

## Food Lack Causes Baldness

**B**ALDNESS, cataracts of the eyes, poor teeth and inability to father offspring all may result from lack of one single food chemical in the diet, tryptophane.

This discovery was announced to the Federation of American Societies for Experimental Biology. The new studies that are expected to aid the vast job of post-war feeding of a starved world, were made by Dr. Wilhelm Buschke, Dr. Anthony A. Albanese and Dr. Richard H. Follis, Jr., of the Johns Hopkins University.

Tryptophane, the food chemical lack of which can bring on the four symptoms, is one of the 10 essential amino acids which are building blocks of proteins.

The proteins of cereals or grains in general contain considerably less tryptophane than proteins in animal foods such as meat, fish, poultry, eggs and milk. The discovery just reported indicates the danger of relying entirely on cereals as source of protein, as might be done in a post-war world faced with grave shortages of meat and other kinds of foods.

The danger of one-sided diets containing inadequate sources of amino acids has long been suspected. Studies by other scientists have shown that laboratory rats cannot manufacture the 10 essential amino acids in sufficient amounts in their bodies to supply their needs for normal growth. It was assumed that man also required these protein building blocks in his food.

The new discovery, however, shows for the first time the full extent of the damage resulting from lack of one of these acids, tryptophane, and gives also for the first time concrete evidence that humans as well as laboratory rats require this amino acid.

Human need for another amino acid, arginine, suspected of being a paternity chemical, has previously been reported by Dr. Albanese and associates. (See *SNL*, March 7)

The baldness, cataracts, malformation of tooth enamel and wasting of the male sex glands resulting from lack of tryptophane in the diet were demonstrated in paired feeding experiments with rats. But human volunteers who ate a diet lacking this chemical showed the effects of the deprivation through chemical tests. If they had continued as long on the

diet as the rats did, they would also have grown bald, the scientists believe.

The tooth defects and the cataracts occurred only in young, growing rats on the tryptophane-lacking diet. The baldness and sex gland destruction occurred in both young and old rats. The baldness and the cataracts could be cured

just by adding tryptophane to the diet.

Some of the changes resulting from lack of tryptophane also occur in vitamin A starvation. This may mean that without plenty of tryptophane, the body cannot use vitamin A even if it is present in the diet.

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### ENTOMOLOGY

## War Endangers Our Trees By Halting Fight on Pests

**W**AR-COMPELLED suspension of search in Japan for beneficial parasites of the Japanese beetle, and curtailment of domestic insect control plans, seriously jeopardize America's millions of shade trees and their protective camouflage value, warns Dr. E. Porter Felt, director of the Bartlett Tree Research Laboratories, Stamford, Conn.

"Although insect pests annually cause this country about one and one-half billion dollars loss each year, their adequate control is generally an overlooked phase of our war efforts," Dr. Felt stated. "The Japanese beetle, gypsy moth and elm leaf beetle all are more widely distributed today than 40 years ago. Thorough, timely and continuous spraying

is imperative lest their ravages cause widespread defoliation and serious injury to our trees—now more important than ever before because of their morale, health and protective camouflage value during the war emergency."

Limiting the amount of spraying in certain localities to conserve chemicals may be possible, Dr. Felt added, but complete suspension of control operations would be "most unwise." Entomologists and tree experts should be consulted whenever control curtailment is under consideration. Their advice may prevent serious disaster to one of the nation's most valuable physical and esthetic assets—its shade trees.

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### PORKY UP A TREE

*This bristly creature of northern forests posed on a limb for the portrait that appears on one of the new wildlife stamps. It is a characteristic place for Porky; despite his short legs and deceptive appearance of clumsiness, he's a good climber.*