Table 1 *Effect of various concentrations of ammonia on* % of germination and seedling growth of *Abelmoschus esculentus L.*

Treatment (Conc. in ppm)	% of germination		Linear growth in cm.			
			Soaked		Unsoaked	
	Soaked seeds	Unsoaked seeds	Shoot	Root	Shoot	Root
Control	80	80	5.9	1.9	4.8	1.5
5	100	100	7.5	2.5	7.5	3.0
10	60	100	3.1	2.1	5.6	2.5
15	60	100	3.0	2.2	5.3	2.5
20	0.0	20	0.0	0.0	4.6	1.0
30	0.0	20	0.0	0.0	4.4	1.0
50	0.0	20	0.0	0.0	4.5	1.0

Ammonia doses at 5 and 10 ppm are fungistatic for *Aspergillis niger*, *Alternaria alternata* and *Fusarium* sp *Curvularia* sp hardly shows any inhibitory effect at 5 ppm, but it does show inhibitory effect at 10 and 15 ppm. However, *Cladosporium* sp does exhibit a fungicidal effect at all the concentrations of ammonia used in this experiment (table 2).

The inhibitory effect of ammonia is perhaps due to the inhibition in the production of ATP in the mitochondrial electron transport system. These results indicate the possibility of using ammonia in store houses for periodical fumigation only at low concentration.

Table 2 *Effect of various concentrations of ammonia on fungi associated with the seeds of Abelmoschus esculentus L.*

Name of Fungi	Treatment (Conc. in ppm)	Radial size of colony	Inhibition %
Aspergillus niger	Control	2.1 × 1.9	0
	5	1.5 × 1.9	37
	10	1.1 × 1.0	80
	15	0.0 × 0.0	100
Alternaria alternata	Control	3.0 × 2.5	0
	5	1.6 × 1.9	60
	10	0.9 × 0.9	89
	15	0.0 × 0.0	100
Cladosporium sp.	Control	0.7 × 0.8	0
	5	0.0 × 0.0	100
	10	0.0 × 0.0	100
	15	0.0 × 0.0	100
Fusarium sp.	Control	1.0 × 1.0	0
	5	1.0 × 1.0	0
	10	1.0 × 0.7	30
	15	0.7 × 0.4	72
Curvularia sp.	Control	6.0 × 4.8	0
	5	5.5 × 4.5	15
	10	3.0 × 0.5	90
	15	1.6 × 1.6	90

25 March 1985; Revised 30 September 1985

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VEGETATIVE PROPAGATION AND ITS ADVANTAGES IN EGGPLANT (*SOLANUM MELONGENA* L)

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ALTHOUGH eggplant is grouped under self-pollinated crops, variation in open-pollinated varieties/pure lines over the years, has been observed to occur. Studies have shown that 60 to 70 % fruit set in eggplant takes place through the agency of insects, of which Bumble bees are the most active vectors of pollination[1]. Interplant cross-pollination in Annamalai[2] was 1.9 to 10.9 %. In Delhi[3] cross-pollination occurrence ranged between 0.2 and 1.99 %. Certain isolation distance is, therefore, recommended for preserving the genetic purity of a variety.

Sometimes, land limitation or other constraints may cause contamination in the seed crop. To overcome such factors and to preserve the genetic purity of a

Table 1 *Percentage of rooted cuttings obtained during the period 1982–84.*

Treatment	1982		1983		1984		Average	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Untreated (control)	25	51	30	54	26	57	27	54
Treated	46	86	51	89	53	92	50	89

variety, a method of vegetative propagation was tried for the first time in eggplant. The details of the experiment and the results obtained are as follows.

Vegetative propagation of eggplant was conducted during 1982 at this Institute. Cuttings from healthy branches (apical end down three nodes) were made and treated with Seradix 'B'. Treated cuttings were planted on 30th June (summer) and 1st November (winter) in soil mixture of sand, soil and fine farm yard manure (1:1:1 ratio). The soil mixture was filled in pots and thoroughly drenched with fungicide (Captan) solution, 3–4 days before planting. Sufficient water was provided after planting of cuttings and the pots were covered with alkathene bags. Periodical *watering* was given, particularly during summer, to maintain humidity inside the bags. These pots were kept under tree during summer and in the sun during winter. The rooted cuttings were transplanted in the field on 20th August and 7th February respectively. The experiment was repeated during 1983 and 1984. The results obtained are given in table 1.

During winter the rooting success in the case of treated cuttings was high (89%) as compared to the untreated (54%) while in summer it was 50% and 27% respectively. This however, establishes that the variety/pure line can be maintained vegetatively round the year and fresh seed can be harvested every time.

