

By Air

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No. Bio/TAD/9D

Prof. T.A. Davis,
Crop Science Unit.

22 July 1964.

Dr. Grote Reber,
Commonwealth Scientific and Industrial
Research Organization,
Tasmanian Regional Laboratory,
'Stowell', HOBART,
Tasmania, Australia.

Dear Dr. Reber,

I regret very much for not having any success with the seeds of bind weed you sent me last July. Of the 100 seeds you sent, 25 were crushed by postal sealing. One lot of the remaining seeds was sown in the field as soon as their arrival, but perhaps due to heavy rains none germinated. Another quantity was sown during winter and a further sample in spring this year with the same result. I shall certainly try again if you can kindly send me some more seeds.

I have come across a Compositae weed, Mikania scandens whose different shoots twine on both directions, the right-handed slightly in excess of the lefts. I can supply you any quantity of seeds of this species after a couple of months in case you have facilities to grow them. I presume you have success with your further trials on the wind weed and I shall be happy to know the same.

Needless for me to mention that I am very eager to have more information (with copies of published or unpublished papers) about the repeat experiments on the reversed bean vines. It looks all the more fantastic to learn that the reversed vines produce a larger number of seeds with inverted colors. With regard to the extra yield of reversed bean vines, I received the following comments from Dr. Robert Snow, F.R.S.

"The results of Reber (1960) which you mention and which I had not heard of before, are not so 'fantastic' as you suppose. It is a fairly well known fact that when shoots of winding plants, such as beans, wind successfully round a support by their own growth and in the normal manner and direction, then they strengthen themselves by forming sclerenchyma etc : but shoots that are just passively tied up do not strengthen, though they elongate, nor do those that just lie on the ground. It is an effect comparable with the strengthening of tendrils that have grasped a support, although the shoots of winding plants are, of course, not haptotropic as tendrils are. There is a German paper of about 1900 I think, in which this is confirmed experimentally. Reber's winding round the wrong way would be equivalent to passively tying up the beans, and their shoots, not having strengthened, might easily be able to make a heavier crop of fruits instead, with the same material. His results even suggest this."

Perhaps Dr. Snow's explanation may be helpful in your interpretation. A reprint of mine on the floral asymmetry in Malvaceae and Bombacaceae is enclosed.

With kind regards and best wishes,

Yours sincerely,

Encl: as stated.

T. A. Davis
22/7/64