

June 5, 1948.

Dear Dave, *Banner*

While continuing the genetic work on E. coli (and waiting for Warburg's Spectrophotometer, etc. to do the physiological) I've gotten under way with Salmonella. In the first mutant run, with S. typhimurium, a mutant was picked up that you might be interested in. It requires isoleucine and valine, and with the proportions used (===) is strongly stimulated by additional leucine. Unlike E. coli K-12, S. typhimurium is not inhibited by valine. As far as I have studied it, the mutant (SW-7) is quite analogous to Neurospora 16117. Would you be interested to have it? The bug is only mildly pathogenic to man, behaves like coli in culture, and the only precautions that need be taken are a) not to swallow the cultures and b) to sterilize glassware used with it afterwards either in the autoclave, or more conveniently for pipettes in a jar of lysol. My sole interest in it is to learn what proportions of the amino acids will be optimal so that I can well use it for the production of double mutants. The other mutants so far are a tryptophaneless (anthranilic inactive; indole slightly active) and a histidineless. There is also a pab-less which needs something else also, and a yeast extract mutant (NZCase + Vits., YEA, Purines + Pyrimidines are all inactive).

With Ed's departure, we shall have to come to some decision as to the exchange of cultures. Shall I continue to send my most interesting strains for deposit and lyophil with you, or would you prefer that I merely inform you what I have so that you can write for anything you'd be specially interested in? By the end of the year, we hope to have a lyophil apparatus in operation here, but until then the preservation of cultures continues to be a mild headache.

I've received Dr. Sinnott's letter concerning the Genetics of Microorganisms. Thanks for the boost. I haven't answered it pending a decision as to the best time to come, but probably early in November will be our best bet. Whom else do you have in mind for the lectures?

I've been playing around with Burkholder's subtilis mutants the last couple of weeks, but the answers so far are quite equivocal. I'll let you know when I have some drug resistance markers put on the stocks.

Sincerely,

Joshua Lederberg.

P.S. Ed and you may be interested to learn that Szilard & Novick, at Chicago, repeated some reverse crosses involving V<sub>1</sub> and V<sub>6</sub>, and came out with a very neat and quantitatively precise confirmation. J.