Session 24

António Monteiro
[cardoso.monteiro@gmail.com]

Development of a rapid and simple approach for kid carcass evaluation by video image analysis

A. Monteiro

A.Teixeira

J. Azevedo, A. Lourenço, A. Dias-da-Silva and S.R. Silva

Background

Traditionally carcass evaluation requires an experienced evaluator at the slaughter house

Carcass evaluation by video image analysis is already ongoing for cows, pigs and sheep

Flaws

The equipment required is usually very expensive

Kid carcass evaluation by video image analysis is not developed yet

Aim

Evaluate the potential of a simple and cost-effective video image analysis system to evaluate kid carcasses in small slaughter units

Material

42 kid carcasses (6.6 ± 2.6 kg)

Digital camera (Sony, DCR-TRV460)

Non-glare black surface

Standard light

Methods

Carcasses hanged on the gambrel against a non-glare black surface

Standard lightened

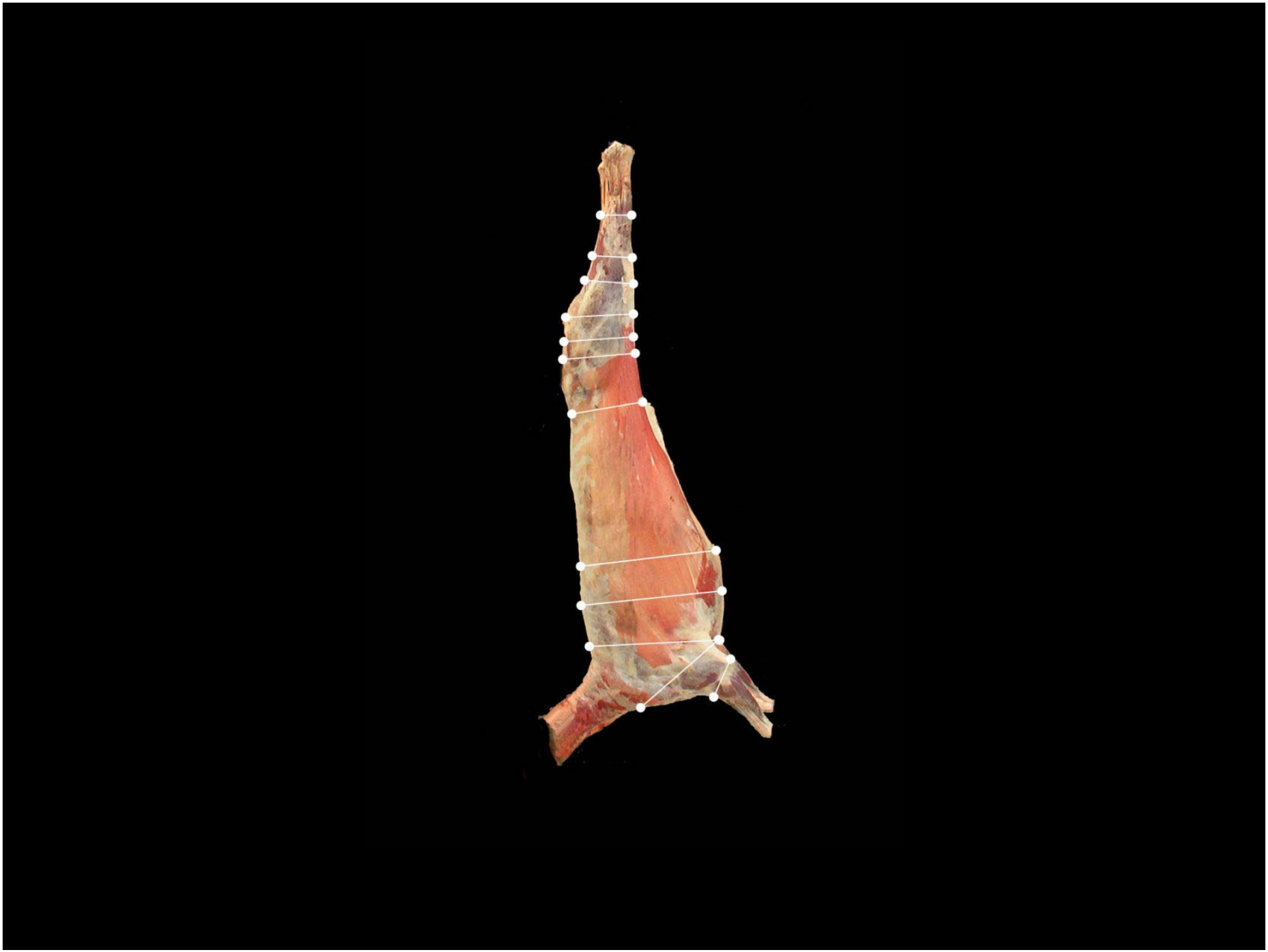
The camera at a fixed distance and perpendicular to the long axis of the carcass

