

THE NUTRIENT COMPOSITION OF AUSTRALIAN RETAIL SAUSAGES

H. GREENFIELD and S. KOSULWAT

Studies of the composition of Australian fresh and processed retail meats have been published (Greenfield 1987) but no data are available on Australian fresh sausages. A study was therefore carried out to determine composition with respect to animal species and a wide range of nutrients in raw and dry-fried beef (two sizes) and pork sausages purchased in Sydney from ten outlets across the socioeconomic scale. A controlled cooking study (grilling, dry-frying, shallow-frying and deep-frying) was also carried out.

Composite samples of retail purchases of beef (thin and thick) and pork sausages were analysed for nutrients (moisture, protein, fat, fatty acids, cholesterol, ash, sodium, potassium, calcium, iron, magnesium, zinc, vitamin C, thiamin, riboflavin, niacin, retinol and carotenes), before and after cooking by grilling and dry-frying. Moisture, fat, vitamin C and meat animal species (by an ELISA technique) were determined separately in all ten purchases of each product type. A separate batch of thin beef sausages was analysed for moisture and fat in five replications raw and after cooking by grilling, dry-frying, shallow-frying and deep-frying. Analytical methods were as described by Greenfield (1987).

The results showed that all samples of beef sausages (thick and thin) contained cow, pig and sheep meat, while pork sausages contained cow or sheep meat in seven of the ten purchases.

Pork sausages contained more fat and thiamin than beef sausages; beef sausages contained more iron and zinc than pork sausages. All samples met the requirements of the NSW food regulations with respect to starch content (<6%). However, one purchase of thick beef sausages and four purchases of pork sausages exceeded the maximum permitted amount of fat (<27%). All retail samples lost fat on cooking as expected but there was no difference in fat loss when grilling was compared with dry-frying ($P < 0.05$). Due to the large amounts of fat lost on cooking the dry-frying process was similar to shallow-frying. In the controlled cooking experiment with thin beef sausages the retention of fat was significantly higher ($P < 0.05$) in grilled, dry-fried and shallow-fried sausages compared with deep-fried. Contrary to popular belief there is no advantage in grilling sausages as opposed to frying from the point of view of reducing the fat content.

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Dept. of Food Science and Technology, University of New South Wales, Kensington, New South Wales 2033