

Project Title: "Pork Muscle Profiling Study" - NPB #02-189

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Abstract: Sixty four pork carcasses were selected from a single packer which purchases pigs on the open market from a variety of producers employing a wide range of genetic lines. Carcass selection followed pre-determined guidelines for specific carcass weight ranges, estimated carcass percent muscle and pH at 45 minutes postmortem (an indicator of lean quality), to assure an appropriate distribution of carcasses varying in these criteria. After 24 hours of chilling, carcasses were transported to the Meat Science Laboratory at Iowa State University.

Between 48 and 80 hours postmortem hams and shoulders from both sides of selected carcasses were fabricated into individual muscles. Muscles of significant size (0.5 pounds or larger) were evaluated by meat scientists from Iowa State, Michigan State and the University of Wisconsin for the following properties: weight, physical dimensions, pH, sensory properties, objective tenderness, objective color, water-holding capacity, protein solubility, gel strength, pigment concentration, total collagen and nutrient content.

Based upon this muscle-specific information, now available for each of the significant muscles of the shoulder and ham, the generation of novel value-added product ideas, and the application of muscles for new value-added uses, is greatly enhanced. Representatives of the pork processing industry have access to these results to use in product development. Several of the muscles studied hold considerable potential for development of new pork products.

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 This report has not been peer reviewed

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