Methods

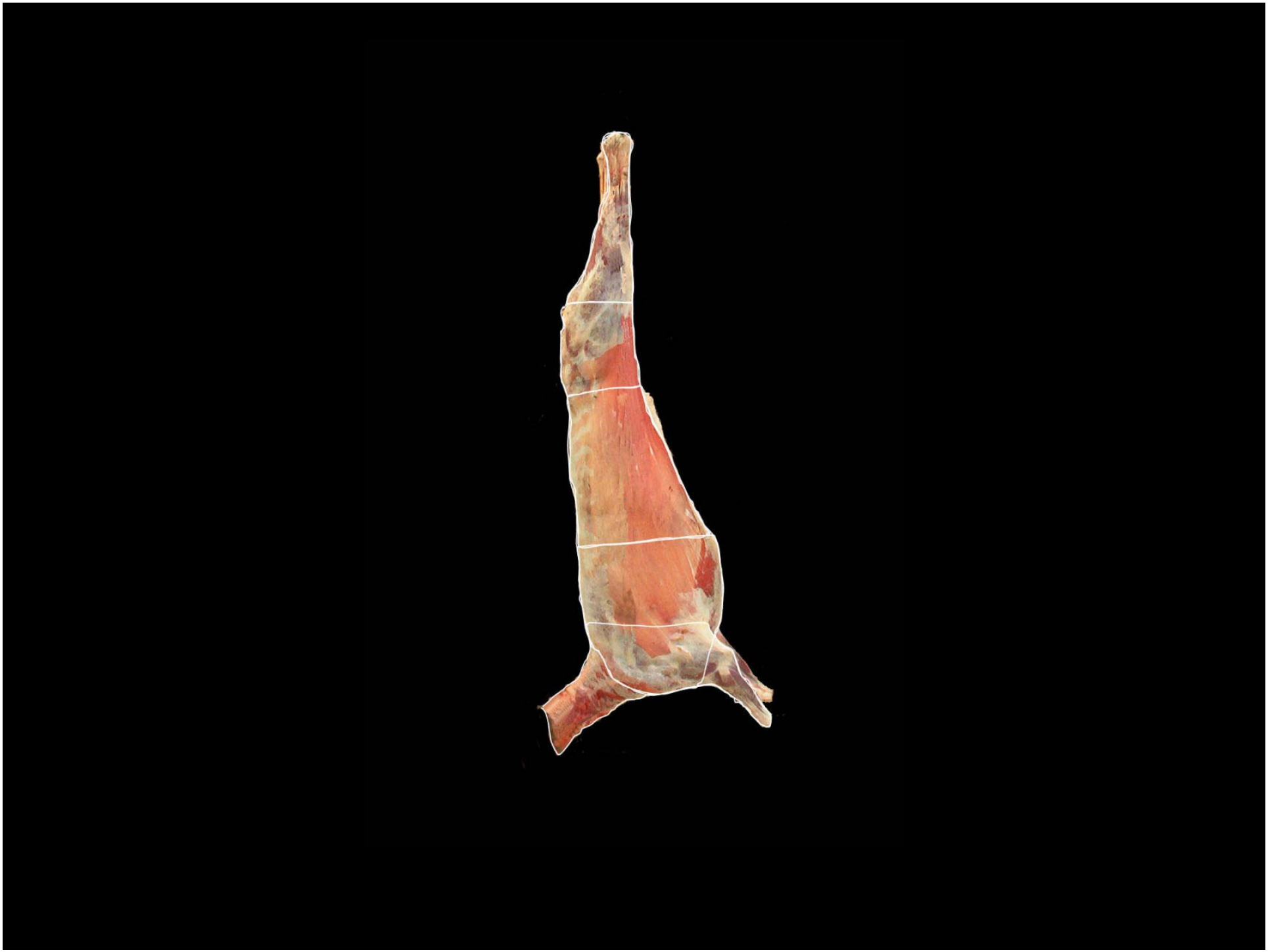
An image of the dorsal and lateral view of each carcass was obtained

