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OHF/EE

9th December, 1964.

Dr. D. Martin,
Officer-in-Charge,
CSIRO Tasmanian Regional Laboratory,
Stowell Avenue,
HOBART, TASMANIA.

Dear Don,

I have been very tardy in replying to your letter of 21st September, in which you refer to Dr. Reber's beans. It got to the bottom of a pile of things requiring further attention and until I had worked my way through it in spasms it never got nearer the top, I have now had a word with Bruce Griffing about this and, quite against his wish, enclose a note which he had typed out for me, which I think Reber should consider. Similar things had occurred to me also but I took it for granted that Reber would have taken these rather elementary precautions. However, on reading his paper in the Journal of Genetics we find no hint that he did.

I am sorry I cannot work up the energy to study the literature in bean genetics to check on inheritance of colour patterns, on which I vaguely remember there are quite a large number of papers. I once mentioned to Dr. Reber a man called Lamprecht in Sweden who, among others, worked on this not terribly fascinating subject. However, fashions change and inheritance of pattern may acquire a new lease of life with the renewed interest in pathways of differentiation, so I don't want to be dogmatic. However, as I said, neither I nor Griffing was willing to look up the literature. Sorry to be so unhelpful.

I enclose a copy of a reprint Bruce gave me - please return it to him.

Yours sincerely,

(O. H. Frankel)

Re: REBER'S reversed bean experiments.

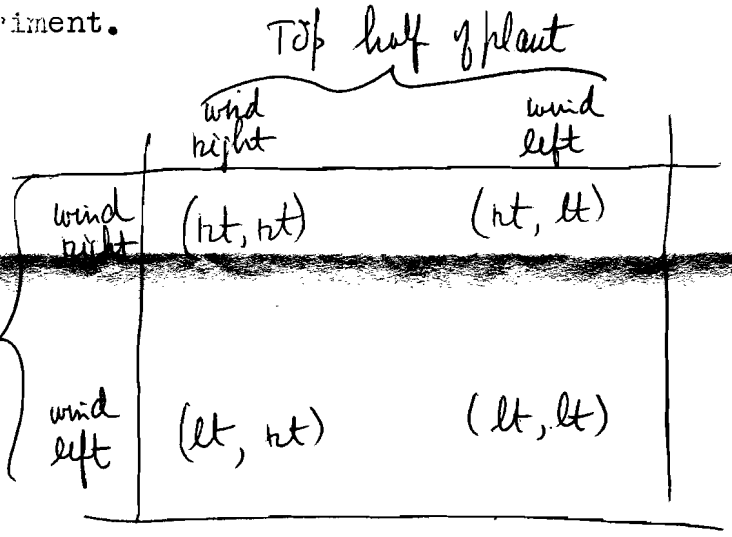
In view of the coconut spiral fiasco (see enclosed reprint) I would want a lot more evidence with properly replicated experiments before I would unconditionally accept the hypothesis: namely, reversing the coiling of bean vines influences bean production.

Assuming for the moment that a real effect is obtained by the experimental procedure indicated in the JOUR GENET 59:37-40, one can only conclude that the entire manhandling operation, which included reversing vines, caused the effect. To pin point the real cause to that of vine reversing I would want much better controls. Some that come to mind would be:

(1) Handle all plants the same - unwind all of them and then at random wind half one way and half the other. Every time a rewinding operation is required, handle all plants the same Thus it may be that in Reber's backyard (or wherever he performs the experiments) pollination is not as good as it should be and the mere handling of plants aided in this respect causing greater seed set and thus greater seed weight per pod.

(2) If the same vine has more than one runner handle both the same except randomly wind one runner one way and the second runner the other way.

(3) If there exists only one runner, then perform the fol owing factorial experiment.



If direction of wind has an effect this type of experiment would be very interesting. For example, an interaction in the table would indicate a carry-over effect from one region to the other. etc.

If all of these preliminary experiments proved conclusively that the direction of wind was important, then the phenomenon would be of some interest to persue in order to investigate the real physiological cause.

Bruce