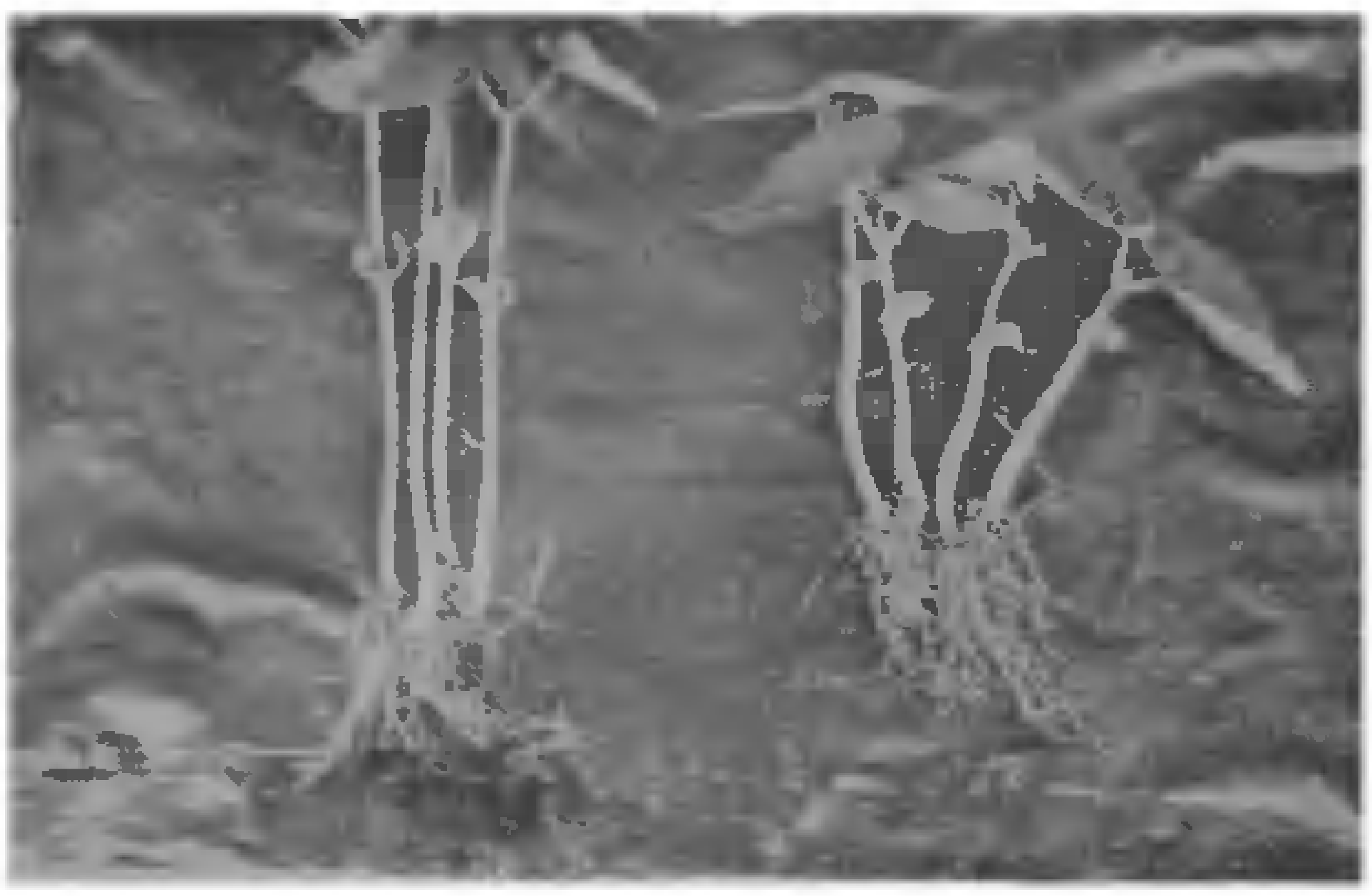
spray. per flat Following applications of the chemical. 25 bean seeds were sown per flat. Non-treated controls were provided. Watering was done once a day throughout the experiment to provide the adequate moisture needed for germination of seeds and growth of seedlings. The experiment was terminated when the first pair of leaves were fully expanded.

Observations made revealed that soil applications of cycocel produced short, stocky, heavier plants with large sized leaves and compact root system (Photograph 1). Some of the



PHOTOGRAPH 1. *Left*: Control. *Right*: Cycocel-treated.

Note:—Application of cycocel results in short, stocky plants with a compact root system and large leaves. Note the thickening of basal part of stems and reduction in length of epicotyl and hypocotyl portions of stems. Photograph of bean seedlings taken 10th day after commencement of experiment. Cycocel was applied to soil at the time of seedling.

growth measurements, that were significantly influenced by cycocel, are tabulated below:

TABLE II

Growth measurements made		Cycocel	Control
1. Height of plant (in cm.)	..	9·2	14·7
2. Length of leaf („)	..	5·5	3·9
3. Width of leaf („)	..	5·4	3·8
4. Length of petiole („)	..	1·7	2·0
5. Fresh weight of leaf (in mg.)	..	498·0	258·0
6. Fresh weight of plant (in gm.)	..	2·271	2·122

Data represent one taken on 10th day after commencement of experiment, and an average from 25 seedlings selected at random for each treatment.

