AGRICULTURE

Banana Stem Rot Can Be Prevented

➤ STEM ROT in bananas during shipment can be prevented by a chemical that is safe to paint on the stems after bunches are cut from the stalk.

Scientists at the B. F. Goodrich Research Center, Cleveland, have developed a fungicidal paint containing polyethylene polysulfide, or p.e.p.s., which prevents banana stem rot.

For some time growers have been using the material to paint a rubbery film on the ends of whole stalks of bananas after cutting from the tree. The growers, however, were reluctant to apply the chemical to the stems of freshly cut bunches, fearing that the fungicide would migrate into the edible portion of the fruit.

To prove that such a practice would not harm the fruit, radioisotope tracers were used to detect possible movement of the chemical through the fruit.

A quantity of the p.e.p.s. was especially prepared from radioactive sulfur, then applied to the freshly cut stems of bananas. A Gieger counter held close to the coated stems indicated their great radioactivity.

The bananas were allowed to ripen. The coated stems still showed the high radioactivity, but the edible portion of the fruit showed none. In fact, a slice cut only one-sixteenth of an inch away from the coated stem was free from radioactivity, proving that the fungicide chemical does not migrate from the point of application. Therefore, it can be safely painted on the stems prior to shipment.

Science News Letter, October 2, 1954

AERONAUTICS

2.5-Ton Propeller Plane "Hovers" Over Airport

See Front Cover

➤ SPECTATORS AT the Oxnard, Calif., airport were startled recently to see a propeller-driven plane of two and a half tons "hovering" overhead. It was going only 11 miles an hour, but by all rights it should have been going much faster—or crashing.

The plane was the Custer Channel Wing-5. Its wings resemble half-barrels. Two pusher-propeller engines are mounted in these half-barrels. In a demonstration, the plane climbed 3,000 feet a minute after using less than 200 feet of runway space.

Its inventor, Willard R. Custer, believes the craft presages "a new era in aviation history." The slow-motion plane can do 180 miles an hour when not otherwise showing off. It can develop as much lift per horsepower at 11 miles per hour as commercial airliners develop at regular flying speeds. The plane is shown on the cover of this week's SCIENCE NEWS LETTER.

Science News Letter, October 2, 1954

GEIGER CHECK—To prove that a new fungicidal formulation developed to arrest stem rot in bananas does not migrate into the edible portions of the fruit, Dr. John C. McCool, research chemist at the B. F. Goodrich Research Center, uses radioactive tracers.

OPHTHALMOLOGY

Check Leprosy Blindness

➤ SPREAD OF leprosy to the eyes, formerly a major cause of blindness, can now be checked by the sulfone drugs that are beginning to conquer the ancient plague itself, Dr. William J. Holmes of Honolulu reported at the International Congress of Ophthalmology meeting in New York.

The sulfone drugs, first introduced in 1941, are promin, promizole, diasone, sulfetrone and diaminophenyl sulfone.

Leprosy spreads to the eye mainly by way of the blood, Dr. Holmes explained, though the germ may be transferred from spots on the face. It may cause loss of the eyebrows and of the lashes, with numerous deformities of the lids. Squint due to dim vision in one eye is frequently seen.

Acute infection by other germs that invade the diseased tissues around the eyes is common, but can be routed by antibiotics, he said. The hormones, ACTH and cortisone, are effective in the treatment of nodules that form in the sclera, the "tunic" that covers the back part of the eyeball.

The cornea is the most vulnerable of all the structures of the eye affected by the bacillus of leprosy, Dr. Holmes said. Radiation, vitamins and the adrenal hormone preparations are all useful in efforts to minimize the serious effects on the cornea, and transplantation of cornea has been tried, though with little success.

Cataracts may develop as a result of the repeated infection, he said, but most patients tolerate operations for cataract surprisingly well. Apparently the bacillus of leprosy does not penetrate to the back part of the eyeball, so far as reports now show.

Science News Letter, October 2, 1954

MEDICINE

Cortisone May Lower Defense Against Cancer

➤ CORTISONE, ADRENAL gland hormone famous for its relief of pain and crippling in arthritis, "probably" lowers the defense of the body against infection and new growths, such as cancer.

Studies showing how this happens are reported by Drs. T. Nicol and R. S. Snell of King's College in *Nature* (Sept. 18).

Their studies were made on guinea pigs. In these animals, they found that cortisone depressed the activity of the blood cell forming reticulo-endothelial system, particularly the spleen. This system has previously been reported to be an important defense mechanism of the body against growth of tumors, including cancers.

Study of cortisone's effect on this system was made because of reports that patients being treated with cortisone are more susceptible to infection and that cortisone enhances the spread of transplanted tumors in animals.

Science News Letter, October 2, 1954