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ROOTING OF CUTTINGS OF *ALBIZZIA LUCIDA* BENTH. AS INFLUENCED
BY MIXTURES OF GROWTH PROMOTING HORMONES

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Albizzia lucida Benth. (*galwang*) an important bushy host for summer crop is commonly propagated by seeds for rearing lac as a plantation crop (Purkayastha and Krishnaswami 1958). The plants, thus obtained, failed to show desirable characters and, therefore, propagation by vegetative method (stem cuttings) with growth promoting hormones was tried. Consequent upon only 10-30% success with individual hormones (Table 1) a further trial was initiated to study the effects of these hormones in mixtures in the rooting response of cuttings as also to find out the optimum planting season of cutting of *Albizzia lucida*.

The various combinations of growth promoting hormones, namely, IBA × IPA, IBA × NAA and IPA × NAA at 50 and 100 ppm were used for the study. 22 cm long uniform stem cuttings were cut from one year old shoots and were treated with mixtures of these growth substances. Ten cuttings were selected for each treatment and these were planted in well prepared nursery beds. The investigation was conducted during January, March, June and September 1970. The effect of these mixtures on root induction was examined after 60 days.

It is obvious from the data presented in Table 1, that the mixture of IBA and IPA is superior to other mixtures as it induced higher percentage of rooting. Rooting, however, occurred in this combination in all the four different seasons, while the other combinations did not show any consistency in the rooting of cuttings. Hence the mixture of IBA × IPA is by far the best to bring about better rooting response and which could also improve upon the results obtained earlier with either of growth promoting hormones (Table 3).

Out of the four different seasons tried, the March planting of stem cuttings gave the maximum success recording 60 per cent and 50 per cent of rooted plants at 100 and 50 ppm respectively. Further the extent of rooting response in respect of root production and root lengths from March planted stem cuttings (Fig. 1 & Table 2) indicated that the combination of IBA and IPA at 100 ppm was most effective.

In the light of the above findings, it is thus concluded that the combination of IBA × IPA with March planting was best for growing *Albizzia lucida* plants through vegetative method.

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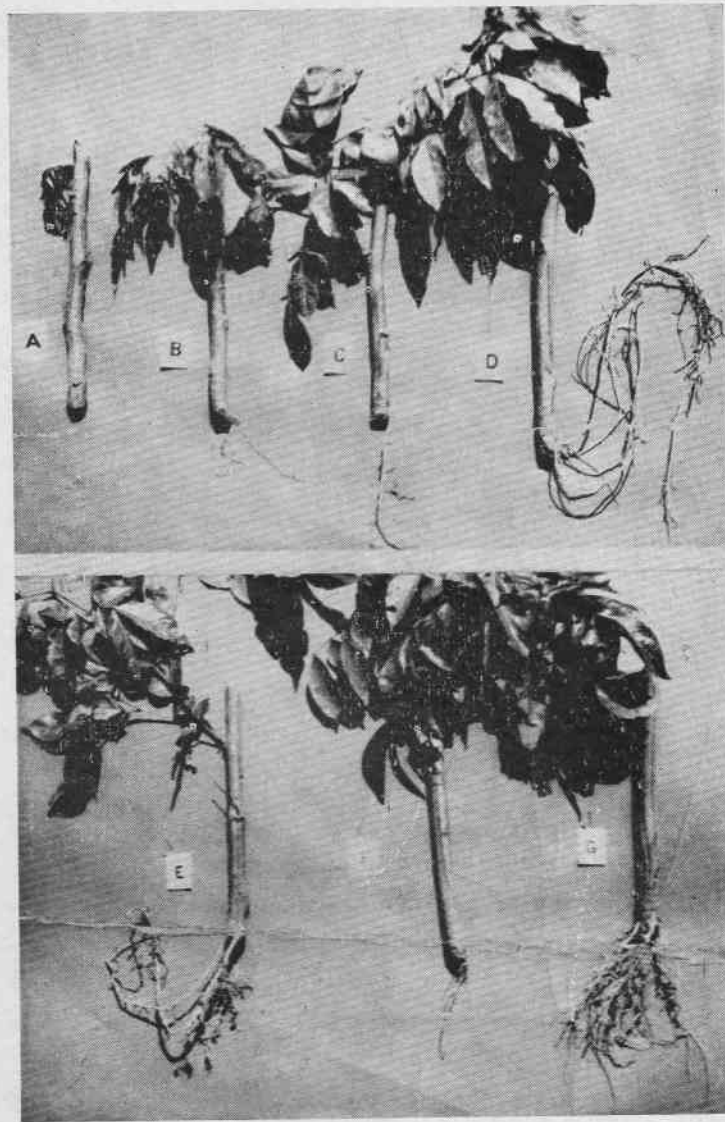


Fig. 1

Showing root production and root lengths from March planted cuttings treated with hormone mixtures.

A-Control, B-IPA \times NAA 50 ppm, C-IPA \times NAA 100 ppm, D-IBA \times IPA 50 ppm, E-IBA \times IPA 100 ppm, F-IBA \times NAA 50 ppm, G-IBA \times NAA 100 ppm.

Table 1
Rooting response of cuttings of *A. lucida* with growth regulators

Growth regulators	Season of planting	Conc. in ppm	P.C. of rooting response	No. of roots per cutting	Average root length in cm
IBA	January '69	10	20.3	3	64.0
		100	10.0	7	14.0
	March '69	10	30.0	9	32.3
		100	—	—	—
IPA	January '69	10	10.0	4	6.2
		100	10.0	1	9.0
	March '69	10	20.0	3	23.3
		100	10.0	7	26.7
2, 4-D	January '69	10	10.0	8	33.1
		100	10.0	3	35.3
	March '69	10	20.0	5	19.8
		100	—	—	—
2, 4, S-T	January '69	10	—	—	—
		100	—	—	—
	March '69	10	10.0	6	25.9
		100	—	—	—
Control					

Table 2
Seasonal effect on rooting of stem cuttings of *Albizzia lucida* with the mixtures of growth promoting hormones

Mixtures of hormones	Conc. in ppm	Percentage of rooted plants			
		January	March	June	September
1	2	3	4	5	6
IBA × IPA	50	20	50	30	20
	100	10	60	40	10

(Contd.)

Table 2—(Contd.)

1	2	3	4	5	6
IBA × NAA	50	Nil	20	10	Nil
	100	Nil	10	20	Nil
IPA × NAA	50	Nil	30	Nil	Nil
	100	10	30	20	Nil

Table 3

Rooting percentage, average number of roots and average roots length in the cuttings of *A. lucida* with mixture of growth promoting hormones

Mixtures of growth promoting hormones	Conc. in ppm	Rooting percentage	Average number of roots per cutting	Average root length per cutting in cm
IBA × IPA	50	50	4	28.6
	100	60	3	20.3
IBA × NAA	50	20	4	6.2
	100	10	5	14.6
IPA × NAA	50	30	4	8.2
	100	30	2	15.0

References

1. Purkayastha, B.K. and Krishnaswami, S. (1958)—Trials of *Albizzia lucida* Benth. and *Ougeinia dalbergioides* Benth. as new host for the *Baisakhi* crop in Chotanagpur. *Indian For.*, 84 (2), 137-145.
2. Purkayastha, B.K. and Kumar, P. (1970)—Vegetative propagation of *Albizzia lucida* Benth. a lac host plant with growth regulators. *Sci. and Cult.* 36 (10), 558-560.