

Two Vegetable Diseases Controlled With Streptomycin, USDA Reports

Two more diseases important to vegetable growers—downy of lima beans and late blight mildew of tomatoes—have been controlled experimentally with antibiotic sprays, the U. S. Department of Agriculture reports.

Equally significant is the fact, revealed by USDA research on antibiotics for plants, that better control of the downy-mildew fungus was obtained with crude forms of streptomycin (the antibiotic used) than with pure forms. Department scientists also found that addition of copper to the antibiotic sprays gave effective disease control with very low dosages of antibiotic.

Meeting in Atlanta

These discoveries are the result of research by W. J. Zaumeyer, S. P. Doolittle and R. E. Wester at the USDA Plant Industry Station, Beltsville, Md. They extend the list of recent research successes in using antibiotics against plant diseases and constitute a further important step toward more extensive use of antibiotics for more efficient plant production, the Department says.

Speaking in Atlanta Dec. 29, before the 47th annual meeting of the American Phytopathological Society, Dr. Zaumeyer, a plant pathologist of USDA's Agricultural Research Service, said these experimental successes have—with one important exception—followed the pattern of earlier work on antibiotic control of such vegetable disease as halo blight of beans, bacterial spot of tomatoes and peppers, potato seed-piece decay, black rot of rutabagas, and bacterial blight of celery. The exception: Although earlier discoveries had led many plant scientists to believe streptomycin to be more or less specific for diseases caused by bacteria two fungus caused diseases of vegetables, downy mildew and late blight.

The effective results obtained against these diseases with low-dosage sprays containing streptomycin and copper are a promising approach. Dr. Zaumeyer believes, to low-cost, practical disease control for the grower.

In reporting the Beltsville research, Dr. Zaumeyer said that four different commercial antibiotic formulations - Agrimycin, Phytomycin, Agristrep, and Acco Streptomycin—were applied to lima-bean foliage at the rate of 100 parts of drug to one million parts of water. The antibiotic sprays almost completely prevented downy-mildew infection of the lima beans, which were inoculated with a spore suspension of the fungus 24 hours after the streptomycin treatment. Under similar experimental conditions, tomato seedlings treated with the same dosages of streptomycin prior to inoculation with late blight proved equally resistant to infection. Disease-inoculated lima-bean and tomato seedlings that were not treated with an

JUST DEPENDS

A man was on his way to visit some friends during summer vacation. The way led through a swamp.

"Say," he asked, "is it true that an alligator won't hurt you if you carry a torch?"

The guide thought a moment. "Depends on how fast you carry it, I reckon."

DONE ENOUGH

Elmer, aged 13, was puzzled over the girl problem and discussed it with his pal Joe.

"I've walked to school with her three times," he told Joe, "and carried her books. I bought her an ice-cream soda twice. Now, do you think I ought to kiss her?"

"Now, you don't need to," Joe decided after a moment of deep thought. "You have done enough for that girl already."

WHERE LOVE WAS STRONG

"Don't you think Egbert is of a very flighty disposition?"

"Why, no, he'll never forget his first and only love."

"So, he's been seriously enamored. What was it?"

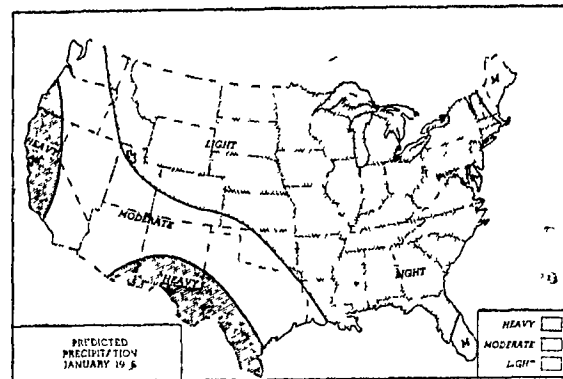
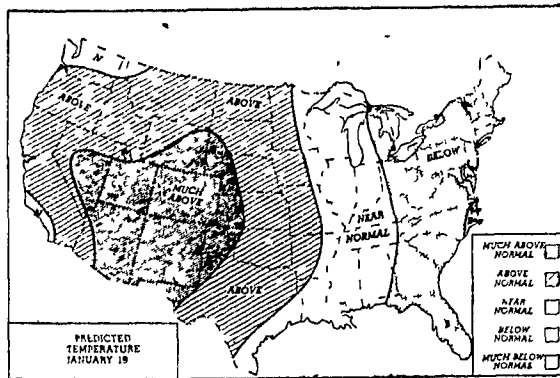
"Himself."

antibiotic became severely infected.

The fact that better disease control was achieved with crude streptomycin than with pure forms of drug is probably due, Dr. Zaumeyer said, to the presence of some unidentified ingredient in the crude material that is absent in the pure antibiotic.

Trials made to compare combination streptomycin-copper sprays containing only one or the other of these materials showed that a combination containing 50 parts-per million (ppm.) of both the chemicals gave slightly better control of downy mildew than did sprays containing 50 ppm. of streptomycin, and much better control than sprays containing 50 ppm. of copper. Sprays containing 25 ppm. of streptomycin were completely ineffective.

