

Rice Composition Varies; New Low-Methoxyl Pectin Process

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• Eight varieties of rice grown during three years at three locations have been examined by a research group at Southern Regional Research Laboratory of the USDA and compositions were determined. Results indicated that both variety and environment have a highly significant influence on both chemical and physical composition of the rice. Among qualities affected were milling yield and bran composition. Variety influenced lipid, nitrogen, and ash contents; environment affected those same characteristics as well as starch content. • An integrated, practical process for making low-methoxyl pectin from citrus peel has been developed by Graham and Shepherd. The products therefrom are versatile materials which make possible new food products or processes. The process, which contrasts with present production methods in that all operations are conducted in aqueous phase, has been developed to pilot plant scale. The three stages are: preparation of peel for extraction, extraction of pectin and clarification of extract, and chemical modification and isolation of pectin. Operating conditions, procedures, and equipment are discussed.

Factors in Destruction of Alfalfa Carotene Evaluated

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• Evaluation of the extent of the destruction of carotene in alfalfa under field conditions has been confused by continual change in many of the factors. Walsh and Hauge, by controlling conditions in the incubating of aqueous suspensions of alfalfa leaves, have been able to measure separately effects of temperature, heat treatments, pH, and other factors. Enzymatic, photochemical, and autoxidative losses were studied. Where carotene is lost in absence of enzymatic and photochemical destruction it is attributed to autoxidation. The authors found it difficult to conclude that one mechanism of destruction predominates over another.

Protein Content and Methionine Value of Yeast Increased

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• The possibility of improving the nutritional value of yeast by raising its protein and methionine content has been investigated by Chiao and Peterson in view of its possible value as protein source. Baker's and brewer's yeasts are known to be deficient in methionine and cystine. Methionine content of several commercial yeasts was determined with a maximum of 0.75% found. The addition of nitrogen salts to the medium increased both protein content and methionine value. However, addition of choline and cystine—theoretical precursors of methionine—failed to affect methionine content.

Cotton Yields Can Be Affected by 2,4-D

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• Reports of crop damage to cotton in Louisiana led Epps to study effects of 2,4-D on cotton. Experiments showed that when 2,4-D is applied in excess of 0.01 pound per acre at any stage of growth, except when bolls are essentially mature, significant decreases in yield result. Oil content and seed weight are also reduced in proportion to amount of 2,4-D applied during fruiting stage.