

THE ARTIFICIAL PRODUCTION OF MUTANTS—A
SUGGESTION

IN SCIENCE for September 13, 1907, Professor Spalding calls attention to the importance of Dr. MacDougal's discovery that new modifications can be made in plants by injecting various substances into the capsules of plants before the ovules are fertilized. I wish to suggest the desirability of a study of these artificially produced plant forms with a view to ascertaining whether the production of the new forms is coincident with a change in the number of chromosomes. It has recently been shown that deVries's *Enothera gigas* has twice as many chromosomes as the parent species, and a year ago I suggested that perhaps all of deVries's mutants may differ in a similar way from *Enothera lamarkiana*.

It is a very interesting question, should we find these mutations due to increase or decrease in the number of chromosomes, just what importance these mutations have in evolutionary progress. It certainly seems to me that we are a little hasty in ascribing to them fundamental importance. So far as we have any evidence on the subject, it seems to me that these mutants must be looked upon as aberrant forms, and in a certain sense degenerates. That all evolutionary progress depends upon these so-called mutations seems to me to be entirely out of the question, assuming, of course, a change in the number of chromosomes to be at the basis of mutation in the deVriesian sense. Too many distantly related species have the same number of chromosomes.

W. J. SPILLMAN

U. S. DEPARTMENT OF AGRICULTURE

AN ALLEGED DIPHTHERITIC ANTITOXIN

TO THE EDITOR OF SCIENCE: Notwithstanding previous denials on my part in the local papers and before the Columbus Academy of Medicine letters are being sent out by a local firm connecting my name with an alleged discovery of a new diphtheritic antitoxin.

I wish to state that such statements are absolutely unwarranted, as I have made no tests or investigations of any character con-

cerning the preparation, nor have any such tests been made in my laboratories.

A. M. BLEILE

DEPARTMENT OF PHYSIOLOGY,
OHIO STATE UNIVERSITY

SPECIAL ARTICLES

HEART ROT OF SASSAFRAS SASSAFRAS CAUSED BY
FOMES RIBIS¹

So far as known, the tree *Sassafras sassafras* has very few enemies among the fungi, and is commonly very free from their attacks. It has, however, been found by the writer to be quite seriously affected in Missouri by one of the Polypori. The fungus which has thus been found attacking the *Sassafras* has been submitted to Professor Chas. H. Peck, and was pronounced to be *Fomes Ribis* (Schum.) Gillet. This fungus commonly occurs only upon the stems and roots of various species of small shrubby plants. It has been found occurring on rose bushes, currant bushes, and on living stems of *Symphoricarpos occidentalis*. The occurrence of this fungus upon any of the large trees seems to be anomalous, yet in a limited district it has been found thus occurring very plentifully and destructively.

Fomes Ribis occurs quite generally throughout European countries, but it does not seem to be at all common in America. It has been reported from as widely separated points as Kansas, Missouri, New Jersey and New York.

A careful examination showed that the sporophores of this fungus were always located at points where the heartwood of the tree had been exposed either by the breaking of branches or the splitting of the main trunk. No exception to this rule was observed, although the search was quite careful throughout the locality where the fungus was found. The smallest tree which was found to be affected was about five inches in diameter, and had abundant heartwood in the stem and older branches. The *Sassafras* has but few annual rings of sapwood, and thus reaches an age at which it has heartwood very early. It is believed that in this disease it is absolutely

¹Published with permission of the Secretary of Agriculture.