

cakes undergoing microbial decomposition are definitely toxic. Full details will be presented elsewhere.

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NON-HERITABLE POLYEMBRYONY IN *ANDROPOGON SORGHUM*

THE reported cases of polyembryony in crop plants fall into two groups, those in which the character is inherited as instanced in the case of citrus,¹ rice,² cotton,³ etc., and others in which it is not hereditary.

The following is an example of the non-hereditary type of twinning observed in *Sorghum*. For the past seven years annually a few thousand seedlings of *Sorghum* of the *bilichigan* and other varieties have been raised individually in enamel dishes in connection with an investigation on *Striga* attack on *Sorghum*. On three occasions twin seedlings were obtained from individual seeds. In each of the three cases one of the two embryos developed into a seedling, which was bigger and more vigorous than the other seedling. The root systems of the two corresponded in vigour with their aerial parts; the roots of the weaker of the twins was slenderer and less branched (Fig. 1). Of the three twins one was accidentally destroyed, while in another the twin seedlings were planted separately and grew for some time and then both died. Both seedlings of the third grew to maturity and observations on this forms the subject of the present note. The twin seedlings shown in Fig. 1 were transferred without being separated, to a 12-inch earthen pot containing good garden soil mixed with farm-yard manure. The vigorous and weak plants were separately labelled and all through their life the difference in vigour was found maintained. Even the inflorescence of the less

vigorous plant was smaller though the seeds of both were of the same size. Selfed seeds

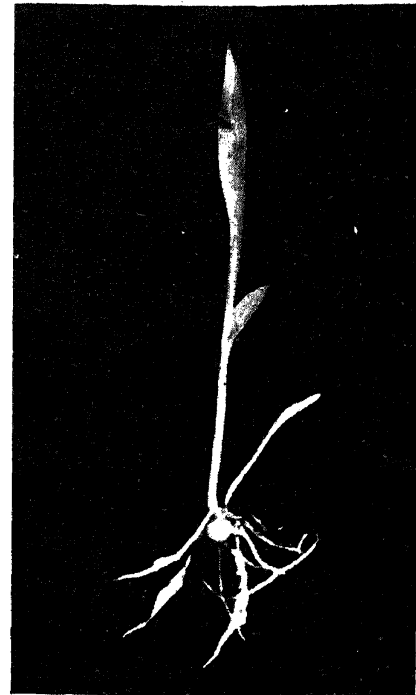


FIG. 1

of the two were collected separately. The following table gives the results of the progeny test in respect of the twinning habits:—

Character of plant	Total No. of seeds	Seeds germinated	Seeds that died	Single seedlings	Twin seedlings
Vigorous	532	495	37	495	0
Weak	131	69	62	69	0

Although the twins showed considerable difference in their size and vigour, they were presumably diploids, since both gave rise to normal progenies.

Reference to literature has shown that the occurrence of any type of twinning in *Sorghum* has not been reported previously. That only three such cases were observed in thousands of seeds shows that it is of very rare occurrence.

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¹ Frost, H. B., *Hilgardia*, 1926, 1, 365 (cited by Webber⁴).

² Ramiah, K., et al., *Ind. J. Agr. Sci.*, 1935, 5, 119.

³ Webber, J. M., *J. Agr. Res.*, 1938, 57, 155.

⁴ —, *Bot. Rev.*, 1940, 6, No. 11, 575.