44 measurements (linear and area) were obtained after carcass image analysis with the ImageJ 1.39j software

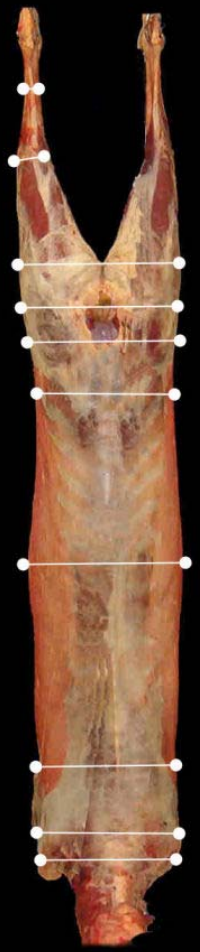
Linear measures taken on the lateral view of the carcass

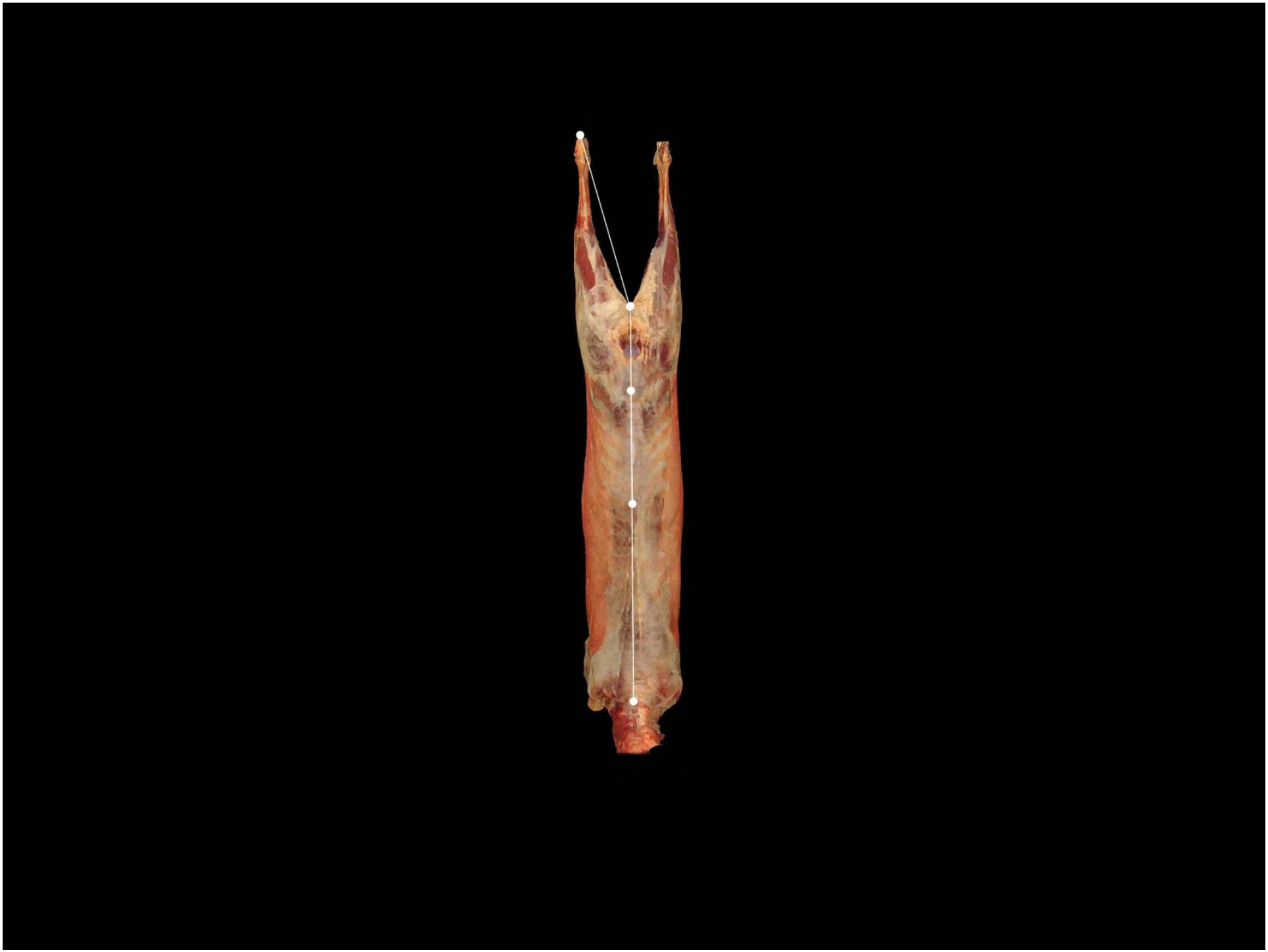


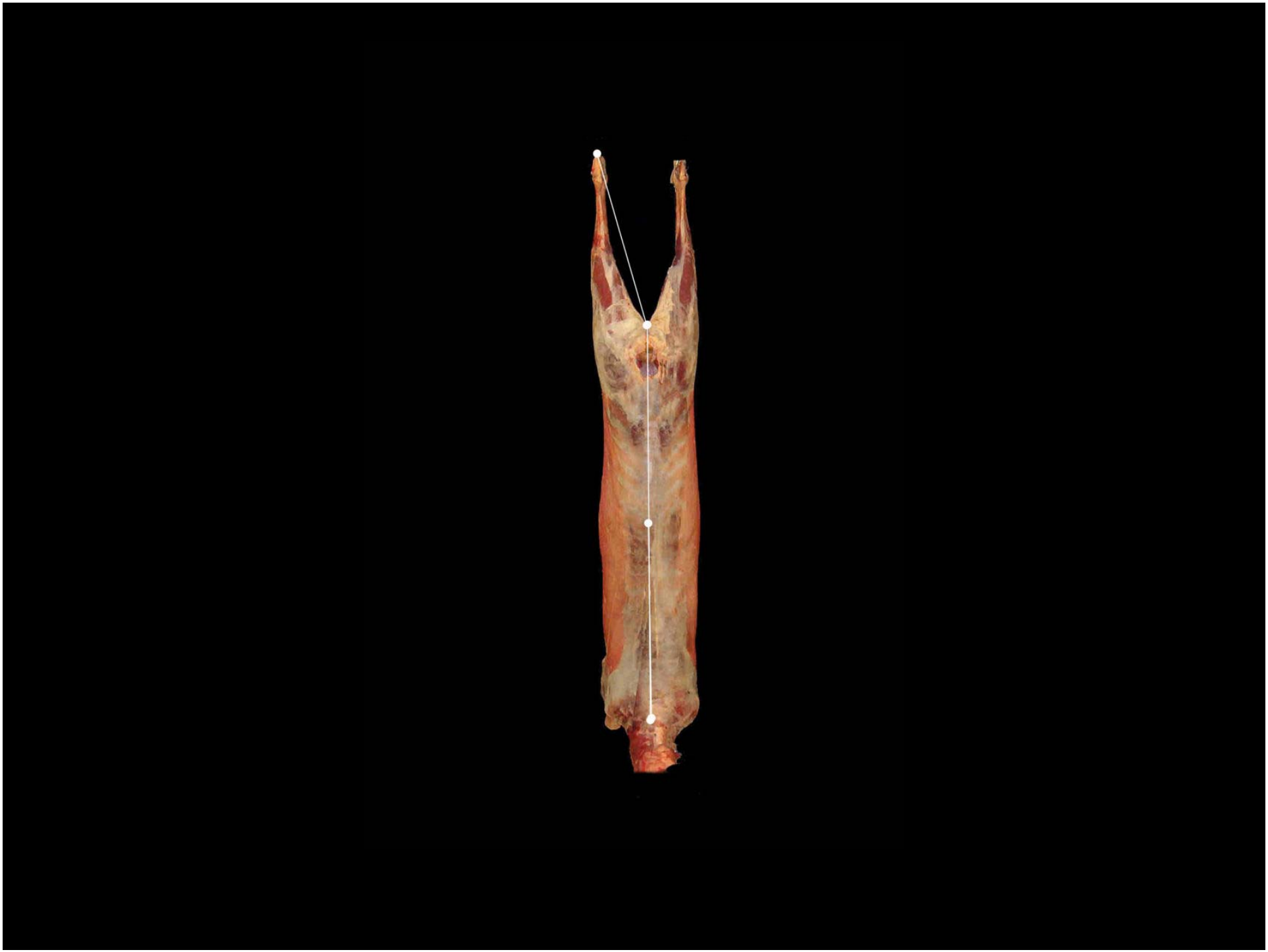
Area measures taken on the lateral view of the carcass



