TECHNICAL SECTION

JOURNAL OF Agricultural and Food Chemistry

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

PESTICIDES

Insecticide Structure and Activity. The present status of organic insecticides has been largely attained by the Edisonian research approach, of trial and error. Kolbezen, Metcalf, and Fukuto believe the present knowledge of insecticidal activity is moving toward a more precise knowledge of enzyme antagonists and antimetabolites. Selecting the cholinesterase enzyme system as a yardstick of potential insecticidal activity, they report on a proposed mechanism of action for carbamic acid derivatives which inhibit the enzyme system.

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Insecticide Formulation. The ease and stability of emulsion formulation are important criteria for the evaluation of pesticide emulsion concentrates. Sparr and Bowen report on a modification of an apparatus for testing spontaneity of emulsion concentrates which proves satisfactory for also testing emulsion stability. They present the results of testing four toxaphene and one lindane emulsion concentrates in different types of hard waters.

FERMENTATION

Microbiological Fat Production. Under certain conditions yeast cultures go through a fattening phase, during which the population remains fairly constant but the fat content increases. Steinberg and Ordal report on some studies of the effects of fermentation variables on the formation of fat by a species of yeast. The data of their report indicate that under certain conditions the yeast cell can be considered to be a factory for the production of fat. If the conditions are properly adjusted fat will be produced at a constant rate.

pages 873 to 877

FOOD PROCESSING

Meat Assay. A method for quantitatively estimating the connective tissue in meat is presented by Wierbicki and Deatherage. This method was developed as part of a long range project on the relation of biochemistry and physiology to the quality attributes of meat. The assay method is based on the photometric determination of hydroxyproline as an index of connective tissue.

pages 878 to 885

Fruit Pectin. Methods for determination of pectin in natural materials generally involved tedious extractions which are not adaptable to routine assays or studies on small amounts of materials. Lawrence and Groves present some suggested modifications of the calcium pectate technique which result in considerable saving in time. A photometric assay technique is also reported and results of this assay are compared with results obtained with existing assay techniques.