PHYSIOLOGY

# Syrup of Germs Devised To Help Soldiers Eat Grass

## Bacteria That Do Not Cause Disease Can Also Be Planted in the Intestines To Make B Vitamins

A CHOCOLATE-flavored syrup of germs that, according to preliminary tests, enables human beings to eat grass, leaves and wood if other food supplies fail was announced by Dr. Gustav J. Martin, of the Warner Institute for Therapeutic Research, New York City, at the meeting of the American Chemical Society in Memphis.

The germ syrup, which would accomplish the desired result for a lifetime at a cost of $2 per person, is considered particularly suitable for paratroops and other army units. It seems to be the American research scientist's answer to reports that the Germans have developed a similar procedure for enabling their soldiers to live on wood, leaves or grass.

For civilians as well as soldiers, a germ syrup to supply vitamins for a lifetime is also on its way, if Dr. Martin's experiments prove successful. Certain bacteria, or germs, of a type that do not cause disease, are known to manufacture various of the B vitamins. The cow does not have to eat B vitamins in food because her rumen contains the bacteria that manufacture them. Dr. Martin's experiments are designed to develop similar germ vitamin factories in man's intestines.

Dr. Martin's work on developing germ vitamin factories and the chocolate-flavored germ syrup for digesting grass, leaves and wood has been done on laboratory animals. Preliminary tests on humans have been started in New York hospitals, but have not gone long enough for conclusive results to be reported.

The idea of creating germ vitamin factories in man's body to make him independent of food sources of vitamins or even of vitamin pills resulted from the discovery that one of the B vitamins, pantothenic acid, can stimulate the growth of those intestinal tract germs which synthesize another B vitamin, inositol. In past experiments when pantothenic acid was left out of the diet, the symptoms that resulted, such as hair graying and hemorrhage of the adrenal glands and so on, were attributed to the lack of pantothenic acid. But because there was no pantothenic acid in the diet, there was also an unsuspected deficiency of inositol. It was this unsuspected lack of inositol that was responsible for some of the symptoms attributed to lack of pantothenic acid.

Graying of the hair, Dr. Martin reported, is actually due to pantothenic acid deficiency and inositol will not cure the condition. The adrenal hemorrhages, however, are due to the inositol deficiency.

Lack of pantothenic acid, Dr. Martin pointed out, is not the only dietary lack which will produce gray hair. Restoring hair color lost through lack of pantothenic acid may be accomplished by restoring pantothenic acid to the diet. Hair color may also be restored, as has previously been reported, by doses of another vitamin para-aminobenzoic acid. This vitamin acts to "cure" gray hair, Dr. Martin is now convinced, through its action on bacteria in the intestinal tract.