Linear measures taken on the dorsal view of the carcass







Area measures taken on the dorsal view of the carcass

Methods

Carcasses were dissected into:

- muscle
- subcutaneous fat
- intermuscular fat
- bone

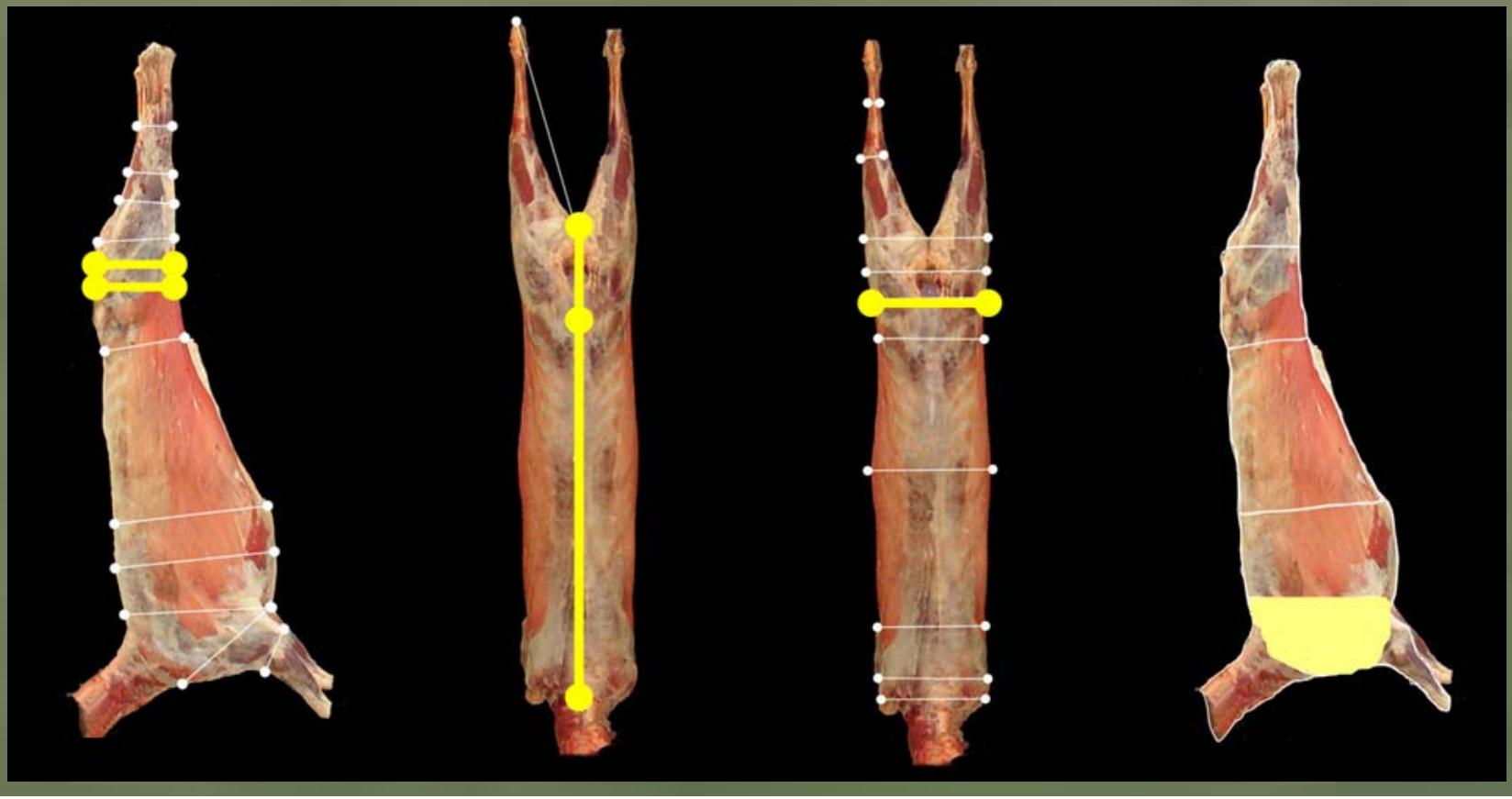
Methods

Stepwise regression analyses (SAS Cary, NC) were performed to predicted carcass composition from carcass weight and carcass measurements

