SUMMARY

The experimental work was carried out at the Experimental Farm in the Faculty of Agriculture at Moshtohor, Benha University during the two successive seasons of 2005/2006 and 2006/2007. The experiment included one item with aimed to study the effect of some growth retardants (paclobatrozol , uniconazole, and cycocel) on *Tecoma stans* and *Cestrum elegans* shrubs for feasibility of growing those genera plants as pot flowering plant production and to determine their ability to flower from seedlings at early juvenile stage.

Stem cutting of two shrubs (one year old) of each shrubs were chosen from vigorous plants and disease free and cultivated on 1st September for both seasons. After five months , healthy and uniform succeeded seedlings were chosen and planted in 20 cm plastic pots filled with a 1:1:1:1 (by volume) mixture of clay , sand , peat moss and old organic manure. On 1st March the treatments were starting as follows:

1- Control (treated by distilled water)
2- Paclobutrazol at 50ppm
3- Paclobutrazol at 100ppm
4- Paclobutrazol at 200ppm
5- Cycocel at 1000ppm
6- Cycocel at 2000ppm
7- Cycocel at 3000ppm
8- Uniconazole at 50ppm
9- Uniconazole at 100ppm
10-Uniconazole at 200ppm

All concentrations of the three growth retardants with two shrubs were applied three times per season at 21 day interval.

The obtained results can be summarized as follows:

V.1.Vegetative growth measurements:

V.1.A. *Tecoma stans:*

1- Plant height was significantly reduced due to using all growth retardant treatments in both seasons , especially PP_{333} at 200 ppm gave the shortest plants in both seasons.

2- Number of branches per plant was significantly reduced due to using all growth retardant treatments in both seasons , especially paclobutrozol at 200ppm gave the highest number of branches per plant in both seasons.

3- Fresh and dry weights of branches per plant was increased by control plants in both seasons. But PP_{333} at 200 ppm and CCC at 3000 ppm gave the least fresh and dry weights of branches/plant in both seasons.

4- Number of leaves per plant was significantly increased by using PP_{333} at 200 ppm in both seasons.

5- Increasing the fresh and dry weights of leaves per branch with using PP_{333} at 200 then with uniconazole at 100 ppm.

V.1.B *Cestrum elegans:*

1- The shortest plant height resulted with PP_{333} at 200 ppm. then uniconazol at 200 ppm and CCC at 3000 ppm.

2- The greatest number of branches was statistically produced with using high rate of PP_{333} at 200 ppm, CCC at 3000 ppm and uniconazole at 200 ppm in the first season , while in the second season CCC at 3000 ppm gave the maximum number of branches per plant, then uniconazole and PP_{333} at 100.

3- The least fresh and dry weights of branches per plant was obtained by PP_{333} at 100 ppm and CCC at 3000ppm while control plants gave the maximum fresh and dry weight of branches.

V-4-Chemical composition measurements:

V.4.A. *Tecoma stans*

1-NPK , total carbohydrates % and total chlorophyll contents were increased in the *Tecoma stans* leaves when treated with PP_{333} at 200ppm

2- Total indoles increasing with untreated plants (control) but significant decrease by PP_{333} at 200ppm, CCC at 3000ppm and uniconazol at 200ppm gave the minimum total indoles

3- The greatest total phenol content was obtained by using PP_{333} at 200ppm and uniconazol at 200ppm in the both seasons.

V.4.B *Cestrum elegans:*

1- PP_{333} at 200ppm (high rate) gave the maximum nitrogen, phosphorus and potassium percentages and total carbohydrates . While CCC at 3000ppm (medium rate) produced the next value . But , PP_{333} and uniconazol at high rate (200ppm) gave the maximum total chlorophyll.

2- Control plants gave the maximum total indoles per leaves but all the concentrations of three growth retardants showed significant decrease in leaf total indoles content of leaves in both seasons .

3- The greatest total phenol content was obtained by spraying PP_{333} at 200ppm. Uniconazol at 100ppm gave the next value

RECOMMENDATION

*To obtain a pot flowering plants of ***Tecoma stans*** seedlings (five months old) from stem cutting, it is recommended to treat the plants with PP_{333} at 200ppm 3 times from 1st March with 21 days interval.

* To obtain a good pot flowering plants of ***Cestrum elegans*** seedlings ((five month old) we can safely recommend by spraying the seedlings with PP_{333} at 200ppm 3 times from 1st March with 21 days interval.