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the steeping liquor. Its granule was spherical in shape and of extremely small size, 1.5-3.0 . It had a pasting temperature of 72.5°C, an iodine affinity of 3.6%, and an A-type X-ray diffraction pattern. The Brabender viscoamylogram showed no pasting peak and a continuous increase in viscosity during the process of cooking and cooling. The swelling pattern indicated a restricted type. The percentage of solubles paralleled the swelling power. The phosphate content of the starch was only a trace, and the solubility in dimethyl sulfoxide was low. The degree of syneresis of the starch gel was high and the stability to freeze-thawing was low. These results indicated characteristics of this small-granule starch somewhat different from the small-granule starches reported in the literature.

PS.B-28

DETECTION OF VEGETABLE OIL ADULTERATION BY HPLC ANALYSIS OF TRIGLYCERIDES

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A simple and rapid high-performance liquid chromatographic (HPLC) method of detecting vegetable oil adulteration was developed. It involved direct injection of the oil sample dissolved in choloroform into the HPLC equipped with a μ-Bondapak C_{18} column and a differential refractometer. The sample was eluted with methanol/acetone (3/2, v/v) at 2 ml/min. Plotting the ratios of peak heights of equivalent carbon number (ECN) shows drastic change with different vegetable oils such as soybean oil, sesame oil, peanut oil, rice bran oil and liquid palm oil. Qualitative and quantitative determination of adulterants in these vegetable oils in mixtures can readily be made by such plots.

PS.B-29

THE EFFECTS OF FOOD PROCESSING ON THE PROTEIN QUALITY OF SOME CEREAL PRODUCTS

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The effect of home and industrial processing on the protein quality of products prepared from wheat, rice and corn was measured in nitrogen balance experiments with growing rats. The samples were also analysed for amino acids. The levels of lysine, threonine and tryptophan were, in some cases, negatively affected by baking and caused significant decrease in the biological value (BV) and net protein utilization (NPU) of corn bread. Industrial processing reduced lysine (35-76%) and arginine (10-41%) and resulted in poor protein quality of vermicelli, rice krunchies, cornflakes and puffed corn. There is an urgent need to improve industrial processing to prevent protein damage in foods.