

UNIVERSITY OF BRISTOL

Department of Agriculture and Horticulture

LCL/CS

Research Station  
Long Ashton  
BRISTOL, U.K.

3 February 1964

Dr Grote Reber  
CSIRO, Tasmanian Regional Laboratory  
Stowell Avenue, HOBART, Tasmania

Dear Dr Reber,

Many thanks for your letter and reference to the work of Prain and Burkhill on Dioscorea, which I have passed on to Don Wilson - our plant breeder - who is doing the work on Yams.

I was interested to receive your little paper on reversed twining in beans. Before one can offer an explanation of this phenomenon one would need to know more about the effect of reversal on the general growth of the plant. It is not clear from your paper whether the weight of the vines was less on the reversed vines than on the normal vines. Arguing from first principles, I would have expected that the mechanical bending involved in reversing the direction of twist would impose some strain on the vascular system, and that this might reduce transport of food materials to the growing point, diverting them instead to the seeds. This might account for the enhanced bean/shuck and bean/vine ratios. One would have thought that the pigmentation of the bean would have been determined genetically - but possibly the gene expression is being modified by nutritional factors.

To substantiate this theory one would need to know :-

- (1) Does reversal of twining reduce the growth rate of apex?
- (2) Do other factors which reduce the growth rate of the apex produce similar effects (e.g. maleic hydrazide - quaternary ammonium compounds)? The maximum effect should be produced by decapitation.

Possibly the real explanation is much more complex than this but I always believe in examining the simple hypothesis first!

25/2/64 Called Librarian at Ag. Dept. & asked for last annual report of

Please give my kind regards to Don Martin. Copies of my official report on my visit to Australia have been sent to C.S.I.R. and to the State Departments of Agriculture. Presumably one will reach Hobart in due course. If not - please let me know - as I have a few spare copies.

With kind regards,

Yours sincerely,

*L. C. Luckwill*

L. C. LUCKWILL  
Head of Pomology Section

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To open

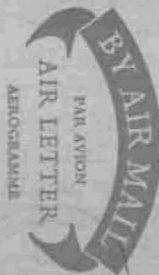
Sender's name and address: Dr L. C. Luckwill

Long Ashton Research Station

BRISTOL, U.K.

AN AIR LETTER SHOULD NOT CONTAIN ANY  
ENCLOSURE; IF IT DOES IT WILL BE SURCHARGED  
OR SENT BY ORDINARY MAIL.

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Dr Grote Reber

G.S.I.R.O.

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