

Barley for health



Barley is well-known for its useful properties for human health. It is used for making soups, bread and bakery products and can also be used in salad. It is healthful because it is low in fat, high in soluble fibre and cholesterol free.

Mostly barley is used as animal feed and for making beer but latest research findings have revealed that it could add a real boost to the diets of millions of overweight people especially diabetics. During the research work conducted on men and women having high blood cholesterol levels primary reports have shown

that glucose and insulin levels go down by taking diets rich in barley. Eating barley-containing food improves several cardiovascular risk factors. On an average, 14 per cent reduction in total cholesterol was found after consuming this diet. It was also found that these fibres have immuno-strengthening properties because they encourage the growth of healthy bacteria in the gut [Jim Core, *Agric Res*, 2003, **51**(5), 8-9].

Official methods of analysis in the food industry

In order to assist anyone in the food industry who needs to be aware of relevant EC methods of analysis, a handy, compact reference directory has been compiled that acts as a compilation index of all the methods that the European community has issued. References for methods from regulations, directives and decisions are listed by subject with a wide scope of coverage, including food products, animal feed, packaging, contaminants and nutrients. Further details on 'EC Official Methods of Analysis—The Directory' are available from Hilary Bennett at Leatherhead Food Research Association. E-Mail: hbennett@lfra.co.uk [*Food Ingredi Anal Intern*, 2001, **23** (6), 9].

Antioxidant and antimutagenic activities of pomegranate peel



Pomegranate, *Punica granatum* Linn.

('Ganesha' variety) peel contains substantial amounts of polyphenols such

as ellagic tannins, ellagic acid and gallic acid. It has been used in the preparation of tinctures, cosmetics, therapeutic formulae and food recipes. The presence of antioxidants has been reported in

pomegranate juice. It is also reported that pomegranate juice has potent antiatherogenic effects in healthy humans and atherosclerotic effects in mice that may be attributable to its antioxidative properties. Negi and others from Central Food Technological Research Institute, Mysore studied antioxidant capacity and antimutagenic effects of pomegranate peel, a byproduct of juice, and its potential as a natural preservative and nutraceutical.

Dried pomegranate peels were powdered and extracted in a Soxhlet extractor with ethyl acetate (EtOAc), acetone, methanol and water for 4 h each. The dried extracts were used to determine their antioxidant capacity by the formation of phosphomolybdenum complex and antimutagenicity against the mutagenicity

of sodium azide by the Ames test. All the peel extracts exhibited marked antioxidant capacity but the water extract the lowest. The order of antioxidant capacity varied because of differential responses at four concentrations (25, 50, 75 and 100 µg/ml) in each solvent. All the extracts decreased sodium azide mutagenicity in *Salmonella typhimurium* strains (TA100 and TA1535), either weakly or strongly. At 2500 mg/plate all the extracts showed strong antimutagenicity. The antimutagenicity of the water extract was followed by acetone, EtOAc and methanol extracts. The overall results showed that the pomegranate peel extracts have both antioxidant and antimutagenic properties and may be exploited as biopreservatives in food applications and nutraceuticals (Negi *et al*, *Food Chem*, 2003, **80**, 393-397).