EFFECT OF GREENZIT NUTRIENT SOLUTION OF GROWTH OF DIFFERENT FOREST TREE SPECIES

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Summary. *To test the effect of Greenzit nutrient solution on different forest tree species at seeding stage, a study was conducted in Pakistan Forest Institute, Peshawar during 1980. Data indicate that the Greenzit nutrient solution significantly increases the height growth of Eucalyptus camaldulensis, Juniperus excelsa and Pinus reoxburghii seedings. However, there seems to be no positive response of the nutrient on diameter of species under study.*

Introduction. Greenzit nutrient solution is a product of CIBA-Geigy Company. It contains Mg, B, Co, Cu, Fe, Mn, Mo, Ni and Zn all in a chelate form which can be readily absorbed by plants through roots and leaves. Non-availability of these elements often causes disturbed plant growth and frequently manifests itself through discolouration of the leaves and stunted-bushy growth resulting in poor crops. Such deficiencies occur due to a variety of reasons associated with the soils including insufficient availability of these elements, light texture, unbalanced chemical composition and very frequently the presence of excess of lime. Greenzit nutrient solution could be the possible supply source of most of these important plant growth stimulants under such unfavourable physico-chemical conditions. It can be applied both through foliar spray and soil and is not lost even if it rains, once it is absorbed.

Materials and Methods. 1-year old healthy plants of *Eucalyptus camaldulensis, Juniperus excelsa* and *Pinus roxburghii* grown in polythene tubes of 7.5 x 18 cm size, in 50 : 50 sand-soil mixture were arranged for the study. Initial heights of seedlings were recorded before the application of nutrient solution. These were substracted from the final height at the time of winding up of the experiment in December 1980. Greenzit nutrient solution was diluted to make 2-gallons with distilled water, keeping the concentration rates as: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100 ML for each treatment. Approximately 50 ML of the diluted nutrient solution was applied through soil on 1-4-1980 and 1-7-1980. Randomized complete block design was followed, each treatment comprising of 10-plants, replicated 3-times for each species. Plants were watered with tap water as and when desired.

To evaluate the effect of the nutrient, shoot length and shoot diameter at collar level were recorded as under:

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Species / Treatment	*E. camaldulensis*		*Juniperus excelsa*		*P. roxburghii*	
	Shoot length (cm)	Shoot dia. at collar level (cm)	Shoot length (cm)	Shoot dia. at collar level (cm)	Shoot length (cm)	Shoot dia. at collar level (cm)
T_1 = Control	39.2	0.4	8.8	0.3	11.6	0.5
T_2 = 5 ML G.N.S.*/2 gal. water	41.6	0.4	9.2	0.3	15.0	0.5
T_3 = 10 " " "	45.4	0.4	9.5	0.3	15.0	0.5
T_4 = 20 " " "	45.3	0.4	9.9	0.3	14.9	0.5
T_5 = 30 " " "	48.3	0.4	10.2	0.4	15.3	0.5
T_6 = 40 " " "	49.0	0.4	10.2	0.4	15.2	0.5
T_7 = 50 " " "	56.7	0.5	10.5	0.4	16.4	0.5
T_8 = 60 " " "	56.7	0.5	11.0	0.4	15.8	0.5
T_9 = 70 " " "	57.1	0.5	11.1	0.4	15.7	0.5
T_{10} = 80 " " "	59.1	0.5	10.6	0.4	16.2	0.5
T_{11} = 90 " " "	60.4	0.6	12.4	0.4	15.8	0.5
T_{12} = 100 " " "	69.8	0.6	12.2	0.4	15.8	0.5

*G.N.S. = Greenzit nutrient solution of CIBA-Geigy Company.

Results and Discussions. The data were analysed statistically. It is indicated that there is significant linear relationship between the dose of Greenzit and the length of shoot in all the three species. There was, however, no effect on diameter of the seedlings.