

# life science notes

## FORESTRY

### Herbicide Pellets Aid Tree Growth

Forests of Japanese larch which can grow to more than 15 feet in five years can be established when a weed killer called fenuron is used to destroy undesirable hardwoods and undergrowth. Fenuron, according to Dr. Robert D. Shipman of Pennsylvania State University, seldom damages larch trees, which are valuable for pulpwood, but cleans out other plants so sunlight can reach the larch seedlings.

The best method of applying fenuron, Dr. Shipman says, is to place pellets on the surface of the soil in grids six feet square. A particular advantage of these pellets is that they are non-vaporous, leave only slight plant and soil residues and show very low toxicity in man and wildlife.

## GENETICS

### Chromatin Lives in Test Tubes

Test tube study of isolated genetic material that can be removed from cells and kept alive by new techniques is expected to increase considerably scientists' understanding of differentiation—the process by which one cell becomes part of a bone, another part of an eye, and so on.

The isolated material, known as chromatin, is a complex of chromosomes, DNA, RNA and proteins. Dr. James Bonner and co-workers at the California Institute of Technology say they do not know how much, if at all, isolation alters the biological properties of chromatin, but they find it "possesses several properties characteristic of the same chromatin in life."

Dr. Bonner, who discovered that bits of protein called histones are keys to turning genes on and off, is using isolated chromatin for a detailed study of the interaction of hormones, proteins and genetic material for further illumination of gene action. He reported his work in the January 5 issue of *SCIENCE*.

## ANTIBIOTICS

### Chloramphenicol Makers Face Tests

The Food and Drug Administration will not certify for sale any generic versions of chloramphenicol, a potent antibiotic, until manufacturers prove their products are as good as Parke, Davis & Co.'s brand name drug—Chloromycetin.

Chloramphenicol, approved for treatment of the serious infectious diseases typhoid and hepatitis alone, is manufactured by six companies in addition to Parke, Davis, its developer, which held patent rights for 17 years. In December, Parke, Davis made public studies it had sent to FDA showing competitors' products to be inferior because they fail to dissolve rapidly in the body (SN: 12/9/67). Shortly afterwards, one generic producer recalled his entire supply of chloramphenicol for further testing (SN: 12/23/67).

Although other generic versions of the drug, distributed by some 60 companies under various labels, are still on the market, FDA says it will not approve distribution of any new batches of the antibiotic until manu-

facturers show, from clinical tests in at least 120 adults, that their drug does dissolve and enters the blood as quickly as does Chloromycetin.

## HEMATOLOGY

### Unusual Proteins Linked to Cancer

Unusual protein particles in the blood of patients with cancer of the lymph organs and bone marrow may represent an alteration of the body's immune system.

On the basis of preliminary research, Dr. Alan Solomon of the University of Tennessee Memorial Research Center, Knoxville, says that if the odd particles prove specific for certain types of cancer, they may be useful in detecting and diagnosing the disease.

The protein particles, which Dr. Solomon first identified in the blood of a patient with lymphatic cancer, resemble antibodies that kill disease-causing germs and viruses. He suggests that these protein particles may form as part of the body's defense against cancer cells.

So far, these particles have been found only in the blood of patients without cancer of the blood-manufacturing system.

## CANCER STATISTICS

### Mexico Ranks High in World Cancer

Mexico ranks fourth in world cancer death statistics, the Social Services and Security Institute for State Workers reveals.

This situation is causing serious concern to Mexican authorities, and to medical personnel of the Institute.

An anti-cancer drive has been launched. The Institute has purchased cancer-detecting equipment and is preparing to instruct more doctors in its use for a check-up of all government workers. The Institute already has a cobalt pump and other cancer fighting equipment.

"While our campaign is directed at federal employes throughout the republic, the Mexican Social Security Institute and the Department of Health are readying similar campaigns on a national basis to give protection to all citizens," an Institute spokesman says.

## EVOLUTION

### Tree Shrews: Primitive Mammals

Tree shrews, small chipmunk-like animals used in research, are the object of long debate over whether or not they are primates.

Some scientists claim evolution proceeded from tree shrews through lemurs, monkeys and apes to man. Now, Wisconsin scientists have evidence that tree shrews are not related to primates at all.

According to W. Patrick Luckett of the University of Wisconsin, studies on the placental and fetal membranes of tree shrews show these membranes are very primitive, placing shrews in an intermediate position between primates and insectivores. Luckett says that work by other researchers, comparing the brain and skeletons of shrews with those of primates, supports his view that there is no direct evolutionary link between them.

Instead, Luckett suggests, primates probably evolved from an insectivore-like stock some 75 million years ago.

20 january 1968/vol. 93/science news/69