

## P11

### Reported sodium content of Australian food products from 2005 to 2007

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**Background** – It is estimated that approximately 75% of salt intake is derived from the consumption of processed foods and to effectively reduce salt intake, salt must be reduced in the food supply. The UK Food Standards Agency (FSA) has published a list of voluntary sodium reduction targets for 2010 for food items that contribute a significant amount of salt to the diet.

**Objective** – To determine the sodium content of Australian food items, and compare these and the sodium content of UK food items to the UK, FSA sodium targets and monitor trends between 2005 and 2007.

**Design** – The reported sodium content on food labels was collected (2005,06,07). Food items were grouped into 15 major food categories with sub-categories. The sodium content of different food categories was compared to the UK FSA targets for 2010.

**Outcomes** – Fifty-four percent of sampled Australian food products had a sodium level above the targets. Food sub-categories containing less than 20% of products meeting the targets were hot dogs, ham and salami, low fibre breakfast cereals, white bread, wholemeal bread, savoury snack biscuits, cream cheese, canned soup, canned beans and spaghetti and canned vegetables. There was an indication that Australia had a lower number of food products that met the sodium targets compared to the UK (46% v 56%). From 2005/06 to 2007 the sodium content of most food group categories did not change, there was a decrease in sodium in pre-prepared meals: Asian with accompaniment (43%;  $P < 0.05$ ) and an increase in the sodium content of flatbreads and wraps (44%;  $P < 0.05$ ), but the number of items in these categories was small ( $n=3$  and  $5$ ,  $n=9$  and  $11$ ) respectively.

**Conclusion** – A reduction in the sodium content of bread, low fibre breakfast cereals, and a number of processed snack, meat and canned goods is needed to reduce the average salt intake to the target 6g/day.

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## P12

### Maximising omega-3 available for meat through production of high quality silage

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**Background** – Meat is a good source of beneficial long-chain omega-3 polyunsaturated fatty acids (LCn-3PUFA) that have several health benefits, including reducing the risk of cardiovascular disease, and mental health disorders. Concentrations of LCn-3PUFA are higher when animals are fed forages compared to grain. Little research has examined the effects of producing silage from forage on the amount of omega-3 available for meat production.

**Objective** – To examine changes in omega-3 levels in forages following ensiling under Australian conditions and to identify silage production methods that maximise the conservation of omega-3 ( $\alpha$ -linolenic acid), to potentially increase the quality and health benefits of meat consumed from animals fed this silage.

**Design** – Silage will be produced from different forage types. Fatty acids will be measured in different lipid fractions prior to and following ensiling. An estimation of rumen biohydrogenation of omega-3 and omega-6 fatty acids will assess the amount of fatty acid available for incorporation into meat.

**Outcomes** – Silages have been produced from triticale and lucerne. Techniques are being established to extract individual lipid fractions from forage and to quantitatively determine fatty acid concentrations. Typically, cereal forage pre-ensiling contains around 2.25% fat (ether extract) and approximately 40-50% of total fatty acids as  $\alpha$ -linolenic acid. Studies are continuing to examine concentrations in forage and potential breakdown (biohydrogenation) in the rumen *in vitro*.

**Conclusions** – If  $\alpha$ -linolenic acid is released as free fatty acid during the ensiling process, less will be available for metabolism to LCn-3PUFA and subsequent incorporation into meat. Initial results will form the basis of a project to examine the effects of different methods of silage production on LCn-3PUFA concentrations in meat.