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STUDY ON THE BEEF CARCASS BREAKDOWN IN ABERDEEN ANGUS HYBRID COWS

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Abstract: After having a productive life of 6 years (6 calves) beef cows end up at slaughterhouse, becoming edible meat for humans. For turning a live cow into edible meat, butchers remove the hide, head, feet extremities and internal organs converting it into a carcass. The aim of the study was to study the breakdown in meat cuts of the carcass in Aberdeen Angus (AA) cows. Two cows were sacrificed in a private authorised abattoir. Then, each carcass was divided into constituent parts. Weighing was carried out before killing and after bleeding, as well as for each meat cut. The killing out percentage was calculated by dividing the carcass weight to live weight. Also, other parts of the live cows were weighed, such as liver, hide, kidneys, heart, tongue, etc. Carcass cuts were grouped in three meat quality classes. AA cows liveweight was on average 625 kg, out of which 50 kg (8%) was blood, and 330.5 kg was carcass (killing out percentage 52.9%). Thus, the non-carcass weight was 47.1% of the warm dead cows (244.5 kg). This was made of hide 54 kg, internal organs plus suet 156.5 kg, cannons 10.6 kg, head 21 kg and tail 2.4 kg. The weight of commercially useful internal organs was: 17 kg rumen, 2.75 kg heart, 6.45 kg lungs, 6.9 kg liver, 1.2 kg kidneys, and 1 kg spleen. Front cannons and hooves were heavier than hind ones (3.25 and 2.55 kg vs. 2.55 and 2.20 kg). Out of the 330.5 kg carcass 47.3% were first quality cuts (156.48 kg), 27.1% second quality cuts (89.67 kg) and 25.6% third quality cuts (84.35 kg). First quality meat was made of the following cuts: top round (82.5 kg, 52.7%), beef chop (59.0 kg, 37.7%), striploin (8.8 kg, 5.7%), and tenderloin (6.1 kg, 3.9%). Second quality meat comprised the following cuts: ribs (54.0 kg, 60.2%), flank (22.5 kg, 25.1%), shoulder (10.2 kg, 11.4%), brisket (2.97 kg, 3.3%). Third quality meat cuts were made of the following: throat (29.0 kg, 34.4%), neck (25.0 kg, 29.6%), fore and hind shanks (11.8 kg, 14.0%), and beef for chopping (18.55 kg, 22.0%). In conclusion, we could say that the killing out percentage was below the value for beef cattle, but satisfactory for a hybrid. The first quality meat represented the highest percentage of AA cow's carcass, out of which the most important cut was top round (24.8% of the total carcass).

• Material and method

Two Aberdeen Angus hybrid cows were slaughtered in a private authorised abattoir. Animals were weighed before slaughtering. The carcass was obtained by removing the hide, the head, feet extremities and internal organs (see Figure 1). Carcass was weighed immediately, as well each organ and/or cut separately when it was obtained (see Figures 2-3). Killing out percentage was obtained by dividing the carcass weight to liveweight. Carcass cuts were classified as first, second and third quality.

• Results and discussions

Warm weight was 575 kg (92%), and blood was 50 kg (8%). Carcass weight was 330.5 kg, and killing out percentage was 52.9%.

