TABLE I

Effect of Dithane M-45 and Dithane Z-78 on the incidence of downy mildew of Sorghum

	Per cent incidence of downy mildew (average of four replications)			
	Season I			Season II
	Dithane M-45	Dithane Z-78		Dithane M-45
Seed treatment alone	26·9 (31·2)	37·0 (37·4)	One spray	22·9 (28·5)
Seed treatment *plus* foliar spray	9·5 (15·1)	26·9 (31·1)	Two sprays	15·9 (23·4)
Foliar spray alone	9·6 (16·2)	27·1 (30·7)	Three sprays	5·7 (13·4)
Control	25·6 (30·1)	31·5 (33·9)	Four sprays	2·8 (9·0)
			Control	17·6 (21·2)
	S.E. = 5·33 C.D. at 5% = 12·04	S.E. = 5·16 Not significant		S.E. = 3·50 C.D. at 5% = 7·6 C.D. at 1% = 10·6

(Figures in the parentheses show transformed values)

2. Two sprays, first after emergence and the second a week after.

3. Three sprays, first after emergence the second and the third at weekly intervals.

4. Four sprays, first after emergence and second, third and fourth at weekly intervals.

Data presented in Table I show that the disease can be controlled to the tune of 84% by a four spray schedule. The results achieved through a three spray schedule did not differ significantly from a four spray schedule. The disease incidence in control plots and single spray treatments did not differ significantly. It becomes quite obvious that the downy mildew of *Sorghum* can be controlled quite effectively by a spray schedule using zinc manganese ethylene bis dithiocarbamate (Dithane M-45).

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SUSCEPTIBILITY OF RAMIE WITH DIFFERENT GUM CONTENTS TO MICROBIAL DAMAGE

RAMIE, a bast fibre obtained from the plant *Boehmeria nivea,* is well known for its strength, fineness and durability. Raw ramie fibre obtained by decortication contains a lot (10–40%) of gummy matter, carbohydrate in nature. In order to make ramie usuable, it is first degummed to a certain extent with alkali, washed and then dried. It has been observed in this laboratory that ramie fibres of different gum contents are not equally suspectible to microbial damage when kept in storage. In order to assess the suitability of ramie products for different uses, a study was made to find out the comparative susceptibility of remie fibres with different gum contents to microbial damage.

Decorticated ramie for this study was obtained from Ramie Research Station, Sorbhog, Assam (variety R 1452, 2nd cutting, 1971) and degummed chemically to different gum contents[1,2]. To maintain uniformity of the samples, the middle portions of the reeds were taken, cleaned and sampled under identical conditions. Bundles of each sample, 8" in length and 15 g in weight were incubated at about 30° C, moistened with 200% distilled water in sterile petri dishes under covered condition for different periods of time. Loss of moisture in the petri dishes during incubation

TABLE I

Bundle tenacity of ramie with different gum contents after incubation*

Gum Content %	Bundle strength (g/tex) after incubation with 200% moisture for						Bundle strength (g/tex) after exposure for 90 days to normal atmospheric conditions
	0 day	15 days	30 days	45 days	60 days	90 days	
23·0	29·1	10·0	1·9	1·9	0**	0	20·8
20·3	28·3	5·2	0	0	0	0	24·0
14·8	30·4	14·5	0	0	0	0	19·8***
8·2	33·3	15·5	10·7	6·8	6·8	3·0	23·4
6·9	34·4	24·3	22·3	14·1	12·7	13·5	24·5
3·0	33·3	27·0	26·8	26·3	24·3	21·1	26·6

* Results expressed as average of 3 replications.
** Bundle strength 0 g/tex indicates that the fibre sample was so weak that it could not be tested by the method described.
*** This anomalous value might be due to sample variation.

period was made up aseptically with distilled water once a week. Under the above conditions, only the microorganisms present in the fibres themselves were allowed to act on the fibres. At definite intervals of time, representative samples were taken out, washed first with water and then with rectified spirit and finally dried in air. This method facilitated quick drying of the samples. The samples were then tested for bundle strength in J.T.R.L. bundle strength tester[3] in order to assess the extent of retention of fibre strength. A set of samples was simultaneously kept exposed to atmosphere in the room under normal conditions without addition of any extra moisture for 90 days and was tested for bundle strength.

Results are presented in Table I which shows that more the gum content of the fibre, more is the extent of damage. On visual observation, it was also found that the extent of fungal growth was more or less proportional to the gum content.

α-cellulose[4] of ramie is highly crystalline and as such microorganisms cannot grow directly on it. Gum of the ramie fibre being a heterogeneous carbohydrate complex serves as a ready nutrient and source of energy to the damaging microbes. As a result, the fibre with more gum becomes more susceptible to microbial damage, but ramie with about 6–7% gum is fairly resistant to damage (Table I) compared to those of higher gum content. Degumming to this extent can be conveniently and economically achieved in industry.

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THE EFFECT OF A DESYNAPTIC GENE ON B-CHROMOSOMES IN PEARL MILLET

THE morphology of B-chromosomes at pachytene and their pairing behaviour at diakinesis and metaphase I in *Pennisetum typhoides* S and H were reported earlier (Pantulu[1]; and Pantulu and Manga[2]). B-chromosomes, up to 3 had no significant effect on the mean chiasma frequency of A–chromosomes but increased the variance of the mean. However, the presence of 5 or more B's produced deleterius effect like desynapsis of A-chromosomes. In *Pyrgomorpha krausi* (Lewis and John[3]) and in rye (Jones and Rees[4]) the behaviour of B's was suggested to be influenced by the A-chromosome genotype and the effect of B's on A-