

## SUBJECT MATTER IN BRIEF

*British Journal of Nutrition*, Vol. 61, No. 1, January 1989

- Minerals and trace elements in total diets.** An average total diet of Dutch male adolescents was analysed for various minerals and trace elements. The amounts of the toxic elements arsenic, bromine, cadmium, lead and mercury are of little concern as regards health aspects, but the iron and copper intakes can be considered marginal. 7-15
- Lactitol in laboratory rat diets.** As lactitol is proposed as a sucrose substitute, its dental properties and aspects of its metabolism were investigated in rats. Food energy retention and fat storage were greater on sucrose than on lactitol or xylitol regimens. Lactitol was far less cariogenic than sucrose, particularly when they were compared in biscuits. 17-24
- Body composition of lactating women.** Body fat, fat-free mass and total body water of ten lactating women were determined from deuterium dilution and from anthropometric measurements. No significant differences were observed in body composition determined by the two methods. 25-33
- Saline drinking water and shell-gland function.** Supplementing the drinking water of laying hens with 600 or 2000 mg sodium chloride/l increased egg-shell defects and reduced egg-shell quality. Changes were associated with significant reductions in the bicarbonate and calcium concentrations and carbon dioxide tension in the fluid surrounding the egg in the shell gland. 35-43
- Calcium metabolism in lactating sheep.** The negative Ca balances of lactating sheep consuming fresh forages were investigated. Availability of Ca may be much lower than previously anticipated and variable between forages (0.17-0.39). Factors other than available dietary Ca influence the contribution of diet and skeleton to Ca utilization. 45-58
- Faecal endogenous loss of calcium in young sheep.** The rate of net endogenous loss of Ca in young sheep consuming forages was twofold greater than estimates in the literature. A simple model is proposed which anticipates that endogenous loss may vary with dry matter intake and Ca demand. 59-65

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**Guar gum and plasma urea.** Ingestion of the viscous galactomannan guar gum is often found to reduce the blood concentration of glucose and insulin following meals. These effects were found to be associated with an increase in plasma urea levels, in pigs fed on a guar-gum-supplemented diet. 67–73

**Fibre and amino acid digestibility in the pig.** Depending on the digestion site, the effect on amino acid digestibility of adding wheat bran or soya-bean hulls to pig diets differed: additive effects (terminal ileum) *v.* negative interactions (faeces). At both sites, there was no interaction between fibre sources in their effects on the digestibility of energy or fibre components. 75–87

**Arachidonic acid levels in cord blood.** The concentrations and fatty acid profiles of plasma lipids in maternal and cord blood samples taken at delivery of vegetarian and non-vegetarian Asian women were examined. Arachidonic acid concentrations were considerably higher than those reported for women unselected for race and diet. 89–97

**Fats and biotin-deficient chicks.** Biotin deficiency and the feeding of *trans*-18:1 fatty acids appear to alter linoleate metabolism in the chicken. Levels of dihomom- $\gamma$ -linolenate were depressed in liver and heart lipids of biotin-deficient chicks compared with controls. *Trans*-18:1 were found in several tissues and decreased the levels of arachidonate in liver. 99–111

**Rumen nitrogen digestion of silage diets.** Co-infusing casein intraruminally with sucrose significantly stimulated rumen microbial protein synthesis in cattle given diets of grass silage. Replacing casein with urea infused intraruminally or soya-bean meal given twice daily did not stimulate rumen microbial synthesis. 113–121