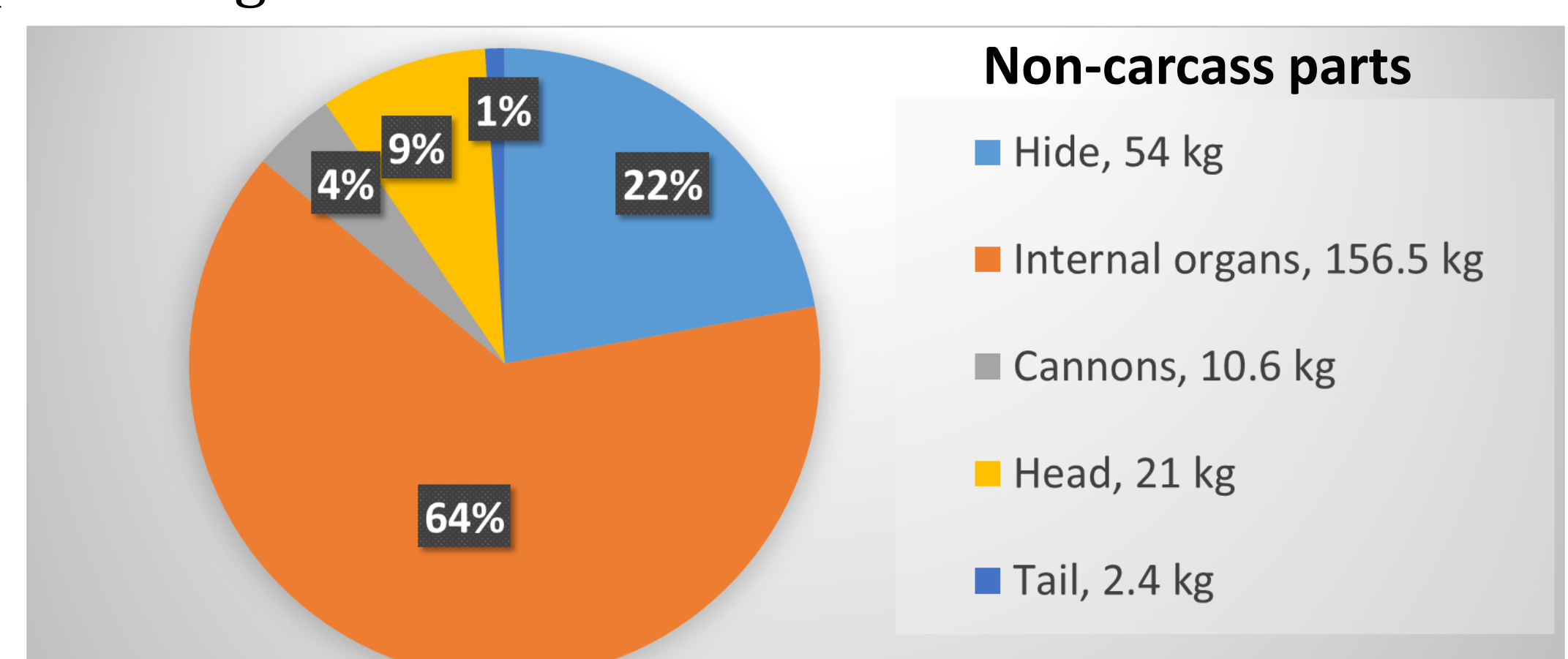


Figure 1. Beef cow carcass



Figure 2. Beef cuts ready for selling

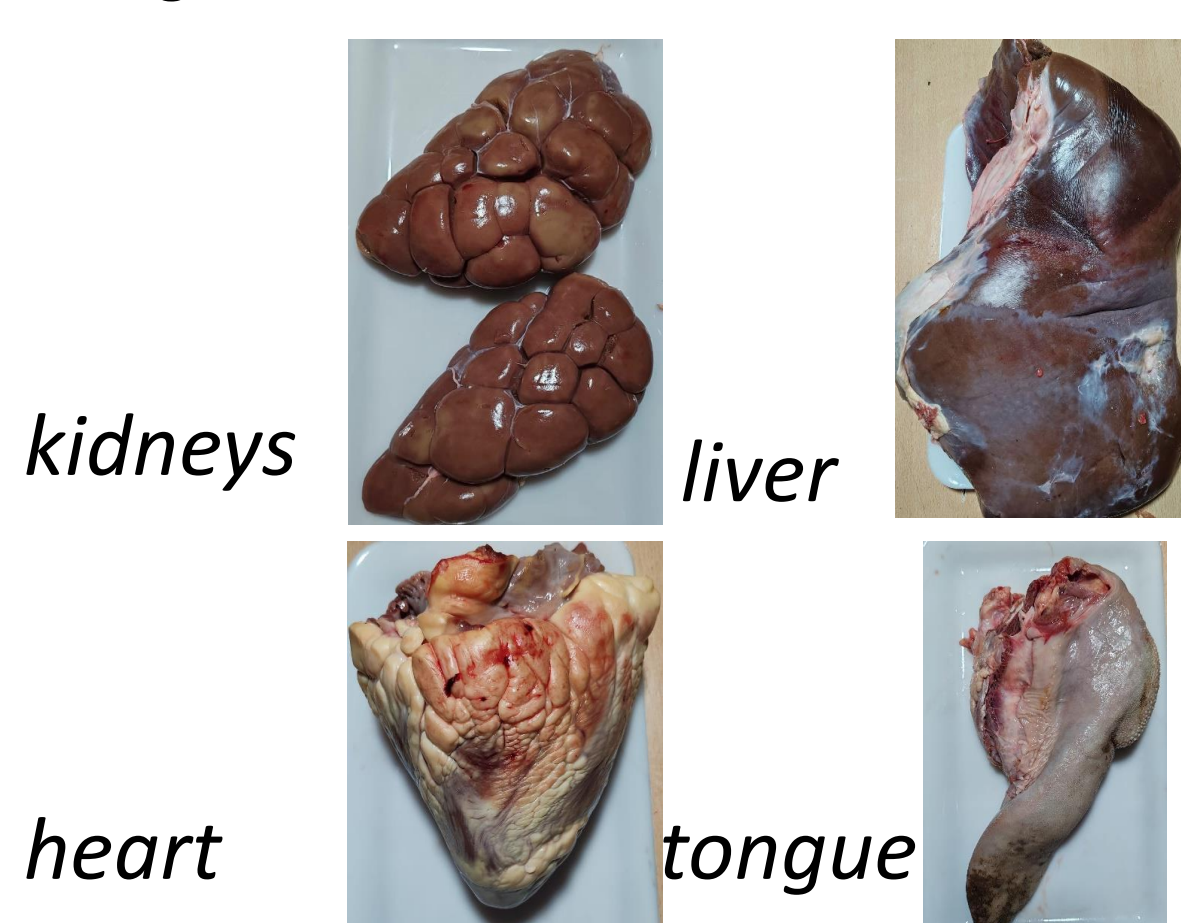
