SUMMARY

5- SUMMARY

This investigation was carried out at the Tissue culture laboratory, Horticultural Department, Faculty of Agricultural, Moshtohor, Benha University and Horticultural Research Institute during the period from 2005 to 2008. This study aimed to in vitro establishing of *Cordyline terminals* L. and *Spathiphylum wallissii. L* plants and studing the effect of colchicine on growth and rooting. Also, studying of proliferation and rooting of these plants. Moreover, cytological studies were took place for phenotypic variant plantlets.

Homogenous *Cordyline terminals* L and *Spathiphylum wallissii.* plants were taken as mother plants. Different explants either direct (shoot-tips and one-node cuttings) were prepared . The explants were sterilized by immersing in 15% Clorox with two drops of Tween –20 for 15 minutes. Then cultured on different medium types for direct. Different concentration of colchicine were studyied .Also, different cytokinin types with different concentrations were included. Moreover, different GA3 concentrations, and different auxin types with different concentrations were concerned. Furthermore, cytological studies for phenotypic variant plantlets were took place. The obtained results can be summarized as following both *Cordyline terminals* L and *Spathiphylum wallissii* L.

5.I-Establishment stage

1- Shoot tips surpassed in increasing direct regeneration parameters .

2-Modified Murashige and Skoog medium was the best medium in increasing explant development, callus production, direct regeneration, and greening parameters.

3-Supplementation of the cultured medium with 0.08% colchicine induced significantly increased in the number of shoots .

5.2. Proliferation stage

4- Using 2-ip in proliferation medium reduced necrosis and callus production, while enhanced the highest growth and greening. However, BAP encouraged the best proliferation and callus production.

5-Callus production and proliferation were maximized by using 2.0mg/L cytokinins, while 1.0mg/L improved both growth and greening and reduced necrosis.

5.3.Rooting stage:

5.3.a.Shoot elongation:

6-Using of 2.0mg/L GA3 induced the longest plant height and fresh weight parameters, while medium free from GA3 (control) was effective in improving the other parameters (dry weight, number of shoots and rooting).

5.3.b.Root formation:

7-Addition of IAA at 1.00mg/L level improved growth and greening parameters, while using 2.0mg/L IBA was suitable for maximizing rooting.

5.4.Cytological studies :

8– Colchicine induced some variation in bands of Isozyme or protein at 0.08%.

CONCLUSION

Culturing of shoot tips on modified Murashige and Skoog medium is suitable for direct regeneration. Addation colchicine at 0.08% significantly increased the number of shoots and induced some change in Isozyme or protein bands .Moreover, using of 2.0mg/L BAP increased proliferation and callus production. Meanwhile, supplementing the fall medium strength wit 2.0 mg/L GA3 improved shoot elongation, colchicine at 0.08%. induced some variation in bands of Isozyme or protein of tow plants.