

MEDICINE

Vitamin B₂ from Yeast

Riboflavin, vitamin important in the prevention of some eye and skin ailments, is produced in large quantities by one species of yeast.

➤ RIBOFLAVIN, otherwise vitamin B₂, important in the prevention of certain eye and skin ailments, is produced in large quantities by one species of yeast, Prof. Paul R. Burkholder of Yale University discloses (*Proceedings of the National Academy of Sciences*). This is one of the scarcer vitamins; although it is present in many vegetables, some meats, egg yolks and milk, its concentration is always so low that providing enough of it in ordinary diets is a constant problem. A new and abundant source therefore becomes a matter of great practical importance, since it may eventually be of use medicinally and in food enrichment.

Prof. Burkholder's strain of yeast was first isolated from sour milk several years ago by a colleague, Dr. Lynferd J. Wickerham. He states that he is not disclosing its exact identity at present "for obvious reasons" — presumably to

forestall premature attempts to exploit it commercially.

When the yeast was cultured in a synthetic nutrient fluid containing mineral salts, glucose and an amino acid as source of nitrogen, it produced so much of the vitamin that the liquid was turned yellow. The yeast cells seem to excrete it as fast as they produce it, for when they were separated out by centrifuging they proved to be white, like ordinary yeast cells, while the color remained in the liquid. Biological tests proved it to be very rich in riboflavin. This automatic separation of the vitamin by the producing cells will probably be an important factor in eventual practical uses of the yeast-generated vitamin.

Although the high production of riboflavin seems to be an inherited property of this one kind of yeast, environmental factors have a decided influence on its

manufacture. Substitution of other kinds of sugar interfered with its production. Too little oxygen also had a depressing effect, as did likewise too much oxygen. Minute amounts of cyanide speeded up production of riboflavin, but slowed down growth of the yeast.

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Heat Rash Serious Ailment As Well as a Bad Nuisance

➤ MOST of us here in the temperate zone think of prickly heat, or heat rash as it is also called, as an affliction of babies. Grown-ups who occasionally get it in very hot, humid weather look on it as a trivial if irritating nuisance. Even in the tropics, where it is more frequent, it is not generally considered serious.

For soldiers fighting in the tropics, however, it may be quite serious. *The Lancet*, a medical journal published in London, quotes one authority as saying that at Assab, in Eritrea, where intense heat is fortified by high humidity, cases were so severe as to affect materially the efficiency of Army units. Transfer to a cool climate was necessary.

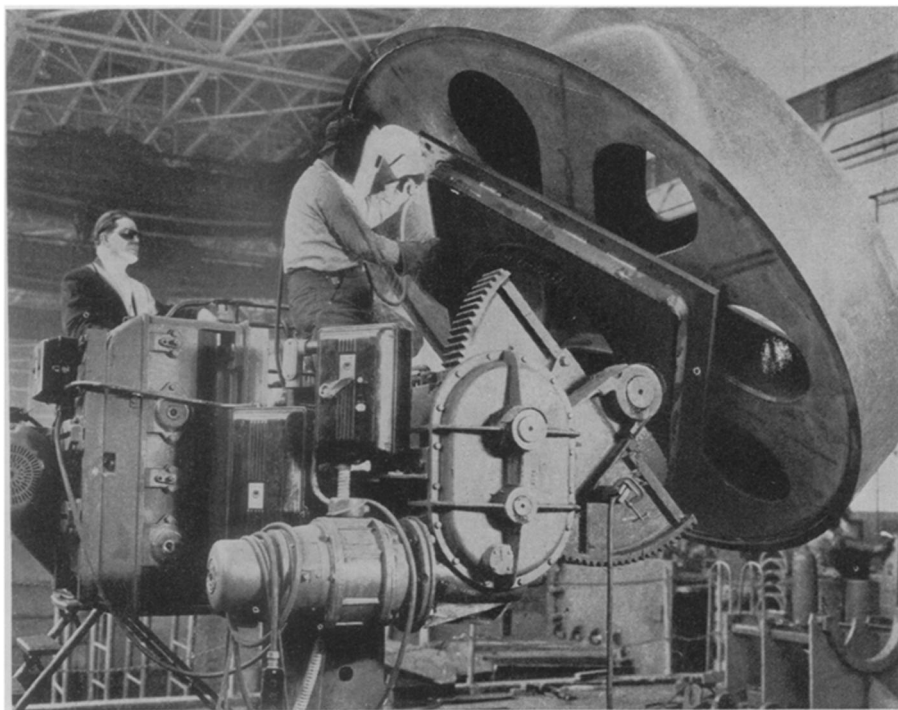
The cause of prickly heat has long been a matter of debate among scientists. The fundamental condition is recognized to be excessive sweating. In one type of prickly heat, affecting the parts of the skin that have small sweat glands, the rash is made up of tiny red bumps. Under the arms and in the groins, where large-coil sweat glands occur, the rash is more like pemphigus and large blisters form. According to the theory quoted by the *Lancet*, in both types the sweat glands get out of order, as it were, as a result of excessive activity, and their ducts are blocked with congestion and retained secretion.

A serious aspect of the condition, in or out of the tropics, is the danger of the skin becoming infected. Boils, ulcers and even fungus infections may result.

Treatment of prickly heat, says the *Lancet*, "is not dramatically successful."

Scrupulous cleanliness, the avoidance of sweating and the wiping away of sweat as it forms are more successful, according to this medical journal, than remedies applied to the skin. Doctors often advise dusting powder, or dabbing with 50% alcohol followed by dusting powder. Obviously, the cloth or towel used to wipe away sweat should be clean.

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MANIPULATOR—This machine holds "blanks" in any position while welders at a Westinghouse plant join rims to other parts of a giant power-transmission gear. The manipulator produces better welds and cuts many hours from production time; less highly skilled workers are needed for the job.