

Antibiotics for Checking Plant Disease; Cotton Damage from 2,4-D Analyzed

pages
234
to
240

- Antibiotics as a class offer unusual opportunities for finding systemically active chemicals for controlling plant disease because of their selectivity and potency. This is the conclusion reached by Leben and Keitt, who point out that the about \$35 million worth of plant disease-controlling chemicals annually prevent losses of about \$2 billion. They say that great opportunities for further advance in the field of chemical control of plant disease lie ahead and that antibiotics may play an important role in these advances.
- Relatively small amounts of 2,4-D may impair cotton quality severely, depending upon the stage of growth when field-grown plants come in contact with this herbicide, reports Baskin. Statistical analysis of damage to cotton linter is presented.

Fertilizers Evaluated with Radioisotopes; Progress on Trace Element Studies

pages
241
to
251

- Fried presents a method for evaluation fertilizers quantitatively by means of radioactive tracers and the results of an examination of some processed and natural products by this method. The method is also suggested as a means of evaluating the effects of such factors as differences in soil and plant species on the availability of plant nutrients from fertilizers.
- Bear presents a progress report on the 14-year study undertaken by the New Jersey Agricultural Experiment Station on trace element relationships in soils and plants. Results have permitted some practical suggestions for New Jersey agriculturalists in the field of trace element deficiency and toxicity.

Penicillin as Contaminant Control in Alcohol Fermentation Near Economic Reality

pages
252
to
258

- Use of penicillin to control unwanted bacteria in grain alcohol fermentation is approaching economic reality, report Day, Serjak, and Stone. A number of antibiotics were tried, and penicillin was found to be the most effective, based upon the amount required. The antibiotics were found to prevent growth of bacteria, in fermentation mashes, prevented destruction of alpha-amylase with a reduction in alcohol yield, inhibited acid production, and prevented acrolein production. More viable yeast cells were found in the mashes at the end of fermentation.

Heat-Stable Toxic Principle in Tung Meal Requires Consideration

pages
258
to
263

- Efforts to find an economically attractive use for tung meal have not been successful, present use being confined to a low-priced fertilizer. Although fairly rich in carbohydrate and protein, its long-recognized toxicity prevents use as animal feed. Mann, Hoffman, and Ambrose report on experiments attempting to resolve apparently contradicting reports on the detoxification of this material. They found that tung meal could not be detoxified by autoclaving and extraction with ethanol. Tung press cake, obtained by a commercial expeller process involving high temperature, was detoxified almost completely by extraction with ethanol. They conclude that application of heat alone does not appear to effect complete detoxification and that occurrence of a heat-stable toxic principle requires consideration.