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Research Article

EFFECT OF FOLIAR SPRAY B-995 ON MULBERRY ON GROWTH

***Shashi Kanta**
Punjab Institute of Technology, Dinanagar (Punjab)
**Author for Correspondence*

ABSTRACT
Due to excessive use of synthetic chemicals a serious threat is caused not only to mulberry crop but also to the environment. So, an alternative is necessary for enhancing mulberry production without causing any serious damage to the ecosystem. A foliar spray in liquid form is generally used as spray for increased production of crop yield, branches and improving leaf quality effectively. Plant growth retardants produce unusual and varied response on a wide range of plan species. It is reported that G. retardant affect the shoot length without changing developmental pattern. And without being phototoxic to a wide range of concentration, their effects on increase in branch and leaf number also on yield have been reported in crop plants. This study was aimed to analyze the effect of B-995 on growth modification of mulberry leaf, which is the major component of sericulture industry. B- 9 is reported to produce thicker and darker leaves with high nutritive value. B-9 was used as foliar spray for the present investigation.

Keywords: *Plant Growth Retardant, Growth Modification*

INTRODUCTION
Due to excessive use of insecticides and fungicides for improving productivity of mulberry cultivars, synthetic chemicals cause a serious threat not only to mulberry crop but also the environment. So, an alternative is necessary for enhancing mulberry production without causing any serious damage to the ecosystem. A foliar spray in liquid form is generally used as spray for increase production of crop yield and makes leaf quality effective (Chikkaswamy *et al.*, 2006).
Synthetic growth-regulators are occupying prominent position in crop improvement. Plant growth retardant like B –Nine produces unusual and varied response on a wide range of plant species (Andrews, 1969).
It is reported that Growth Regulators affects the shoot length without changing developmental pattern without change phytotoxic to a wide range of concentration. They cause increasing effect on the branches and leaf numbers and also on yield in crop plants (Castro, 1970).
The aim of present study was to analysis the effect of B-995 on growth modification of mulberry especially the quality of leaf. As sericulture industry is based upon the leaf quality, it plays major role inproduction of silk and its quality.
Dimethyi amino succinamic acid (B-Nine) cause to produce thicker and darker leaves with high nutritive values. It is main foodof the silkworm larvae.
Besides above, the growth retardants are highly species specific, there is no correlation between taxonomic classification & plant response to a particular compound. The selectivity of action thus, suggests many outlets for development of sericulture is also an agro based cottage industry (Miahra and Mohanty, 1966).
The application of growth retardants has also been reported to neutralise the deleterious effects of salinity. Plants treated with GR's have been reported to have larger root system. It also causes a favourable change and leaf water potential thus play role in improving of host plants even in rain fed conditions (Elipovich and Rowe, 1997). These have also been reported to induce tolerance to soil drought.
GRs also increase the total biomass. It has also been reported to increase the level of protein, carbohydrate, and amino acids. Plants treated with GRs have been reported to have larger root system (Humphries and Dyon, 1967).
Thus, with a view to finding out possibilities of outlets for improvement of host plants by growth regulators, the present investigation was undertaken.

MATERIALS AND METHODS

Three Plants of mulberry of same height, width and age were taken for the present experiment. Plants which were selected, they were sprayed with B-995 (N- dimethyl amino succinamic acid) with concentration of 500 ppm, 1000ppm and 1500ppm. At the same time a similar experiment was conducted on (Humphries and Dyon, 1967) series of control batch sprayed with distilled water were also taken on mulberry local variety.

RESULTS AND DISCUSSION

Following results were identified from the experiment conducted on mulberry plant:

1. The average shoot length was reduced with 500ppm to 1500ppm of B-Nine treatment. Inhibition of cell division and cell elongation was caused due to this (Kumar *et al.*, 2010).
2. The numbers of lateral branches were highest in 1500 ppm. It is followed by 1000 and 500 ppm of B-nine treatments. The number of lateral branches and leaf yield were also higher in all the treatments. Maximum was in 1500 ppm. It proved that 1500ppm concentration had the highest effect than others (Chikkaswamy *et al.*, 2006).

Response of Foliar Spray of B-995 on Mulberry

	Treatment b-Nine ppm	**Shoot Length m**	**Leaf Yield Kg/Tree**	**Leaf Moisture**
Control	1.15	2.28	1.963	67.0
Water Sprayed				
500PPM	0.95	2.79	2.067	71.5
1000PPM	0.87	2.28	3.102	72.9
1500PPM	0.79	2.97	2.671	73.5

The increase in number of lateral branches and number of leaves/ plants are amply documented by other workers. The results are also similar with experiment conducted by the other (Kumar *et al.*, 2010) is evident in all the treatments.

But such observations are reported for the first time on the Mulberry. The change in branching habit of plant or lateral branch development by B-nine treatment may possibly be due to stimulation of breaking up dominance (Kumar *et al.*, 2010). Reports show that the overall development of leaves is subdued initially by growth retardant which is subsequently compensated by overproduction (Rajat Mohan *et al.*, 2006).

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