

July 7, 1955

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Dear Tom:

Thank you for the postcard notes.

I think the Gal₇ mystery is cleared up. I had been concerned why both Esther and I had invariably gotten Gal₇ hemizygotes while you had heterozygotes. Our individual results were too consistent to explain this by variability in elimination pattern.

It turns out that W-2406 was mixed, and consisted about 50% (or more) of a Gal-slow type. (At least the culture now in stab looks this way). The apparent Gal₇ heterozygotes are actually not segregating Gal₇⁻, but this slow-fermenting type, which looks quite different from Gal₇⁻ when compared side by side on EMB Gal. This slow fermenter is also Gal₇⁺ by transduction tests. So it would appear that your crosses were actually:

Het Gal₇⁺ Gal₈⁻ x Gal₇⁻ Gal₈⁺ to give three kinds of diploids:

Gal₇⁺ Gal₈ +/-^a Gal₇⁺ Gal₈ +/+^b and Gal₇⁻ Gal₈ +/-^c

The latter corresponds to your two Gal₇ "homozygotes"— they revert to give a stock which is segregating Gal₈, not a full Gal₇⁻. The full Gal⁺ diploids are (b) and most of the heterozygous diploids are (a).

We are now concerned to try to verify again that gal₄ is not deceiving us, i.e., to be sure that so called Gal₄ heterozygotes are really segregating Gal₄⁺ and Gal₄⁻, since Gal₄ now remains as the only Gal which is not eliminated. Transduction tests should help to verify this point.

I am still confused about #269. Your postcard said that this was W-2593 x W-1324; your notes gave 269 as W-2251 x W-1324. Is either or both correct?

Yours sincerely,