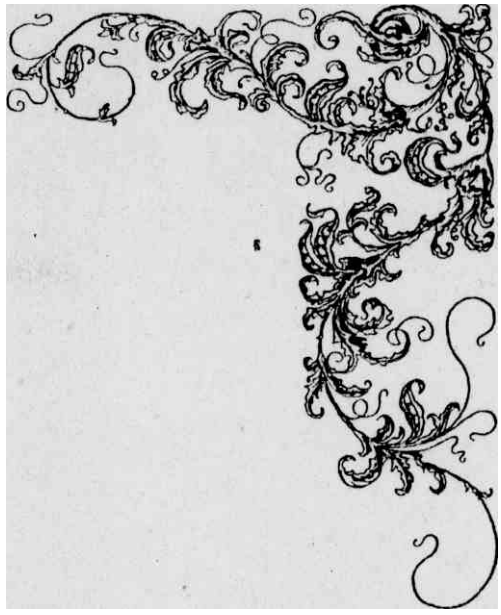
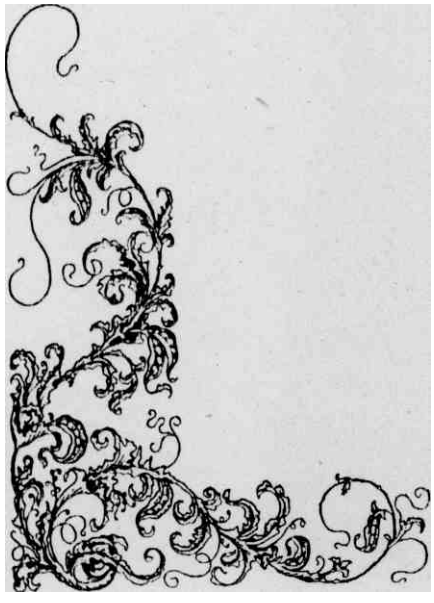


SUM_MARY



V. SUMMARY

This investigation was carried out at the Tissue Culture Laboratory Horticulture Department, Faculty of Agriculture, Moshtohor, Zagazig University during the period from 2002 to 2004.

Explants from taxodium and cupressus were taken at April in case of taxodium while collected at different quarters during the year round in case of cupressus then subjected to running water for 15. minutes then sterilized in 10% Clorox (commercial bleach) with two drops of "Teen-20 for 15 minutes and washed 3 times with sterilized distilled water for 5 minutes each. The explant was . cultured on different medium types, different antioxidant treatments, cold pre-treatment, culturipg dates, hormonal balance, and different organic compounds during establishment stage.

In addition, different cytokinin types and different BAP concentrations were involved during proliferation stage. Moreover, medium strength, different concentrations of GA3, were involved in shoot elongation of both taxodium and cupressus, while auxin type and auxin concentration were evaluated during art formation of taxodium explants only. The obtained results can be summarized as follow:

I. Taxmlium.

1.1. Establishment stage:

1. Murashige and Skoog medium proved to be the best medium type used as it decreased necrosis and maximized most of explant development parameters.

2. Shoot-tip explant surpassed one nodal cuttings in reducing necrosis and increasing explant development and greening parameters.
3. The accumulated phenolic compounds which caused oxidation and finally the death of explants were greatly reduced when combination of anti-oxidant solution plus P.V.P treatment was used followed by anti-oxidant solution treatment.
4. Supplementation of the culture medium with the best hormonal balance consisted of 0.5 mg/L BAP and 0.1 mg/L **IBA** succeeded in increasing explant development and greening parameters.
5. Soaking the explants in yeast extract for 40 minutes enhanced explant development and greening while decreased necrosis.

h. Proliferation stage:

1. Kinetin suppressed 6-benzylaminopurine in enhancing growth and greening while BAP maximized proliferation.
2. Supplementation the culture medium with 2.0 **mg/L BAP** encouraged reducing necrosis and increasing proliferation to the highest level.

I.C. Rooting stage:

1.C.I. Shoot elongation:

I. Shoot elongation and greening were increased by using full medium strength.

2. Using 3.0 ing/L of GA_3 in the culture medium enhanced shoot elongation and greening parameters.

1.t.2. Root formation:

1. Indole-3-butyric acid was the most effective auxin in enhancing,callus production and rooting parameters, while greening parameter was improved when NAA was used.
2. The hest rooting was obtained when 1 mg/L IBA was used.

II- Cupressus:

11.1. Establishment stage:

1. Murashige and Skoog medium was superior than both woody plant and Anderson media in increasing the explant development, greening and reducing necrosis and browning.
2. Shoot-tips was better than one nodal cuttings in maximizing explant development, greening and reducing necrosis and browning parameters.
3. The accumulated phenolic compounds were greatly reduced by using the combination of antioxidant solution plus P.V.P. followed by P.V.P. only in improving all parameters under study.
4. Storing explants of cupressus in the refrigerator for 8 days before culturing succeeded in reducing necrosis and increasing explant development, and greening parameters.
5. Collecting explants during the third quarter (October — December) is the best time for encouraging both explant development and greening as well as reducing necrosis and browning.

II.h. Proliferation stage:

I. Kinetin proved to be the best cytokinin enhancing growth and greening parameters while reduced necrosis and browning. however. adding IMP to the culture medium is superior in increasing proliferation.

2. Addition 2.0 mg/L BAP to the culture medium succeeded in maximizing proliferation and minimizing necrosis.

II.c. Rooting stage:

II.c.a. Shoot elongation phase:

I. Using one-half medium strength was important for increasing either shoot elongation or greening followed by one-quarter **medium strength.**

2. Supplementation the culture medium with 2.0 mg/I, GA_3 enhanced **the** highest increase in shoot elongation and greening parameters.