Antidiarrhoeal effect of methanolic root extract of Anantamul

The roots of Indian Sarsaparilla or *Anantamul*, ***Hemidesmus indicus* R. Br.** are extensively used by tribals for diarrhoea and dysentery. To confirm scientifically, scientists at University of Madras, Chennai carried out an *in vitro* and *in vivo* study on male and female wistar rats weighing 150-250g.

Methanolic extract of ***H. indicus*** root (MHI) was screened for its antimicrobial activity against *Salmonella typhimurium, Escherichia coli* and *Shigella flexneri in vitro* and in experimentally induced diarrhoea in albino rats, *in vivo*. MHI had an anti enterobacteriae effect as evident from agar well diffusion method and decrease in CFU/ml in MHI treated LB broth culture. MHI inhibited the castor oil induced diarrhoea in rats as judged by a decrease in the amount of wet faeces in MHI-pretreated rats at a dose of 500-1500 mg/kg. The results indicated that MHI was more active than standard antidiarrhoeal drug, lomotil. Phytochemical tests revealed the main constituents as tannins, steroids, triterpenoids and carbohydrates. Present findings suggested that MHI might elicit an antidiarrhoeal effect by inhibition of intestinal motility and by its bacteriocidal activity (Das *et al, Indian J Exp Biol*, 2003, **41**, 363-366).

Cancer fighting tomatoes

Researchers from Purdue University (West Lafayette) and the U.S. Department of Agriculture (USDA) Vegetable Laboratory (Beltsville) have genetically modified tomato plants to generate high levels of the cancer-fighting antioxidant lycopene. The tomatoes have up to three times the amount of lycopene in conventional tomatoes.

The scientists were initially working to develop tomatoes that would ripen later than existing varieties for food processing. In the process they discovered that the new tomatoes also had more lycopene than conventional tomatoes. "This is one of the first examples of increasing the nutritional value of food through biotechnology," says Avtar Handa, professor of horticulture at Purdue. "We think this approach could be used to increase the phytonutrient content of other fruits and vegetables."

The increase in lycopene occurred naturally in the GM tomatoes, says Autar Mattoo, who heads the USDA Vegetable Laboratory. "The lycopene levels increased by 2.0-3.5 times compared to the nonengineered tomatoes," Mattoo says.

Lycopene has attracted much attention since 1995, when a six-year Harvard University (Cambridge) study found that men who ate at least 10 servings of foods per week containing tomato sauce or tomatoes were 45% less likely to develop prostate cancer. Other research has found that lycopene also reduces the amount of oxidized low-density lipoprotein — the so-called bad cholesterol — and may reduce the risk of heart disease.

A U.S. patent application has been filed on behalf of USDA and the Purdue Research Foundation. The Consortium for Plant Biotechnology Research (St. Simons Island), a USDA program, funded the research [*Chem Week*, 2002, **164**(27), 71].