" 23:	1.33
" 24:	1.45
Tephrosia virginiana (L.) Pers. Cat-gut	0.23
Verbesina occidentalis (L.) Walt. Small yellow crownbeard	1.22
Vinca minor L. Periwinkle	0.97
Vincetoxicum carolinense (Jacq.) Britton. Vincetoxicum	2.09

J. H. MITCHELL
M. A. RICE[1]
D. B. RODERICK

CLEMSON AGRICULTURAL COLLEGE,
CLEMSON, S. C.

OCCURRENCE OF VITAMINS IN FUNGI

IN reviewing the occurrence of vitamin B_2—riboflavin—Stark and others[1] mentioned that Wellstadt extracted riboflavin from *Lactarius deliciosus*, a common edible mushroom in 1935.

In 1940 a paper was published by the Academy of Science of the U.S.S.R. by G. S. Kitavin,[2] who reported that he obtained riboflavin by poisoning four-day cultures of *Aspergillus niger* grown on standard liquid media. He postulated that the mercury bichloride used as a poison resulted in physiological disturbance in the fungus which caused it to synthesize riboflavin. The riboflavin was adsorbed on a lead sulfide precipitate from which it was removed by washing with hot water. This eluant was concentrated and the solution was compared with standard solutions of riboflavin for color and fluorescence under the ultra-violet light. Crystalline riboflavin was extracted from his solutions.

Following this technique, the writers found that not only riboflavin—vitamin B_2—is produced by *Aspergillus niger,* but also thiamin—vitamin B_1. In addition to color and fluorescence tests, we used a Coleman photofluorometer which gives quantitative as well as qualitative tests. We have found in addition to *Aspergillus niger,* that other species of the higher fungi also produce thiamin and riboflavin, among which are the common market mushroom, *Agaricus campestrus, Pezzia badia,* a fleshy Ascomycete, certain species of the Glaucus group of Aspergillus, certain species of Penicillium and some of the Fusaria.

We also find that it is not necessary to add mercuric salts or other poisons to our cultures to produce vitamins, and we are able to obtain definite tests from both fungus mats or felts and media in which the fungi grow from cultures not poisoned.

From investigations carried on to date from diverse classes of fungi, it is quite evident that the production of thiamin, B_1, and riboflavin, B_2, and we suspect others, is a normal function of that group of plants known as fungi.

C. C. CARPENTER
E. W. FRIEDLANDER

DEPARTMENT OF PLANT SCIENCE,
SYRACUSE UNIVERSITY

[1] M. A. Rice is now at Ithaca, N. Y.
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RELEASE OF POTASSIUM BY THE BRAIN OF THE DOG DURING ELECTRICAL STIMULATION

THE application of electrical tetanizing stimulus in the nerves of the leg of the *Limulus polyphemus* produces a liberation of potassium according to Cowan[1] and Young.[2] Vogt[3] has shown that a long excitation of the preganglionic cervical fibers of the dog produces a reduction of potassium in the corresponding ganglions.

In experimental epilepsy, obtained by electrical excitation of the dog's brain, Zagami[4] has found an increase of the plasma potassium and in his clinical observation, Mac Quarrie[5] has reached the same conclusion. But in both cases there are generalized muscular contractions which are probably the determinative cause of the increase of potassium. Ernst and Scheffer[6] have shown this liberation of potassium in the voluntary muscles and Cicardo[7] in the involuntary muscles.

Considering that the liberation of the potassium ions might have some relation or may be the determinative cause of the negative electropotential which originates in any tissue in activity, we assumed that a similar liberation of potassium might take place in the brain during its excitation with electrical stimulation.

In our experiments, electrical excitation of the brain of spinal or curarized dogs, in which there are no general contractions, produces an increase of potassium in the blood of the superior longitudinal venous sinus. This increase of plasma potassium is not accompanied by a similar increase of potassium in the blood simultaneously drawn from the femoral artery; which allows us to establish the cerebral origin of the liberated potassium.

V. H. CICARDO
A. TORINO

DEPARTAMENTO NACIONAL DE HIGIENE,
INSTITUTO BACTERIOLÓGICO,
BUENOS AIRES, ARGENTINA

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