

## PORK SAFETY

**Title:** Effects of pH, Temperature and Muscle Fiber Type on Postmortem Metabolism. – **NPB# 99-107**

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**Abstract:** The overall goal of this project is to understand better the molecular basis of pale, soft, exudative (PSE) pork development during the critical early (<1 h) postmortem period. The specific objective of this project is to determine the role of pH, temperature and muscle fiber type on postmortem metabolism. Myofibrils from red (RST) and white (WST) semitendinosus muscle were purified and used to represent extremes in muscle fiber type (RST: red, slow contracting and WST: white, fast contracting) composition. Myofibrils were subjected to various temperature/pH combinations representing those typically present in pork carcasses soon after slaughter. Data from these studies show that myofibrils from WST hydrolyze ATP faster ( $P < 0.05$ ) at all temperatures studied. There was, however, pH X temperature interaction ( $P < 0.05$ ) suggesting that myofibrils possessing different fiber types respond more adversely to different pH/temperature combinations. These data support our hypothesis that pigs varying in muscle fiber type may vary in their “susceptibility” to adverse pork quality development.

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