

Unidentified Toxins May Be Responsible for Soybean's Freedom from Insect Damage

- Indications that a hitherto undescribed toxin in soybeans may be responsible for the relative freedom of soybeans from insect damage are seen by Lipke, Fraenkel, and Liener. Soybean products known to inhibit growth in vertebrates showed no toxicity or growth retardation on the insect, *Tribolium confusum*, although the insect had shown similar response to that of rats and chicks when fed raw and heated soybean diets. The material precipitable from a pH 4.6 extract of raw soybean by 0.475 saturation with ammonium sulfate was toxic to all the larvae at the 2.5% level and inhibited protein digestion in vitro by 50%.

Carbon Dioxide Production Rates of Stored Vegetables

- Data on the carbon dioxide-producing rates of several economic vegetable crops in storage at different temperatures is provided by Tewfik and Scott. Not only do rates for different vegetables vary widely, but postharvest treatment and temperatures also give entirely different rates for different vegetables. In every case, the carbon dioxide production rate increased rapidly with a rise in temperature.

Serpentine-Fused Phosphate Shows High Liming Value; Mechanism of Chelate Action

- Fineness and glass content of serpentine-fused phosphate fertilizers are shown by Huang to determine their equivalent basicity and their solubility in ammonium citrate and citric acid solutions. Soil tests with these materials showed that they have a high liming value—under conditions simulating those of a rice paddy. • Weinstein, Purvis, Meiss, and Uhler report on an investigation designed to gain information on the absorption, translocation, and metabolism of ethylenediaminetetraacetic acid in plants. This chelate is the most widely used one in the prevention and cure of iron-deficiency chlorosis in plants. Solution culture experiments with sunflower, using the split root technique, show that iron is absorbed by one portion of the split root but is not utilized. When EDTA was supplied through the other portion of the split root, excellent plant growth was obtained, indicating that the chelate made iron available to all portions of the plant.

Organic Phosphates Good Bait Poisons for DDT-Resistant Flies; Herbicide Absorption

- Dry sugar baits containing only 0.1% of malathion, Diazinon, or Bayer's L 13/59 gave 99% kill of houseflies resistant to DDT and other chlorinated hydrocarbons in 16 hours, according to the study by Gahan, Wilson, and McDuffie. Since flies feed on individual sugar grains, the bait can be scattered so sparsely that animals are unlikely to eat much of it. In dairy barns and poultry houses, applications of 100 grams of bait per 2500 to 5000 square feet of floor area gave reduction of 90% or higher in 4 hours. • Radioactive tracer techniques were used by Baldwin, Freed, and Fang to study the herbicidal action of *O*-isopropyl *N*-phenyl carbamate. The study provides information on its actual entry into the tissue of corn and oat plants and its transport to other parts of the plant. Results show that the herbicide was absorbed through the cut surfaces of the leaves, cut surfaces of roots, and intact roots (in descending order of absorption rate). Practical significance of this research is that soil application or application immediately after cutting the grass should give better control.