

## REDUCING THE COOKING LOSS OF HAM BY INCORPORATING MODIFIED CORN STARCH

R.M.A.T.M. Siriwardane<sup>1</sup>, H.K.P. Wijesooriya<sup>2</sup> and N.W.I.A.  
Jayawardana<sup>1</sup>

<sup>1</sup>*Dept. of Agricultural Systems, Faculty of Agriculture, Rajarata University of Sri Lanka,  
Puliyankulama, Anuradhapura, Sri Lanka.*

<sup>2</sup>*Cargills Quality Foods (Pvt.) Ltd, Maigaha Junction, Ganemulla Road, Ja-ela,  
Sri Lanka.*

Cooking yield is an important criterion which should be maintained during processing of cooked ham. Low cooking yield which resulted from low water holding capacity will lead to economical and nutritional loss. This study was conducted to investigate suitable concentration of modified corn starch to increase the water holding capacity of cooked ham. Four concentrations of modified corn starch (1%, 1.5%, 2% and 2.5%) were selected and incorporated into the cooked ham mixture before tumbling. All the other ingredients and procedures were same as in the production of normal cooked ham. Ham, without modified corn starch was the control. Best treatment was selected based on cooking loss, slicing ability and breakability. Physical (pH, water holding capacity), chemical (moisture content, total ash), microbiological (total plate count, *Escherichia coli*) and organoleptic qualities were compared with the control. Parametric data were analyzed using ANOVA in Completely Randomized Design. Nonparametric data were analyzed by Friedman test. The selected sample was stored under frozen condition (-18 °C) and pH, water holding capacity were analyzed for two months at two weeks interval. There was a significant difference ( $p < 0.05$ ) in cooking loss and water holding capacity in 2% modified starch based cooked ham with highest acceptance while there was no significant difference ( $p > 0.05$ ) in organoleptic qualities and chemical parameters. Microbiological data revealed that the total plate count and *E.coli* confirmed to the standard limits. Water holding capacity gradually decreased throughout the storage period, though, compared to the control there was a significant difference ( $p < 0.05$ ) after two months. Modified corn starch at of 2% could be used during manufacturing of cooked ham, which leads to a 5% reduction of cooking loss while keeping the appealing quality.

**Key words:** Cooked ham, Modified corn starch, Tumbling