

September 1, 1946.

Dear Dr. Lindegren,

Thank you for your letter, and for the collection of reprints which you sent. The data, in the Yeast Genetics paper in Bact. Rev., on the inheritance of vitamin requirements in interspecific crosses in *Saccharomyces* are of very great interest, to me, in relation to what I have been finding in bacterial crosses. In addition to the prototrophs which were described at Cold Spring Harbour, a number of multiple-requirement recombination types have been isolated; in addition ~~xx~~ a large variety of biochemical-virus resistances recombinations. However there is a large departure from random segregations, resulting in a preponderance of prototrophs, and of types with only a single requirement, in 6 or 7 factor crosses. It will be very difficult to study the basis of this deviation in the material now available; were that we could do tetrad analyses, as can be done in yeast! For that reason, I am very anxious to contribute what I can to the story there, and the program you suggested seems very satisfactory. As far as the bacteria go, the discrepancies from randomness may rest on any or all of the following bases: selective interactions; linkages; ~~dosage~~ dosage effects (i. . cytogenes) or, perhaps 'Konversion' or intracellular transformation or, as you have put it, absorption of cytogenes on to recessive chromogenes. We have the ~~dilemma~~ dilemma of explaining how relatively stable mutants can be gotten if the latter considerations apply. Attempts at 'transformation' with filtrates have been uniformly unsuccessful, and the occurrence of multiple-requirement types has convinced me that we have been hybridizing bacteria.

With best regards,

Joshua Lederberg