*Science News Letter, May 16, 1942*

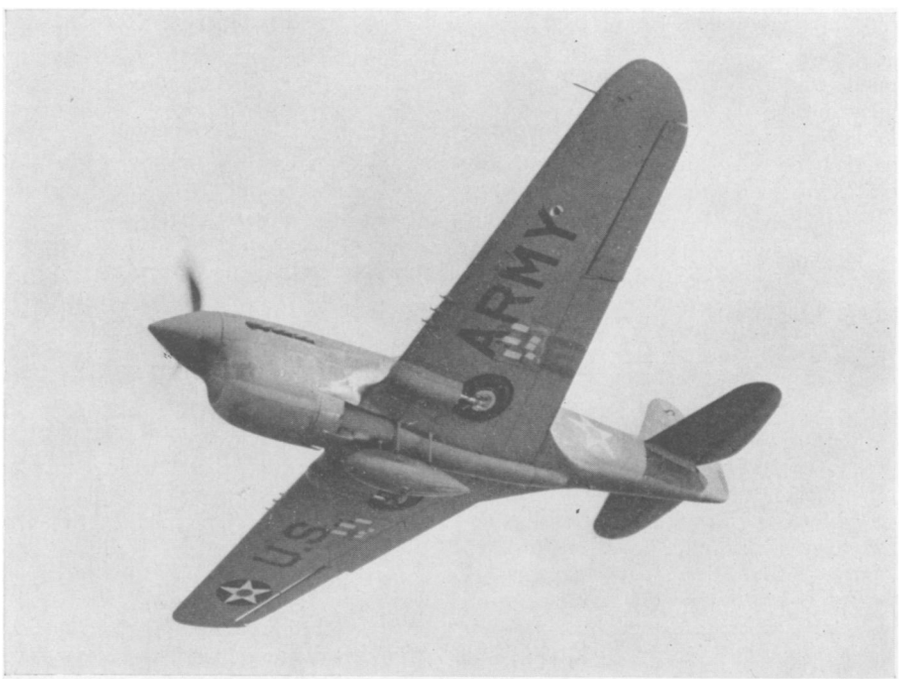
CHEMISTRY

## Plastics Shortage Averted By New Material From Wood

A NEW plastic filler material made from sawdust, scrap wood, cotton, plant fibers or other waste cellulosic materials was announced by A. O. Reynolds of the Northwood Chemical Company and Raphael Katzen and Dr. Donald F. Othmer of the Polytechnic Institute of Brooklyn at meeting of the American Institute of Chemical Engineers in Boston.

The filler material can be combined with phenolic resins in the proportion of three parts of filler to one of resin. This gives a plastic comparable to that obtained from one part filler to one part resin when ordinary fillers are used, according to the authors of the paper. Thus the present limited supplies of phenolic resins can be made to go twice as far.

*Science News Letter, May 16, 1942*




***WARHAWK***

***This new Curtiss fighter plane is said to be fast and high-climbing. Details on the performance, however, have not been released by the War Department. It is a successor to the Curtiss Tomahawk and Kittyhawk.***

*NIGHT FIRE*

***This photograph of the Curtiss P-40E, or Kittyhawk, on the new Curtiss-Wright firing range at night, is taken by the illumination of the tracer bullets being fired. Details of the firepower of this plane's successor, the new Warhawk, are being kept a military secret, so pictures like this cannot be taken of the new plane. (See facing page.)***

PSYCHOLOGY

# War Toys Not Harmful To the Minds of Children

## Wise Parents May Be Able To Use Such Playthings To Acquaint Their Youngsters With the Facts of War

MOTHERS need not worry when their children "blitz" lead soldiers, with toy machine guns, bombing planes and tanks.

Leading psychologists and child experts say it is all right. Approval was voiced in a poll of 69 experts reported to the meeting of the Midwestern Psychological Association, by Dr. Martin L. Reymert, of the Mooseheart Laboratory for Child Research, Mooseheart, Ill.

War toys do not necessarily undermine the child's mental health. They do not instill into the children the viciousness of war.

In fact, in the hands of intelligent parents, war toys can be used effectively to acquaint children with the facts of war. This is important, since the most harmful fears are the irrational fears of the unknown.

Parents should worry about their children rather when they refuse to play war games, Dr. Reymert indicated.

In England it has been found, he said, that such refusal is a symptom of repressed tensions and anxieties.

Psychologists, although they differ on many points in regard to the harm or benefit of war toys, agree, Dr. Reymert found, that it all depends upon the personality of the individual child.

*Science News Letter, May 16, 1942*

## Growth Changes Continue

THE CHARACTER of brain activity, which changes with increasing age all during childhood, still continues to change in adult life, it was revealed in a report by Dr. J. R. Knott, of the State University of Iowa, and Dr. Frederic A. Gibbs of Harvard Medical School.

This type of growth is indicated by brain waves, electrical impulses that originate in the brain cells themselves. These occur over a span of frequencies that may be thought of as like the light spectrum. With increasing age the red end (frequencies lower than 8 per second) grows dim while the blue end (above 8 per second) grows bright.

In the research reported, Dr. Knott and Dr. Gibbs studied the changes with growth of voltages obtained for each frequency from one to fifty cycles per second. They tapped the brain waves of individuals ranging in age from prematurely born babies of only nine days to young men of 19 years. Only males were studied, to rule out possible sex differences.

Energy below eight per second decreases with increasing age. Above eight per second, it increases as the individual grows older.

In other words there is a shift to the blue, or a shift to the fast end of the brain frequency spectrum.

*Science News Letter, May 16, 1942*

## Taste a False Guide

WHEN people are faced with scarcity conditions and some important elements of the diet are short-rationed or completely lacking, taste and smell become unreliable guides in selecting foods that will preserve life and health.

This is the warning from researches reported to the Midwestern Psychological Association by Drs. Paul Thomas Young, Leon D. Shapiro and James P. Chaplin of the University of Illinois.

Rats were used in the experiments because their diet is so closely like that of humans and because when all the elements of diet are made freely available to them, cafeteria style, rats are able to select just what they need for their own best development.

The effect of deprivation of one food element such as the milk protein, casein, was subject of one experiment. One method was used that forced the animals to choose their food on the basis of taste and smell.