The advantages of vegetative propagation in eggplant are far reaching: all important stocks/lines can be maintained by this method without loss of genetic purity; the breeder can maintain nucleus seed/breeder seed by this method of open-pollinated variety without loss of vigour and genetic purity; the method is especially useful in maintaining the genetic purity of parental lines of F_1 hybrids; nucleus seed production of resistant varieties breed against diseases like *Phomopsis* fruit rot which are governed by polygenes, can be done without loss in resistance, over the years.

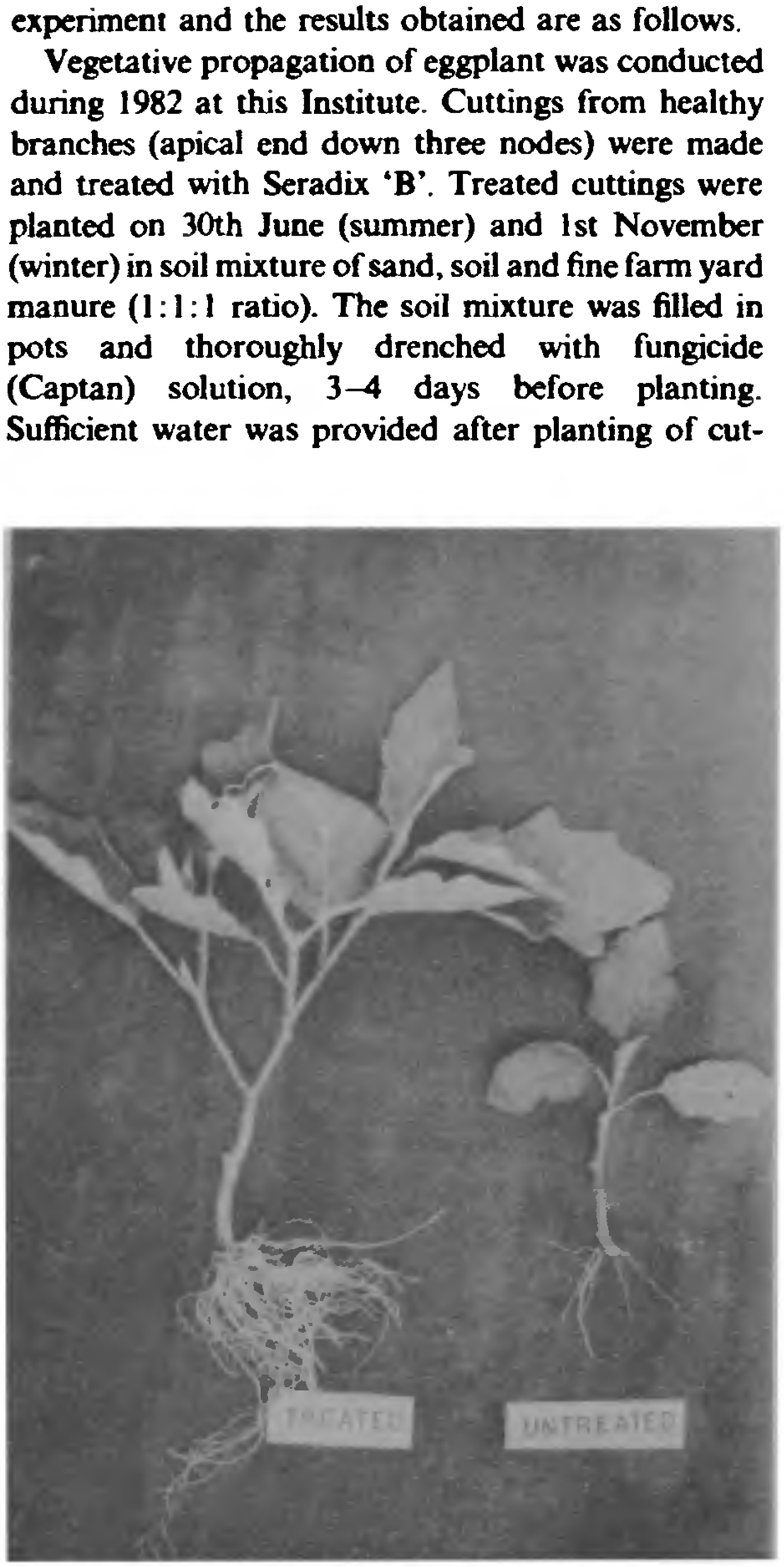

Figure 1. Rooted cuttings in eggplant

25 June 1985. Revised 23 September 1985

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