

**Proteins as Potential Indicators for the Determination of End-point Cooking
Temperatures as affected by the Combinations of Salt and
Fat Contents with Various Cooking Temperatures**

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Processed meats, such as, hamburger patty, are required to ensure that no pathogens remain in the final products. However, there were no rapid method available to verify that the recommended EPT was reached. Thus, the objective of this study was to rapidly determine endpoint cooking temperature (EPT) of ground pork hams, based on inactivation of sarcoplasmic proteins after cooking. Fresh pork hams were added combinations of salt (0, 2%) and fat (15, 25%), and stored in refrigerator overnight, and cooked to internal cooking temperatures of 22°C, 64 to 74°C with 2°C increments. Cooked pork hams were measured cooking loss (CL, %), protein solubility and sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE). CL (%) was reduced with the addition salt and fat. The addition of 25% fat decreased the CL at most cooking temperatures. Protein solubility (PS) was affected by the cooking temperature, resulting in reduced PS up to 68°C, regardless of treatments, but remained constant over 70°C. In SDS-PAGE, protein fractions with the molecular weight of 65 and 36 kDa affected by the addition of salt and fat combinations, regardless of treatments. These protein fractions were decreased gradually with increased cooking temperature up to 68°C and might be good indicators for the determination of EPT in ground pork meats.