Outlook for January 1956



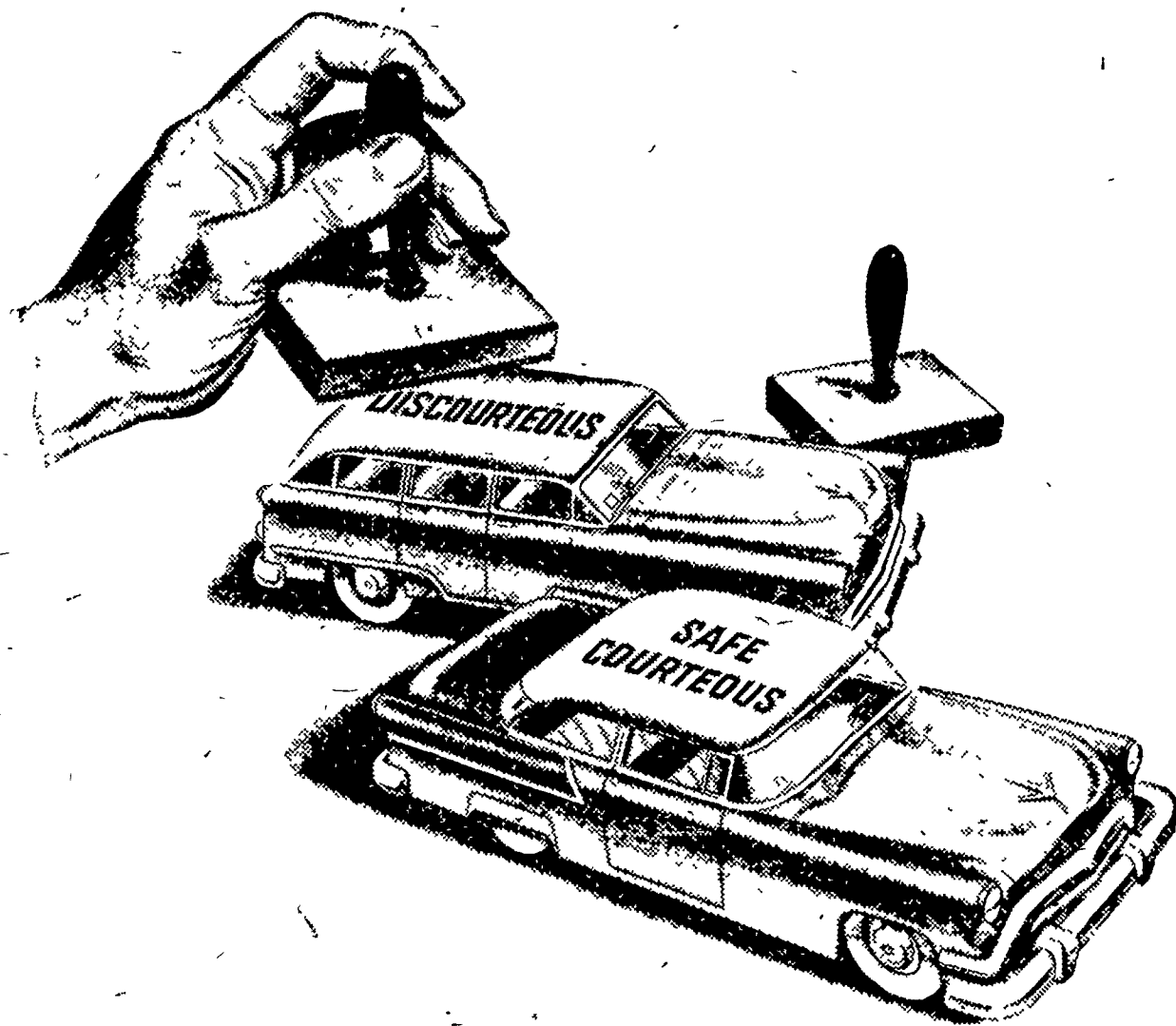
The Weather Bureau's 30-day outlook for January calls for temperatures to average below seasonal normals in the eastern third of the nation. Above normal temperatures are indicated from the Mississippi westward to the Pacific with greatest depar-

tures in the Southern Rockies.

Precipitation is expected to be near or above normal in the Southwest and along the West Coast. In the remainder of the country generally subnormal amounts are predicted.

The Federal Reserve Board's index of industrial production, which hits a record 142 in Sep-

tember and October, is expected to reach 144 this month, helped in part by the urge to build inven-



WHAT'S YOUR STAMP?

Too often it's too late when you spot the discourteous driver on the highway. The damage has been done . . . or is about to be done . . . or the danger has passed—at least until you meet again.

Every year, more than three quarters of all traffic fatalities involve traffic violations. Lack of driver courtesy contributes heavily to those deaths.

Laws demand safe-driving—but the courtesy which helps assure it must come from you—the driver. Obedience to traffic regulations, common sense and considerate behavior stamp you as a safe, courteous driver.

As you drive . . . be courteous—it's contagious . . . and safe.

Drive to stay alive



This message in the interest of highway safety is one of a series prepared and disseminated by the Pennsylvania Newspaper Publishers' Association and the Pennsylvania Department of Revenue.

COMMONWEALTH OF PENNSYLVANIA

