

PHYSIOLOGY

Labs Feel Meat Shortage

► PRESENT paralysis of the meat industry is being felt in scientists' laboratories as well as in housewives' kitchens. Prof. Herbert Evans, of the University of California, told the conference on chemistry and physiology of growth at Princeton University that his source of raw glands in this country has been cut off, and that he is having to request fresh supplies from the slaughter-houses of Australia and New Zealand, for his work on the growth hormone.

The growth hormone, which Dr. C. H. Li, in conjunction with Prof. Evans, has succeeded in extracting from these tiny glands in the form of a pure, water-soluble crystalline protein, is the ruling substance in body growth. Rats that have been surgically deprived of their pituitaries stop growing, but when a solution containing ten millionths of a gram of the hormone is injected into them, they resume growth and event-

ually become giants.

There is a limit to their giantism, however. Prof. Evans stated: "I can get rats to grow almost as big as guinea pigs but not as big as rabbits."

Human giants on an equivalent scale would be about nine feet tall.

The growth hormone might be used to produce normal stature in children who fail to grow because something has gone wrong with their pituitaries if only there were enough of it. There is no present hope of getting enough, however, for even a dwarfish child would require doses very much larger than those effective in rats.

Sole present source is the pituitary gland of beef cattle. This gland, a very small object buried under the brain, is so tiny that it takes 400 or 500 of them to weigh a pound. And there is so little hormone in each gland that it takes 30,000 to yield one ounce.

Science News Letter, October 12, 1946

CHEMISTRY

Germ Warfare Dividends

► THE ARMY is not putting all the national defense eggs into the atom bomb basket.

The search for new weapons in germ and gas warfare is continuing, Maj. Gen. Alden H. Waitt, chief of the chemical warfare service, declared at the meeting of the District of Columbia Medical Society.

While doctors hope that atomic bomb by-products will help fight disease in the future, life-saving peacetime dividends have already been paid on the chemical corps' investment in national defense research.

A cure for mercury and arsenic poisonings; control of the dreaded cattle plague, rinderpest; improved toxoid to fight botulinus poisoning in food; hope for a cure of cancerous diseases of the blood through nitrogen mustard gases; hope for better treatment of blinding glaucoma and the muscle weakness disease, myasthenia gravis, through other chemical warfare agents; control of weeds through the search for chemicals to destroy the Japanese rice crop are among the dividends Gen. Waitt reported.

Germ weapons, he believes, have possibilities comparable to the atomic bomb in war. He said that it is a great dis-

service to national defense to say that germ warfare is not practical.

Only through science, he declared, can we reach the unity of mankind necessary to win the peace. But basic research in biological and chemical warfare must continue both as preparation for a possible next war and for the life-saving dividends this research can pay in peace.

Science News Letter, October 12, 1946

TELEVISION

Homes Soon May Have Color Television

► COLOR TELEVISION will be available soon for American homes, it was indicated at the National Electronics Conference in Chicago. An up-to-date report on the latest state of the art was presented by a Columbia Broadcasting System scientist, P. C. Goldmark, and studio equipment under production was described by a Westinghouse engineer, D. L. Balthis.

The equipment, which Westinghouse is now making, consists of the electrical and optical apparatus required to convert a 35-millimeter color slide, or a 16-millimeter colored film and its asso-

ciated sound, into signals suitable for an ultra-high-frequency color television transmitter.

The principles of color operation used in the equipment are based on the use of three primary colors. Mr. Balthis of Westinghouse traced the development of the composite television signal through the system, and explained how the sound and picture signals are transmitted on the same carrier frequency.

Science News Letter, October 12, 1946

WILDLIFE

Insecticide Ingredient Returns as Fish Killer

► DERRIS, much-used insecticide ingredient, is put back to work at its original job as a fish poison by H. R. Siegler and H. W. Pillsbury of the New Hampshire Fish and Game Department. They use it in clearing ponds of undesirable fish species before restocking with trout or other valuable game fish.

Derris was first brought to the attention of white men when European explorers found natives of the East Indies using the ground-up plants as an easy means for catching fish. Its value in killing insects was a subsequent discovery.

Messrs. Siegler and Pillsbury present a detailed account of their methods in the *Journal of Wildlife Management* (Oct.).

Science News Letter, October 12, 1946

ENGINEERING

Long, Slender Tubes Give Lighting Efficiency

► LONG slender tubes are used for fluorescent lamps because they give from five to seven times as much light for the electrical wattage used as short, fat tubes, the Illuminating Engineering Society was told by E. F. Lowry, W. S. Frohock and George A. Meyers of Sylvania Electric Products, Inc.

The long shape has many advantages, they said. One of the most important is "that the useful wattage in the fluorescent lamp becomes an increasingly greater percentage of the total as the length of the lamp is increased."

The efficiency of a fluorescent lamp is modified by the auxiliary equipment with which it is associated, they explained. The overall efficiency of a lamp with the conventional ballast and starter is higher, they declared, than when a "shock" type instant start ballast is used.

Science News Letter, October 12, 1946