

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF AGRICULTURAL AND INDUSTRIAL CHEMISTRY
PEORIA 5, ILLINOIS

April 29, 1946

Dr. Joshua Lederberg
Osborn Botanical Laboratory
Yale University
New Haven, Connecticut

Dear Dr. Lederberg:

I'm glad to know that you are planning to study the genetics of Schizosaccharomyces versatilis.

S. versatilis grows rather poorly on synthetic media, probably due to a growth factor deficiency, the nature of which we do not know. It will grow fairly well on a synthetic medium similar to that which Dr. Burkholder uses.

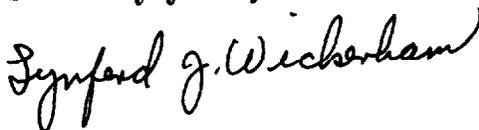
The Schizosaccharomyces are haploid in the vegetative phase and conjugate just before sporulation. This is true when the cultures are grown on agar, and presumably when grown in still liquid cultures, as evidenced by the shape of the asci. I'm not sure about shake cultures, for if I remember correctly, I have seen in these spherical asci, denoting either that complete fusion of the conjugating cells has occurred or that no fusion has taken place, the inference being that diploidization took place when the ascospores germinated. If such diploidization does occur early in the vegetative state, it is apparently rare.

This yeast is definitely homothallic, and single spore cultures will most likely sporulate.

I do not know of any yeasts which are frankly heterothallic.

I shall be glad to learn how your work progresses.

Sincerely yours,



Lynferd J. Wickerham, Zymologist
Fermentation Division
Northern Regional Research Laboratory