

# TECHNICAL SECTION

## JOURNAL OF Agricultural and Food Chemistry

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

### Food Processors Must Cope with Both Desirable and Undesirable Constituents

pages  
450  
to  
460

- An investigation of the undesirable precipitates from acidified aqueous concentrates of refined beet sugars has been made by Walker and Owens. In addition to sugar beet saponin and its derivatives they found fat and various adsorbed colloidal impurities. Some of the impurities, it is noted, may have come from materials added in processing.
- The use of ethylene dibromide as a fumigant for fresh fruit may leave residues. Tanada, Matsumoto, and Scheuer have described a method for determining ethylene dibromide and bromide residues. Studies of several fruits show variations in residue retained. Some lost their residues while others retained one or both compounds.
- Curl has studied the fractionation of carotenoids from orange juice by means of countercurrent distribution in a Craig apparatus. Using two different solvent systems, he isolated six fractions which are identified. Chromatographic analysis of these fractions resulted in tentative identification of hydroxy-*p*-carotene, not previously reported.

### Tools for the Study of Nutritional Elements Are Evaluated

pages  
462  
to  
466

- The accurate determination of carotene may be made difficult in many instances by the interference of noncarotenoid material. Beauchene, Mitchell, Parrish, and Silker studied this problem with relation to noncarotenoid color formed by *N,N'*-diphenyl-*p*-phenylenediamine added to alfalfa hay as an antioxidant. The color, apparently formed by combination with acetone, interfered with the analysis.
- In order to obtain diets lacking halogens and sodium, for deficiency studies in rats, McClendon and Gershon-Cohen developed water-cultured crops with successful elimination of those elements. This allowed the use of natural foodstuffs devoid of iodine, fluorine, or sodium for determination of optimum levels. The authors demonstrated halogens or sodium not to be essential for the crops they grew.

### Pesticide Toxicity Can Be and Is Being Avoided

pages  
466  
to  
473

- In the third paper from the symposium on pesticides formulation of the most recent national meeting of the AMERICAN CHEMICAL SOCIETY, Hayes and Pearce report on the relation to safety in use of pesticides formulation. Substitution of less toxic ingredients, use of warning colors, and antidusting agents and use of emetics are important. Highly toxic compounds can be employed with decreased hazard, they point out, if safety factors are incorporated. The use of improved formulations aimed toward improving safety is urged.
- The change in the nature of pesticides during recent years has suggested possible intoxication of the population. Fowler has studied this in Mississippi and has found no evidence that pesticides were the direct or indirect cause of any chronic disease or a contributing cause in diseases generally recognized as having other etiologies. A warning is issued that a problem still exists in relation to use of toxic compounds by inadequately trained or careless people. However, the author expresses confidence that the current efforts of the combination of technically trained people concerned will bring improvement.