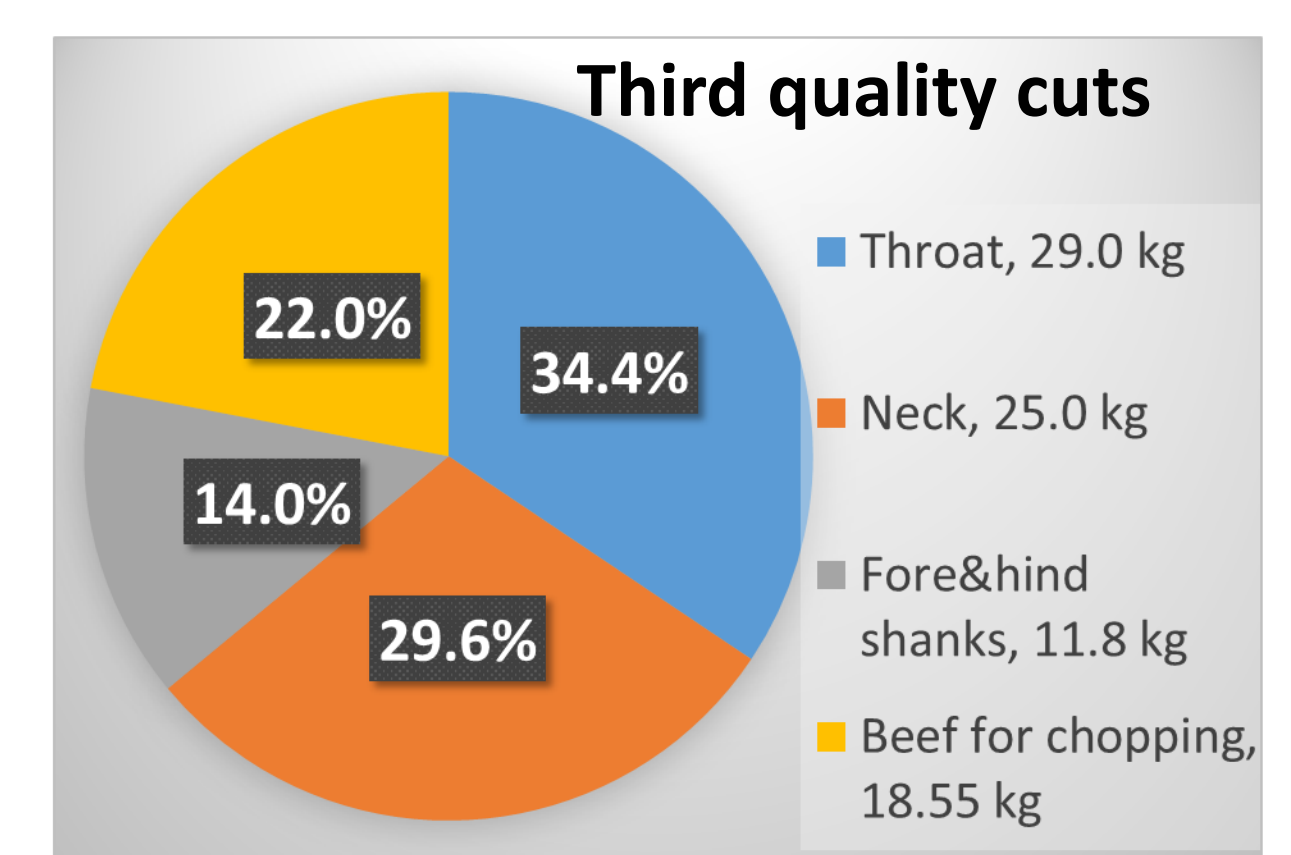
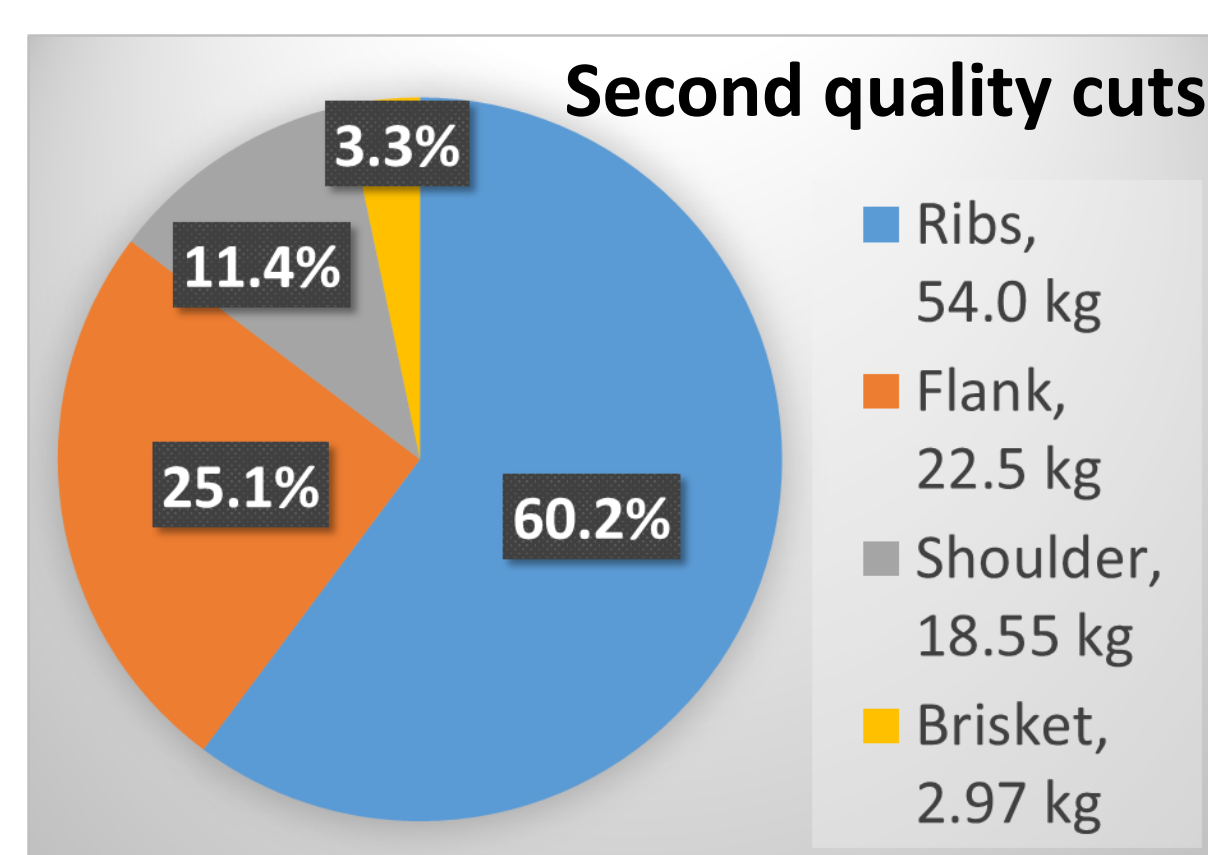
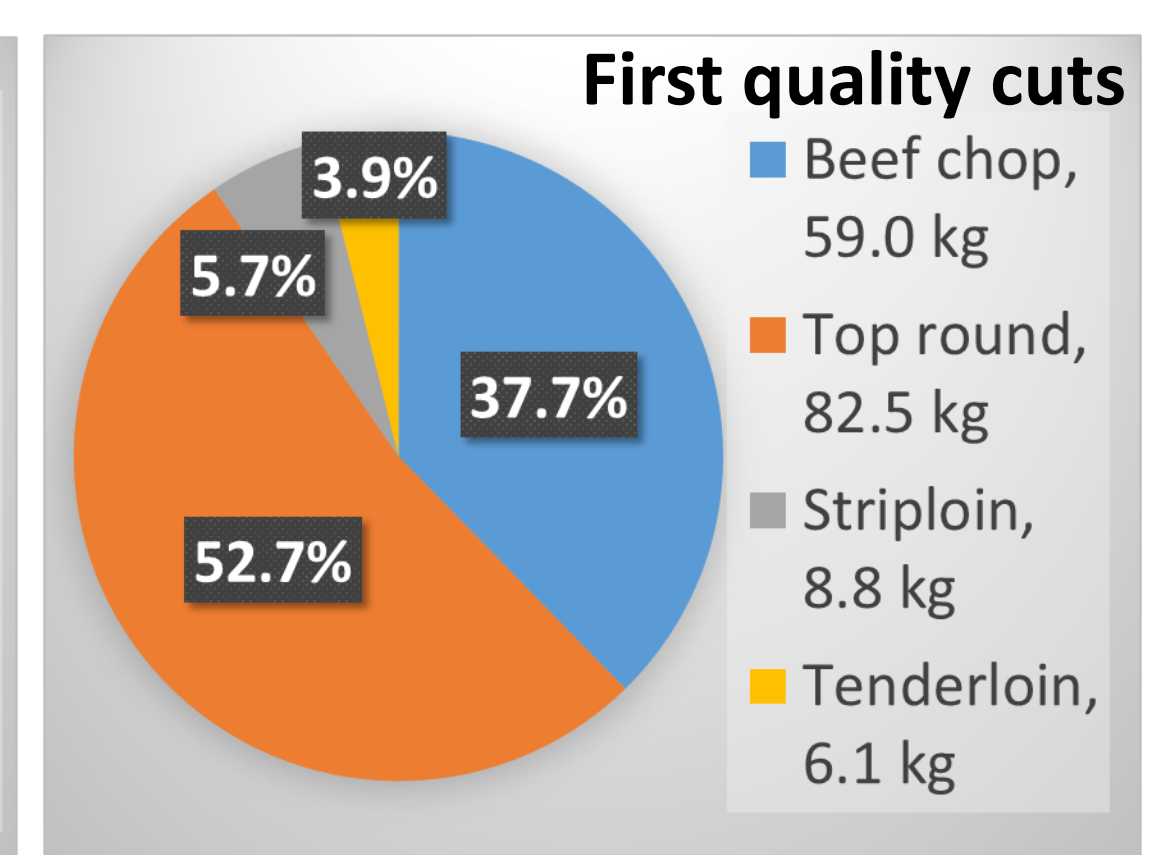
