

3 November 1947.

Dear Ed-

Rec'd your post card just after sending my last hasty note.

"Linked segregations" is due for the September issue of Genetics. They've had page proof back for over a week now, but there is still no telling when it will be in print.

K-12 has the following sugar formula:

Lactose +
Maltose +
Galactose + (contains both + and - cells in Monod's sense)
Sucrose - (all efforts to obtain Sucr+ have so far failed)
Cellobiose -
Melibiose + (but rather weak)
Inulin -
Sorbitol +
Dulcitol + (+ mutants easily obtained by selection)
Xylose +
Arabinose +
Rhamnose + (slow)
a-methyl glucoside -

I have a slue of Gal-, Malt- and Lac- now, using HN2 as the (presumed) mutagenic agent. I'll send them on shortly. As far as tested, they are specific, but I don't have the range yet of synthetic substrates that I would need. My big stumbling block so far is getting reversions for sucrose and for a-methyl glucoside. Working out the theory for the most efficient dose to use to have the maximum total number (not proportion) of mutants among the survivors of mutagenic treatment, the answer comes out the dose that leaves 1/e or 36.8% survivors. Beyond this point the proportion of mutants continues to increase but the absolute number falls. This value is independent of the rate of mutation provided that the spontaneous mutants originally in the culture are ignored.

On the last few tests here, Y53 seems to have lost the capacity to revert to Lac+. I would appreciate it if you could send me a lyophil tube of earliest date.

A letter from Witkin wherein NaCl is described as the most efficient mutagen (at toxic conc.) yet tested!

Best regards,

Sincerely,