This section features recent applications worldwide for patents in areas relevant to food science and technology. Each entry gives a concise summary of the patent application, along with details of where and by whom it has been filed. Owing to the large number of patent applications each month, selected patents only are featured in each issue of *Trends in Food Science & Technology.*

**Additives**

**Flavour carrier**

Mehner, D.W., Forneck, K., Prince, S. and Major, M.D. (Knoll Foods, Northfield, IL, USA) United States Patent US 5 387 196

Methods to add a flavour to a food by incorporating the flavour into a lipid phase of the food by means of a fat-substitute carrier; flavour can be added to both reduced-fat and full-fat foods. The addition of flavour to the fat-substitute carrier, in particular via volatilization, produces excellent characteristics such as reduced mouthcoating and a flavour that is equivalent to that of a comparable full-fat food, with the least amount of added triacylglycerol. Compositions are also presented.

**Non-bitter yeast extract**


A method for producing a yeast extract for use as a food flavour enhancer, flavouring or a component of a flavouring. The yeast extract is produced by degrading the yeast (either brewer's or baker's yeast) hydrolytically, preferably with enzymes, by recovering the soluble substances and by purifying the resultant solution with a polymeric adsorbent. Treating the yeast extract with a polymeric adsorbent removes bitter substances, yeasiness and/or other undesirable flavouring agents.

**Engineering/packaging**

**Shock-wave sterilizer**


A shock-wave sterilizer for sterilizing a fluid medium, such as a food. The liquid food in an elastic container is impacted by shock waves and expansion waves. These are emitted from a shock-wave source that is formed by an electromagnetic current source discharging through an electrical conductor, which vaporizes the electrical conductor to produce a shock wave that is transmitted through a pressure transfer medium to the container and the liquid medium in it.

**Food biotechnology**

**Cocoa flavour precursor genes and peptides**


Method for the synthesis of cocoa flavour precursor peptides comprising 2–11 amino acid residues, in particular the nonapeptide Ala-Pro-Leu-Ser-Pro-Gly-Asp-Val-Phe, isolated from West African cocoa beans. A DNA sequence coding for the peptides is synthesized and inserted into replication vectors. A recombinant host cell that has been transformed with an expression vector that contains one or more copies of the DNA sequence (connected to control sequences) is cultivated to produce the peptides; these are isolated from the cultivation mixture. A cocoa flavour is produced by mixing one or more of the peptides with predominantly reducing saccharides and amino acids, androsting the mixture. The cocoa flavour may be added to foods.

**Modified starch from transgenic plants**


This patent describes DNA molecules that code for a starch-granule-bound protein, and the methods and recombinant DNA molecules required for the preparation of transgenic plant cells and plants that synthesize a modified starch with altered viscosity properties and phosphate content.

**Fruit, vegetables & nuts**

**Herb/spice pasteurization or sterilization**

Inglis, A.S. and Lark, D.J. (BOC Gases Australia Ltd., Chatswood, New South Wales 2037, Australia) PCT International Patent Application WO 96/36237

A method for pasteurizing or sterilizing herbs and spices. The herbs, spices and other materials are cooled to <0°C, rapidly heated to a pasteurizing or sterilizing temperature and re-cooled to approximately room temperature. The heating and re-cooling steps are performed in an environment that has a pressure of >1 Bar.