum-packaged and frozen at -20°C before cooking and Warner-Bratzler shear force (WBSF) analysis. Steaks were thawed overnight at 2°C and then cooked to an internal temperature of 71°C in a forced-air convection oven preheated to 190.5°C. Steaks were allowed to cool to room temperature (21°C) before six 1.27-cm-diameter cores were removed parallel to the muscle fiber orientation and sheared once with a WBSF device attached to an Instron Universal testing machine. Lightness values (L\*) increased ( $P < 0.05$ ) during the first 30 min of exposure to air, but no changes in L\* values occurred between 40 and 120 min. The a\*, b\*, chroma (C\*), and  $\Delta E$  (measure of total color change) values increased ( $P < 0.05$ ) between 0 and 100 min after exposure to air, but these instrumental color measures did not change over the last 20 min of the experiment. During the first 60 min, hue angle increased ( $P < 0.05$ ) dramatically, did not change between the 70- and 90-min readings, and then increased ( $P < 0.05$ ) to the greatest hue angles at 100 to 120 min. Again, the greatest change ( $P < 0.05$ ) in reflectance values occurred during the first 40 min after cutting, especially in the orange and red spectra (600 to 700 nm). The highest reflectance values ( $P < 0.05$ ) were observed throughout the entire spectra during the last 30 min of the experiment, particularly between 600 and 700 nm. As expected, WBSF values were inversely related to aging period, with steaks from subprimals aged 7 d having the greatest ( $P < 0.05$ ), and steaks from 28 and 35 d aged subprimals the lowest ( $P < 0.05$ ), WBSF values. Not surprisingly, the largest numerical change in color (L\*, a\* and b\*) occurred during the first 10 min after steak fabrication, and results indicated that LM color stabilized at approximately 90 min after exposure to air. However, results of this trial indicate that length of postmortem aging has little to no effect on bloom development.