

# TECHNICAL SECTION

JOURNAL OF  
**Agricultural  
and Food  
Chemistry**

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

## PLANT NUTRIENTS AND REGULATORS

**Plant Nutrient Utilization.** Jacobs and Jordan present results of an experiment designed to determine whether gypsum, calcium carbonate, or green manure made the most calcium available to growing plants. The materials were labeled with calcium-45, the green manure crop, Alaska peas, being grown in sand culture using a nutrient solution containing tagged calcium chloride. Barley was used as the test plant. Gypsum and the green manure were found to furnish more calcium than calcium carbonate. Yield of total plant material was also higher with gypsum or green manure than with calcium carbonate.

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## PESTICIDES

**Soil Effects on Herbicides.** A high adsorption of CMU herbicide on organic matter and a significant adsorption of CMU on inorganic clay particles are the findings of Sherburne and Freed. Twelve different soil types were investigated and a method developed for determining the amount of CMU adsorbed. Their results indicate that use of CMU on soils high in organic matter may require higher dosages. More immediate results will be shown on sandy soils but the chemical may be lost more readily than on heavier soils. Indications are that best results may be obtained under fairly moist conditions.

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## NUTRITION

**Alfalfa Carotene.** Studies of the effects of heat, Wesson oil, and various antioxidants on the retention of carotene in stored, dehydrated alfalfa meal are presented by Mitchell, Beauchene, and Silker. They propose that the level of 0.015% antioxidant as used commercially should be increased if no heat is applied in processing. Heat (to 100° C.) and 80 pounds of Wesson oil with 0.01% of antioxidant reduced the carotene loss to 17%.

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## FOOD PROCESSING

**Sugar Cane Processing.** An evaluation of the processing properties of new varieties of sugar cane comes from Builbeau, Lipps, and Martin. Two of the seven varieties tested were released for commercial use. Breeding programs for new sugar cane varieties, a continuing study in Louisiana, turn out an average of one new variety for commercial use each year. This program results in a complete change in the predominant varieties in the crop every 10 years.

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**Fish Processing.** Einarsson, Sinnhuber, and Worthington discuss their investigation of a method to remove the oil from dried fish meal in a hydraulic press. The most common method for processing fatty fish, the wet reduction process, has its disadvantages because much of the nutrient content is lost in the water. The method discussed here involves pressing the oil from the dried fish meal, thus leaving the valuable nutrients in the meal.