It was also interesting to note that in many of the seedlings, the stem portion below the cotyledons (hypocotyl portion) was considerably thick with increased diameter as compared to controls. If cycocel as in the case of beans could produce similar responses in common vegetables and ornamentals, it could be applied to nursery beds at the time of seeding.

While growth regulants like mallic hydrazide (MH) could completely inhibit vegetative growth and gibberellins could act as a general growth promoter it is rather interesting to note that cycocel behaves in somewhat an unusual manner. On the one hand it has inhibited the elongation of main stem and tap root but on the other hand has contributed to increase in size of leaves and diameter of stems. Even with regard to leaves while cycocel has increased expansion of leaf blades, it has reduced the length of petioles. The selective responses of plant parts and tissues to cycocel deserve attention.

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D. S. LINGARAJ.
K. M. SRINIVASAN.

A NEW APHID HOST OF *APHELINUS MALI* (HALDEMAN) IN INDIA*

THE Eulophid parasite, *Aphelinus mali* (Haldeman), was originally introduced into India from England in 1937 to control the woolly aphid, *Eriosoma lanigerum* (Hausmann), in the Punjab (Rahman and Wahid Khan, 1942). Later, it was also released in the Pomological Garden, Coonoor, Madras State, for the same purpose (Cherian, 1942). In both areas the parasite became well established within a short time. So far, there appears to be no record of the parasite attacking any other host in India. In March 1964 small colonies of *Aphis gossypii* Glover were found infesting the weeds *Bacopa monnieri* (L.) Pennel (Scrophulariaceæ) and *Rotala leptopetala* Koehn. (Lythraceæ) in some localities at Bangalore. Some of the aphids were found to be parasitized. *A. mali* was obtained from aphids on *B. monnieri* and another *Aphelinus* sp. from aphids on both the weeds. The present record of another aphid host of *A. mali* is interesting. It shows that the parasite is no longer restricted to *E. lanigerum* or to the localities in India where it was released to control this pest. Rahman and Wahid Khan (1942) offered 13 other aphids (which did not include *Aphis gossypii*) to *A. mali* for oviposition but none was accepted. Thompson (1953) has listed *Aphelinus gossypii* Timb., *A. semiflavus* How. and *A. varipes* Forst. as parasites of *Aphis gossypii*. *A. mali* is known to attack several other aphids and also some coccids (Muesebeck *et al.*, 1951 ; Thompson, 1953 ; Peck, 1963). However, all these records are from outside India.

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A NOTE ON THE INTERSPECIFIC CROSS BETWEEN *HIBISCUS SABDARIFFA* L. AND *H. CANNABINUS* L.

THE species *Hibiscus sabdariffa* L. ($2n = 72$) and *H. cannabinus* L. ($2n = 36$) are cultivated in South-East Asia chiefly for fibre, as a jute substitute. With a view to obtain a plant possessing the desirable characters of *H. sabdariffa* (fine fibre quality, and fleshy calyx), and *H. cannabinus* (earliness, resistance to *Phytophthora* and long fibre), an interspecific cross was attempted between these species. Since these species do not cross by normal methods, the grafting technique of Iyer *et al.* (1961) used in the interspecific hybridization of *Corchorous* was adopted. The species *H. sabdariffa* and *H. cannabinus* were grafted one over the other by "approach graft" method. The grafting was successful and the 'Xenoplastic' graft grew normally. The graft with *H. cannabinus* as the root-stock, and *H. sabdariffa* as scion grew to maturity and produced flowers, whereas the grafts of *H. cannabinus* on the root-stock of *H. sabdariffa* succumbed to wilt due to the susceptibility of the root-stock (*H. sabdariffa*) to the disease.

Crosses were made using *H. sabdariffa* (scion) as the female parent and *H. cannabinus* as the male parent. The fruits developed normally, but dehisced in about 20 days after pollination. When the seeds were examined they were found to be shrivelled with no contents inside.

The non-crossability of these species appears to be due to both physiological and genetical reasons. By grafting, the physiological barrier was overcome and thus resulted in the development of fruit. This is evident, because there was no fruit formation when these species were crossed without grafting. The failure to set seed may be due to the difference in the chromosome number. Doubling of the chromosomes of *H. cannabinus* and crossing it with *H. sabdariffa* by adopting the grafting technique then, may facilitate successful crossing of these species.

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Cytogenetics Laboratory, Botany Section, College of Agriculture, Poona-5, *November* 26, 1966. — P. S. REDDY.

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INTROGRESSION IN *SACCHARUM*

THE genus *Saccharum* consisting of 6 species, namely, *S. officinarum*, *S. robustum*, *S. spontaneum*, *S. edule*, *S. sinense* and *S. barberi* and its related genera such as *Erianthus*, *Narenga*, *Sclerostachya*, *Miscanthus*, etc., are of importance in genetics and breeding of sugarcane. *S. spontaneum* occurs in West, Central and South East Asia, Malayasia, and Polynesian and Melanesian islands, *S. barberi* in North India and *S. sinense* in South East Asia and southern Japan. At the Sugarcane Breeding Institute, there is a germ plasm bank where most of these genera and species are maintained in a live herbarium. Hence an experiment laid out to study the effect of introgression of these related species into *S. officinarum*, the noble cane known for its high sucrose content. Some of the observations recorded are reported in this note.

Fifty-six clones of six species of the genus *Saccharum* mentioned above (16 clones of *S. spontaneum*, 12 of *S. robustum*, 9 of *S. officinarum*, 9 of *S. barberi*, 8 of *S. sinense* and 2 of *S. edule*) representing most of the