



7 February 2025

Dear Breeders,

RESULTS: EYE MUSCLE AREA, WARNER BRATZLER SHEAR FORCE MEASUREMENT AND % MARBLING OF SIMMENTALER MEAT SAMPLES

We received the following information and results in Excel format from Prof. Arno Hugo from the University of the Free State regarding the meat quality test ended 2024.

A positive outcome from the BGP2.

UFS letter:

We added the parameters that you captured at the abattoir. You must remember to supply classification data, hump height (if possible) and muscle temperature (usually available with pH measurement) with future sampling. You supplied P8 rumpfat thickness additionally.

A few general comments and observations:

1. The average % marbling is 3.13%. It ranged between 1.63% and 6.33%. To have an effect on meat flavour and juiciness, a % marbling of at least 4% is required. Two of the 25 animals sampled in this trial reached the 4% target with values of 4.66% and 6.33% respectively.
2. The Warner Bratzler Shear Force (tenderness) of the 7-day aged meat samples were generally good. It ranged from 2.58kg to 6.65kg with an average shear force value of 3.95kg. For retail purposes, a shear force value below 4.6kg is considered acceptable. Twenty one of the 25 Simmentaler samples tested, adhere to this requirement. For food service use, a shear force value below 3.9kg, is considered acceptable. This means that 13 of the 25, seven-day aged Simmentaler samples were acceptable for use in the restaurant industry. That is very good. Four of the 25 Simmentaler cuts tested were not suitable for retail or foodservice utilization. One must however remember that all cuts could have benefited even more from a longer ageing period.

3. A large variation in eye muscle area was also observed between individual carcasses. Eye muscle area ranged between 8404.15mm² and 12289.17mm² with an average of 10220.67mm². A larger eye muscle area has been reported to be associated with a higher meat content in the carcass.

4. The pH values after 48 hours of the Simmentaler carcasses ranged between 5.6 and 5.8 with an average of 5.82. The final pH for meat of good quality is considered to be between 5.3 and 5.70. Twenty three of the 25 carcasses had pH values in this range (92%). None of the carcasses did demonstrate dark firm and dry (DFD) meat. Dark firm and dry meat (dark cutters) often occur at a final pH of above 6. The occurrence of dark cutting meat may be an indication that some animals experienced stress during transport to the abattoir or handling before slaughter while a low incidence of dark cutters is usually a clear indication that stress was limited during the transport and slaughtering process.

Thank you

Kind regards,

A handwritten signature in black ink, appearing to read 'M. de Jager', with a stylized, cursive script.

Martiens de Jager
President