

TECHNICAL SECTION

JOURNAL OF
**Agricultural
and Food
Chemistry**

- Biochemical Engineering
- Fermentation
- Food Processing
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- Plant Nutrients and Regulators

PLANT NUTRIENTS AND REGULATORS

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Chlorophyll Reactions. Examination of the oxidation and isomerization reactions of the chlorophylls in killed leaves leads Strain to conclude that reversible isomerization of chlorophylls involves a modification of the phorbium nucleus and not a cis-trans isomerization of the unsaturated phytyl group, as formerly believed. The absence of chlorophyll alteration products in living plants subjected to intense light, darkness, and various oxidation and reduction conditions is taken to support the view that chlorophylls do not undergo extensive chemical change during photosynthesis.

PESTICIDES

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to
1228

Insecticide Residue Analysis. A technique well suited to routine screening of fresh food-stuffs in the food packer's quality control laboratory for residues of organic chloride pesticides is presented by Phillips and DeBenedictis. The sodium digestion technique was modified to improve its sensitivity and effectiveness. The method was found to be applicable for analyses of residues on peaches, apples, celery, and white potatoes.

NUTRITION

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1231

Alfalfa Carotene. An evaluation of various quinoline compounds as antioxidants for use in stabilizing alfalfa carotene is presented by Bickoff, Livingston, Guggolz, and Thompson. They found that the sensitive positions on the quinoline ring are the 2-, 4-, and 6-positions. Thus, alkyl substitution of all three positions enhanced antioxidant activity and alkoxy substitution on the 6-position was even more effective.

FOOD PROCESSING

Proteins in Flour. In the Garvan Medal Address, presented before the Division of Agricultural and Food Chemistry at the AMERICAN CHEMICAL SOCIETY meeting in Kansas City last spring, Sullivan reviews the present state of our knowledge of the proteins in flour. The amount of the physical properties of proteins determines to a large extent the varied baking characteristics and response to oxidation of wheat flour.

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Cereal Quality Measurement. Breakage and damage of rice kernels during milling can reduce the monetary return a rice miller receives from a given lot of rice. Although economically important, breaking and checking of rice kernels cannot be measured adequately to determine milling conditions most favorable. Hogan, Larkin, and MacMasters have modified sectioning methods used on other grains to permit photomicrography.

Chocolate Assay. A Karl Fischer titration method of determining moisture in chocolate is presented by Sloman, Borker, and Reussner. Recovery ranged from 90 to 117%.