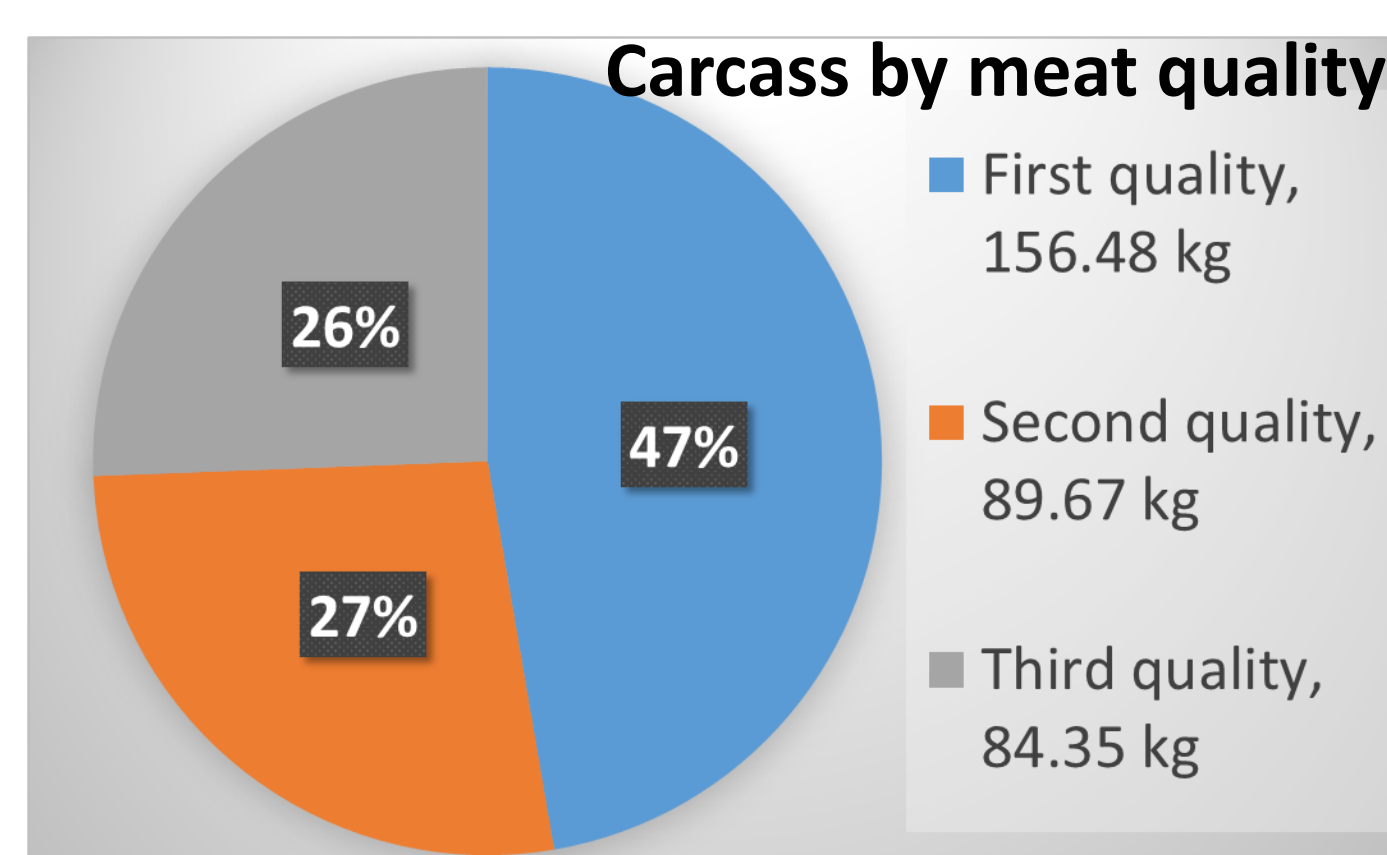


Figure 3. Beef internal organs

• Conclusions

The killing out percentage was low for Aberdeen Angus breed but was satisfactory for hybrid cows.

Beef carcass had higher percentage of the first quality meat (47%), while second and third quality cuts were in equal proportion (27% and 26%, respectively).

The heaviest cut in cows' carcass was top round (82.5 kg, 24.8% of carcass weight)