B-70 Effect of smoking on colour development and other quality parameters of chicken sausages

T S Samarakone, H W Cyril, Y V A Janak Kamil, P A G Pathirana
Dept of Animal Science, Faculty of Agriculture, University of Peradeniya

Chicken sausages were prepared in a food processing factory, according to the normal recipe. Samples were subjected to drying at 70°C for 7 min and smoking was done according to the smoking schedule, and cooking of smoked sausages was done until the internal temperature reached 78°C.

3 relative humidities of smoke chamber (45, 65, 80%) 3 smoking temperatures (45, 60, 70°C) and 3 time durations (10, 15, 20 min) were used to treat the sausages. Total cooking loss, moisture loss, fat loss, surface colour and internal colour were evaluated on the first day of production. pH and taste panel were conducted, 2 weeks after storage at -20°C.

For the range of smoking temperatures and time duration considered, on the average, cooking loss and fat loss increased significantly ($p<0.05$) by 1.6951% and 2.04%, respectively when relative humidity increased from 45% to 80%, moisture loss however decreased significantly ($p<0.05$) by 0.3549%. At the same time, for the range of relative humidities and time duration considered, the average cooking loss, moisture loss and fat loss increased significantly ($p<0.05$) by 1.0597, 0.1572 and 0.8692% respectively when smoking temperature increased from 45°C to 70°C. Surface colour changed from pale light brown to bright yellowish red, with increasing relative humitidy of smoke chamber, smoking temperature and duration of smoking. There was no change in pH and internal colour of sausages in all the treatments, on smoking under different conditions.

Sausages prepared at high humidity of smoke chamber (80%) in combination with high smoking temperature (60°C) and 20 min duration of smoking were highly accepted by the taste panel.