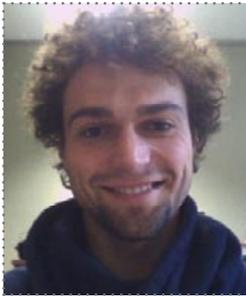




WG1 Poster Presenter Profiles & Abstracts

Stijn Hellebuyck – Ghent University,
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■ PROFILE

Stijn studied bio-science engineering at Ghent University from 2006 to 2011. After these studies, he started working at the CBKc. The CBKc is an independent carcass classification

organization, which operates from the Department of Animal Production at Ghent University. The main tasks of the CBKc are to train classifiers of pig and bovine carcasses, to assist the competent authority in their policies, to perform the dissection trials in Belgium and to update all the involved parties with scientific progress in pig and bovine carcass classification.

■ ABSTRACT (WG01P07)

Evaluation of CT protocols for optimized volume regression of lean meat in pig carcasses

In Belgium a calibration of the current pig carcass classification devices is legally required before the end of 2019. The goal is that in this calibration trial, computed tomography (CT) will be used to measure the body composition of the selected pig carcasses. As a first step in developing an accurate CT protocol for the Belgian pig population, one random pig carcass was selected. The carcass was chilled overnight and cut according the EU reference method. The four main parts (ham, loin, shoulder and belly) were scanned. CT images were acquired using a 4 slice helical CT scanner (Lightspeed Qx/i, General Electric Medical Systems, Milwaukee, WI). Transversal images were obtained in bone (B) and soft tissue (ST) reconstruction algorithm. The scanned parts were dissected in separated tissues (meat, fat and bones). During a Short Term Scientific Mission (STSM), Matlab was used to analyse the CT images under the supervision of Dr M. Judas (Max Rubner Institut, Kulmbach, Germany). The total muscle volume was calculated in 7

different HU ranges ((15 85), (10 90), (5 95), (0 100), (0 105), (0 110), (0 120)). Each total volume was multiplied with 2 different densities (1.04 g/dm³ and 1.05 g/dm³).

With a presumed muscle density of 1.04 g/dm³ the total weight difference between the dissected muscles and the CT muscles was smallest in the HU range (0 120), for both the B and ST reconstruction algorithm. For the ST reconstruction algorithm there was an underestimation of the dissected muscles with 161.1 g. For the B reconstruction there was an overestimation of 50.8 g. With a presumed muscle density of 1.05 g/dm³ the smallest difference between the weight of the dissected muscle and the weight of the CT muscle was found in the HU range (0 110) for the ST reconstruction modus, with a negligible weight difference of 1.3 g. For the B reconstruction modus the HU range (0 105) showed the smallest difference with an underestimation of 24.2 g.

These data need to be confirmed in further research. This is merely a first step and more pig carcasses will be scanned and dissected in order to obtain an accurate and precise CT method in Belgian trial conditions.

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