

# NEW PUBLICATIONS



—now ready for distribution—

Single copies of these publications—except Manuals and books—or a catalog of Agricultural Publications may be obtained without charge from the local office of the Farm Advisor or by addressing a request to: Agricultural Publications, 207 University Hall, University of California, Berkeley 4, California. Make checks payable to The Regents of the University of California.

**TIMBER MARKETING AND LAND OWNERSHIP IN MENDOCINO COUNTY**, by Paul Casamajor, Dennis Teeguarden, and John Zivnuska, *Bul.* 772.

## LYGUS BUG TOLERANCE

to insecticides

Current research at Davis is investigating insecticide tolerance in lygus bugs in relation to alfalfa seed.

Lygus bugs are the most important insects attacking alfalfa grown for seed. If present in high numbers they may completely destroy the crop. They feed by sucking sap and when they attack floral buds the buds usually turn white and fail to develop. Such injury has been termed blasted bud. Both nymphs and adults feed on the individual flowers, causing flower-fall. When they feed on the young ovary, seed pods do not develop; if seed pods do develop and are fed upon before they mature, the seeds become brown and shriveled.

Control of lygus bugs in alfalfa seed has become difficult in some areas of California. In the southern San Joaquin Valley, the bugs early developed a tolerance to DDT. This has now become general throughout the major seed-producing areas. Lygus bugs in alfalfa seed fields become more tolerant to DDT as the season advances. It now appears that a tolerance has also been developed to toxaphene, use of which is more general throughout the state. Toxaphene is still relatively effective, although its usefulness appears to be more limited.

For the past two years, field trials to control lygus bugs have been conducted with a number of the newer insecticides and combinations of insecticides. These experiments have shown that Dylox and Phosdrin produce a rapid initial kill. However, both of these materials have a short residual activity and will not give the extended control formerly obtained with DDT or toxaphene.—Oscar G. Bacon, *Dept. of Entomology, Davis.*

## Land disposal of industrial

### WASTE WATERS

Land disposal of industrial waste water permits reuse of water without excessive pretreatment, resulting in a saving to industry, and providing water for the irrigation of crops.

Such long-term use, however, requires a knowledge of the changes to be expected in the soil treated with the waste, and the recognition of the changes in plant growth resulting from the accumulation of toxic substances which may be present in the waste water.

Experiments are being conducted in the laboratory and greenhouse on spe-

cific waste waters to determine the rate of removal and decomposition of organic residues contained in the water. The program includes pot and deep-column experiments to test the growth of grasses and cereals in two or more soils; an investigation of the water penetration and waste removal characteristics of the soil; and studies of the physical and chemical changes in the soil at various times and rates of water application. The program is designed to determine the need for amendments to aid in the decomposition of the organic residues, maintain a favorable ionic balance in the soil and permit satisfactory plant growth.—J. W. Biggar, *Dept of Irrigation, Davis.*



Penalty for private use to avoid payment of postage, \$300  
University of California College of Agriculture, Agricultural Experiment Station, Berkeley 4, California

*Paul F. Sharp.*  
Director

Free—Annual Report or Bulletin or Report of Progress  
Permit No. 1127

## DONATIONS FOR AGRICULTURAL RESEARCH

Contributions to the University of California, Division of Agricultural Sciences

### DAVIS

California Canners and Growers .....	\$500.00
For research on bulk handling and mechanical harvesting of apricots	
California Crop Improvement Association .....	\$4,000.00
For research on control of the chalcid fly	
California Farm Bureau Federation .....	\$750.00
For research on bulk handling and mechanical harvesting of apricots	
Canners League of California	
For research on browning problems of freestone peaches .....	\$12,800.00
For tomato research .....	\$6,900.00
National Agricultural Chemicals Association .....	\$5,500.00
For research on the metabolic fate of arsenic in animals	
National Plant Food Institute .....	\$2,000.00
For research on the effects of irrigation practices as a limiting factor on grain sorghum yields	
Sugar Research Foundation, Inc. ....	\$250.00
For study on the role of sugar on the acceptability of sherbets	

### RIVERSIDE

Air Pollution Foundation .....	\$11,200.00
For studies on plant poisoning by air pollution	
American Potash & Chemical Corp. ....	\$500.00
For research on the effects of smog on agricultural crops	
California Avocado Society .....	\$100.00
For avocado root rot research	
Dow Chemical Company .....	\$6,500.00
For research in insect toxicology	
Union Carbide Chemicals Company .....	\$1,000.00
For cotton insect investigations	