ABSTRACT

EFFECTS OF PINCHING AND PLANT GROWTH REGULATORS ON SEED YIELD OF SALVIA *(Salvia splendens)*

BY

Mr. EKKAMON NOPSUWAN

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Chairman : Assist, Prof. Dr. Songvut Phetpradap

Department : Horticulture Faculty : Agricultural Production

Two experiments were conducted for Salvia (*Salvia splendens*) seed production. The first experiment was a study on the effects of pinching and plant growth regulators on seed yield of Salvia. This experiment was carried at the MAE-SA-MAI Royal Project, Tumbol Pongyang, Amphur Maerim, Chiangmai during October 1997 to April 1998. The experimental design used was randomized complete block design (RCBD) with 4 replications. Study treatments consisted of pinching and two concentrations of three plant growth regulators, namely : Chlormequat chloride, Daminozide and Paclobutrazol which were applied at two different plant growth stages, vegetative and visible terminal flower bud. The second experiment was studied to confirm the plant growth regulator results through the use of the best treatment of each growth regulators from the first experiment. This study was conducted at the Department of Horticulture, Faculty of Agricultural Production, Maejo University during October 1998 to April 1999.

The results showed that pinching significantly reduced main stem length and plant height although branch length was markedly increased. At the same time, branching was decreased. First flowering was also delayed for 8 days but day to peak flowering and harvesting were not different. Seed yield (2.20 g/plant) and quality were not improved when compared to the unpinched plant (2.24 g/plant). For treatments with

plant growth regulators, the application applied at visible terminal flower bud stage produced more branches and inflorescences per plant than the control. Seed maturity was 2 days earlier and harvesting date was 5 days faster. Seed yield (2.57 g/plant) was higher than the control (2.24 g/plant). The two rates of Daminozide application (320 and 640 g/rai) at visible terminal flower bud stage produced shorter main stem length, more flower per inflorescences and higher number of inflorescences per plant. Peak flowering was delayed 2 – 4 days but harvesting time 1 – 5 days earlier. However, seed yield (2.60 g/plant) was higher than the control. Paclobutrazol application reduced main stem length, branch length and plant height. Harvesting time was 3 – 5 days earlier. Although more inflorescences numbers were recorded, seed yield (2.42 g/plant) was not different from that of the control.

Results of the second experiment confirmed the growth retardant effect of Paclobutrazol that shorter stem length, branch length and inflorescences length were noted. However, seed yield 0.70 g/plant was reduced and lower than the control (1.05 g/plant) when compared with the first experiment. Daminozide application plants produced higher seed yield (1.48 g/plant) while application of Chlormequat chloride (240 g/rai) at visible terminal flower bud stage showed the same result as the first experiment that main stem length, plant height and inflorescences length were not different from that of the control. However, plant applied with Chlormequat chloride reduced seed yield to 1.07 g/plant was markedly less than the same treatment of the first experiment (2.57 g/plant) but was not different with the control in this experiment.