

PORK QUALITY

Title: Modeling Postmortem Physical and Chemical Changes in Muscle to Predict Water Holding Capacity and Color in Fresh Pork – **NPB# 99-121**

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Introduction

This research project focused on several physical and chemical changes in porcine muscle that occur early postmortem and are related to ultimate meat quality, in particular water-holding capacity (WHC) or drip loss. The principle investigators are currently evaluating several measurement techniques including near infrared reflectance (NIR) and tetrapolar impedance to determine their potential for identifying poor quality carcasses early in the slaughter process. However, since the development of water-holding capacity is a very dynamic process in the first 24 h after slaughter, many interacting events may lead to low water-holding capacity. Previous projects using technologies such as NIR and tetrapolar impedance and have shown promise for predicting WHC but yielded mixed results. Based on these previous results, it was evident that a more precise understanding of the changes in muscle properties that affect the measurement methods and/or the ultimate meat quality was needed. Identifying methods for monitoring the development of WHC during the first few hours after slaughter was the emphasis of this project.

These research results were submitted in fulfillment of checkoff funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer reviewed

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