

TECHNICAL SECTION

JOURNAL OF Agricultural and Food Chemistry

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

NUTRITION

Nutritive Value of Milk. Using albino rats as test animals, Bixby, Bosch, Elvehjem, and Swanson found that the nutritive value of cow's milk was unaffected by season, pasteurization, or homogenization. In a series of 18 experiments over a 2-year period, they did find, however, that rats maintained on a mineralized cow's milk diet did accumulate excess fat in liver tissues. Fatty liver correlated with butterfat content and did not seem to be dependent on season, pasteurization, or a deficiency of several well-known lipotropic factors.

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Cottonseed Meal in Poultry Feed. Conflicting reports on whether or not the gossypol content of cottonseed meal in the rations of laying hens brought about discoloration in the yolks of eggs in cold storage has prevented the use of cottonseed meal in feeds intended for laying hens. Grau, Allen, Nagumo, Woronick, and Zweigart report on an experiment which it was hoped would settle the question. They found a correlation between the gossypol in the hens' diets and the presence of a yellow compound in their eggs. The component was determined by quantitative spectrophotometry. Although the original problem was not solved, the authors suggest that this method may provide a bioassay for gossypol in cottonseed meals.

FOOD PROCESSING

Measurement of Food Characteristics. Consistency of foods, like their taste, is a subjective matter that instruments, no matter how accurate, can measure satisfactorily unless the instrument can be correlated with subjective judgments. McColloch and Beavens propose an instrument that measures the consistency of tomato purees, pastes, and catsups very similarly to the judgments of men with long experience with tomato products. Although the work was with tomato products, the authors feel that this instrument could be applied to other food products.

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PESTICIDES

Carbamate Herbicides. George, Brian, Moore, and Garman present a herbicidal evaluation of compounds analogous to CIPC, similar to the one they presented on IPC in the March 31 issue. They find that alterations in the side chain can markedly influence and even completely change herbicidal activity. Speculations and observations on structure-activity relationships will be presented in later paper.

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Herbicidal Activity. Comparative, quantitative data on the formative activities of about 145 ring-substituted phenoxyacetic acids are presented by Weintraub, Brown, and Throne. Using a bean leaf repression technique, they find that chlorine substitution at position 4 is necessary for high activity. Further introduction of halogen or methyl at position 2 enhances activity, but the other halogens introduced at that position weaken activity. Chlorine was found to be the most effective of the halogens, followed by fluorine, bromine, and iodine, in that order.