

UNIVERSITY OF CALIFORNIA
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION

DEPARTMENT OF VITICULTURE
DAVIS, CALIFORNIA

February 15, 1954

Dr. Joshua Lederberg,
Associate Professor of Genetics,
Department of Genetics,
University of Wisconsin,
Madison 6, Wisconsin.

Dear Professor Lederberg:

It was interesting to receive your query concerning the old paper on the "cyanide substrain" of yeast, in *J. Gen. Physiol.* I regret very much that I no longer have reprints of that paper. I understand, however, that my thesis, on which the paper was based, is available in microfilm form from the Widener Library at Harvard University; I have a copy of the thesis which I will be willing to loan, if you wish to see it.

No further work along this line has been done for several reasons. As I became acquainted with work on yeast genetics, and certain other evidences of natural occurrence of such non-respiring strains appeared, I became convinced that the idea that cyanide had converted one type of cell into another was incorrect. It appeared more logical that the cyanide had selected a naturally occurring mutant which was present in the mass culture of respiring cells in small numbers.

Some evidence for natural occurrence of non-respiring mutants of *Saccharomyces cerevisiae* may be found in the report of Ogston and Green, *Biochem. Jour.* 29, 2005 (1935). They reported certain strains of brewers' yeast which apparently lacked cytochrome oxidase. In addition, I have in my collection a strain of *Saccharomyces cerevisiae* var. *ellipsoideus* (Tokay strain) which showed no respiration when last tested (1950). This yeast was apparently isolated from the lees of a wine.

Further, Dr. H. J. Phaff, of the Department of Food Technology here at Davis, in 1948 obtained a non-respiring strain of *Saccharomyces cerevisiae* by treating a respiring strain with ethylene oxide.

My strain obtained with cyanide in 1936 was lost in 1947, as were subcultures of it held by Dr. Stier and Dr. C. B. van Niel.

Sincerely yours,


John G. B. Castor
Assistant Professor of Enology
(Microbiologist)

JGBC:aa