Results

Muscle

6 measures $R^2 = 0.96$ $P<0.01$



Results

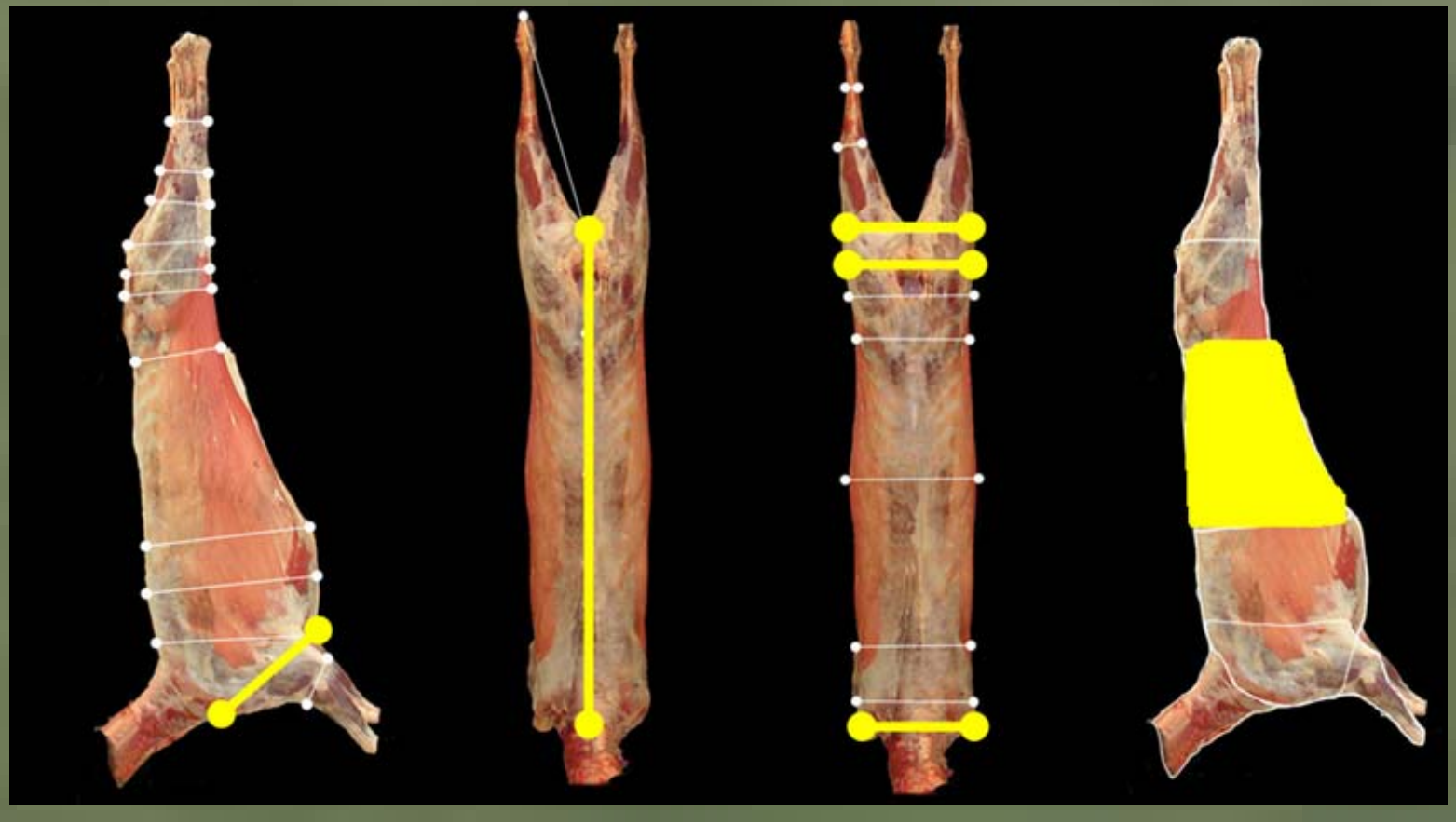
Subcutaneous fat

2 measures $R^2 = 0.45$ $P<0.01$

Results

Intermuscular fat

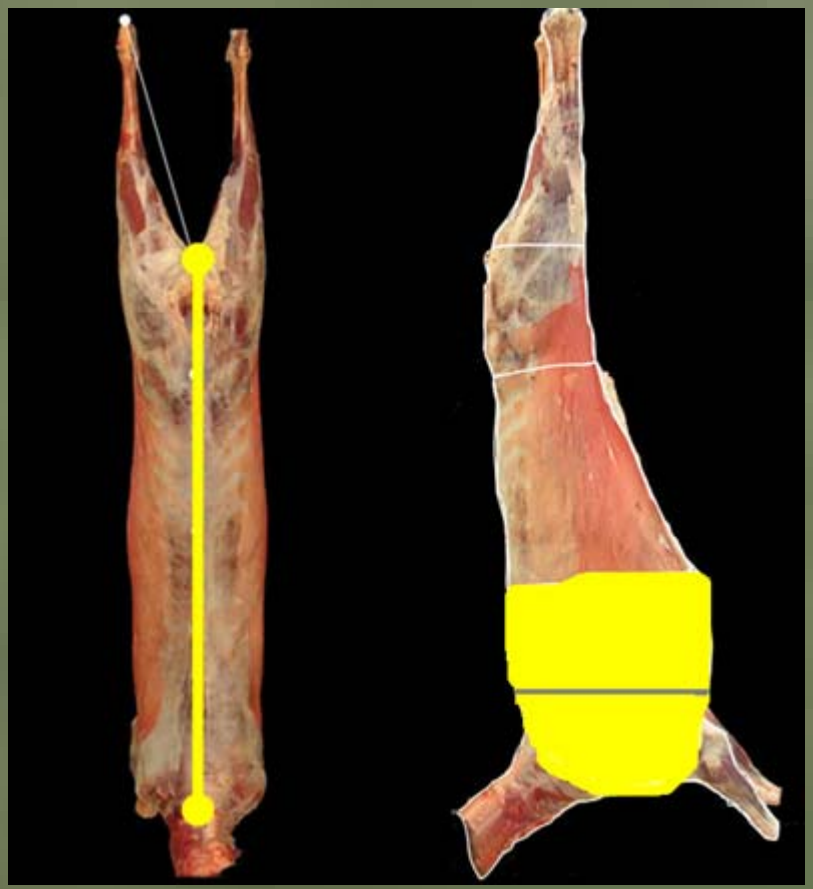
6 measures $R^2 = 0.92$ $P<0.01$



Results

Bone

3 measures $R^2 = 0.95$ $P<0.01$



conclusions

This approach to video image analysis has potential to predict kid carcass composition at a low cost

further research

Improve this method to be able to use it to classify kid carcasses in current market conditions