

**THE EFFECT OF COOKING WITH MICROWAVE OVEN,
CONVECTION OVEN AND
GRILL ON THE QUALITY OF COOKED BEEF**

By

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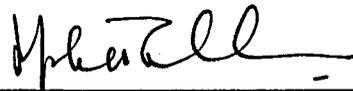
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ABSTRACT

THE EFFECT OF COOKING WITH MICROWAVE OVEN, CONVECTION OVEN AND GRILL ON THE QUALITY OF COOKED BEEF

The properties of microwave oven, convection oven and grill on the quality cooked beef were ascertained. The effect of different methods were determined in terms of physical and chemical analysis, microbiological test and sensory evaluation.

The formulations of roasted beef meat were prepared using raw beef meat, brown sugar, light soy sauce, orange juice, garlic, corn oil, ginger, black pepper and chilli powder. From the sensory evaluation test, it is found that the texture and colour of beef cooked by convection oven was significantly ($p < 0.05$) most preferred than those cooked by microwave oven and grilling method. However, in terms of overall acceptability, the beef cooked by grilling method was most preferred.

Chemical analysis was conducted on the formulations of roasted beef meat to determine the amount of moisture, fat, protein and ash by different methods of cooking. The statistical analysis showed that the beef cooked by grilling method contained lowest ($p > 0.05$) amount of protein and highest amount of ash and moisture content whereas beef cooked by microwave oven contained significantly lower ($p < 0.05$) fat content than those cooked by convection oven and grilling.

In microbiological test, Total Plate Count (TPC) and E. Coli were conducted in order to study the microorganism growth of cooked beef. The analysis showed that after the first 7 days there is no growth of microorganism whereby the number of colony was less than 30. In microbiological test of E. Coli showed that after first 7 days plate count on E. Coli remained similar that is no presence of E. Coli at minimum dilution 10^{-1} . Both of Total Plate Count (TPC) and E. Coli test were less than 30. The cooked beef meat are safe to be eaten.