Luis Eduardo Maggi et al., J Vet Sci Technol 2017, 8:5 (Suppl)
DOI: 10.4172/2157-7579-C1-028

A new technique by ultrasound to distinguish different types of cuts by longitudinal velocity

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Beef is still the most widely consumed protein source in the world, but knowing how to distinguish different types of cuts is an uncommon factor for people in general. Based on it, trying to ensure that the customer is aware of the type of meat cut he is buying, this project proposes the development a technique by ultrasound to analyze the longitudinal velocity of 3 types of meat cuts from females of the Nellore breed, approximately 2 years of age. These cuts with average thickness of 0.87±0.05cm of distinct regions (strip loin, full rump and rump tail), were submerged in water and using transducers at 1.0 MHz (Olimpicus) whose emit ultrasonic pulses through the refringent medium and the sample, reaching the reflector located below it, returning later to the transducer. The signals were collected 5 times through a software developed in Labview platform. The results showed that strip loin velocity was 1594.32±15.37, full rump 1589.17±13.64 and rump tail 1591.53±8.15 m/s. The anova analysis at 0.05 shows p value of 0.818 and F of 0.20. There was no difference between the meat cuts longitudinal velocity, but the result obtained, despite the margin of insecurity, was satisfactory since the coefficient of variation in the 3 samples was 1%.

Biography

Luis Eduardo Maggi has a Bachelor's degree in Biological Sciences from the Federal University of Goiás (1995), a Master's degree in Biomedical Engineering (1999) and a PhD in Biomedical Engineering from the Federal University of Rio de Janeiro (2011). He is currently a class A-level Adjunct Professor at the Federal University of Acre.

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