

**PRODUCTION OF ASTER MONTE CASSINO  
UNDER PROTECTED AGRICULTURAL  
CONDITIONS USING LOCALLY  
PROPAGATED CUTTING  
OR *IN VITRO* EXPLANTS**

By

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## ABSTRACT

**Fawzy Fawzy Arafa Ali Lasheen: Production of Aster Monte Cassino Under Protected Agricultural Conditions Using Locally Propagated Cuttings or *In Vitro* Explants. Unpublished Ph.D. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 2010**

This study was carried out through two successive years (2006/2007 and 2007/2008). The main purpose of this study was to propagate *Aster ericoides* cv. Monte Casino using tissue culture technique. Also, to produce the plant under greenhouse using locally propagated cuttings or tissue culture plants. For tissue culture protocol, it was better to use either apical or lateral buds and surface sterilized by 30% clorox for 20 minutes. A moderate compromise for improved number and length of shoots and leaf number during the multiplication stage it was better to use MS medium supplemented with 1 ppm BA. In rooting stage, the best root number and length were obtained with 0.4 ppm NAA. The highest survival percentage was obtained after acclimatization stage when media with sand or sand plus peat moss were used. For the production under greenhouse, the highest values of number of branches, main stem diameter, number of internodes, fresh and dry weights of plant, C %, N %, C/N ratio and chlorophyll reading were all obtained when using control treatments for either GA<sub>3</sub> or light. Although the highest flower diameter and number of ray flowers were obtained with either GA<sub>3</sub> at 200 ppm or intermittent light. Control light or GA<sub>3</sub> at 200 ppm gave the highest flower number. The earliest flowering time was with GA<sub>3</sub> at 200 ppm and continuous light. Also, GA<sub>3</sub> at 200 ppm or continuous light gave the tallest plants height for the two seasons of study.

**Key words:** Aster, *Aster ericoides* cv. Monte Casino, tissue culture, cuttings, greenhouse, light.

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# CONTENTS

	Page
<b>1. INTRODUCTION.....</b>	<b>1</b>
<b>2. REVIEW OF LITERATURE .....</b>	<b>3</b>
2.1. Production .....	3
2.1.1. Propagation .....	3
2.1.1.1. By stem cuttings .....	3
2.1.1.2. By tissue culture .....	3
a- Establishment stage .....	3
b- Multiplication stage .....	4
c- Rooting stage .....	5
d- Acclimatization stage .....	6
2.2.1. Effect of light on: .....	6
2.2.1.1. Vegetative growth .....	8
2.2.1.2. Flowering .....	12
2.3.1. Effect of gibberellic acid on:.....	19
2.3.1.1. Vegetative growth .....	19
2.3.1.2. Flowering .....	22
<b>3. MATERIAL AND METHODS .....</b>	<b>27</b>
3.1. Tissue culture experiments .....	27
3.1.1. Plant material and explant types .....	27
3.1.2. Culture media .....	27
3.1.3. Glassware equipment .....	27
3.1.4. Culture room conditions .....	28
3.1.5. Surface sterilization of explants .....	28
3.1.6. Shoot proliferation from buds .....	28
a- Establishment stage .....	28
b- Multiplication stage .....	29
c- Rooting stage .....	29
d- Acclimatization stage .....	29

	<b>Page</b>
3.1.7. Data recorded .....	30
a- For the explant sterilization stage .....	30
b- Shoot proliferation of bud explants .....	30
c- Shoot proliferation and rooting of leaf explants...	30
3.1.8. Experimental design and statistical analysis .....	30
3.2. Production of Aster under protected cultivation using stem cuttings.....	31
3.2.1. Location .....	31
3.2.2. Treatments .....	31
3.2.3. Agricultural trails .....	31
a- Planting date .....	31
b- Pinching .....	32
c- Irrigation .....	32
d- Fertilization .....	32
e- Harvesting .....	32
3.2.4. Data recorded .....	32
3.2.5. Experimental design and statistical analysis .....	32
3.3. Production of Aster under protected cultivation using tissue culture .....	33
<b>4. RESULTS .....</b>	<b>34</b>
4.1. Tissue culture experiment .....	34
4.1.1. Establishment stage .....	34
4.1.1.1. Apical buds .....	34
4.1.1.2. Lateral buds .....	35
4.1.2. Multiplication stage .....	36
4.1.3. Rooting stage .....	36
4.1.4. Acclimatization stage .....	40
4.2. Production of Aster under protected cultivation using cuttings .....	42

	<b>Page</b>
4.3. Effect of GA <sub>3</sub> and/or light treatments on vegetative growth parameters.....	42
4.3.1. Plant height.....	42
4.3.2. Main stem diameter .....	42
4.3.3. Number of internodes .....	42
4.3.4. Number of branches .....	46
4.3.5. Fresh weight .....	46
4.3.6. Dry weight .....	46
4.4. Effect of GA <sub>3</sub> and/or light treatments on flowering parameters.....	50
4.4.1. Flowering time (number of days to flowering) .....	50
4.4.2. Flower diameter .....	53
4.4.3. Number of flowers .....	53
4.4.4. Number ray flowers .....	53
4.5. Effect of GA <sub>3</sub> and/or light treatments on plant chemical composition .....	56
4.5.1. Carbon % (C%) .....	56
4.5.2. Nitrogen % (N%) .....	58
4.5.3. Carbon % / Nitrogen % (C/N ratio) .....	58
4.5.4. Total chlorophyll .....	58
4.6. Production of Aster under protected cultivation using tissue culture plants.....	62
<b>5. DISCUSSION .....</b>	<b>63</b>
<b>6. SUMMARY AND CONCLUSION .....</b>	<b>67</b>
<b>7. REFERENCES .....</b>	<b>70</b>
<b>8. ARABIC SUMMARY</b>	



## LIST OF TABLES

No.		Page
1	Effect of time of clorox exposor and clorox concentration treatments on either survival percentage or contamination percentage of <i>Aster ericoides</i> cv. "Monte Casino" during establishment stage in apical bud.....	34
2	Effect of time of clorox exposure and clorox concentration treatments on either survival percentage or contamination percentage of <i>Aster ericoides</i> cv. "Monte Casino" during establishment stage in lateral buds .....	35
3	Effect of number of subculture and media treatments on number of shoots, length of shoots and number of leaves of <i>Aster ericoides</i> cv. "Monte Casino" during <i>in vitro</i> multiplication stage .....	39
4	Effect of NAA concentration levels on either root number or root length of <i>Aster ericoides</i> cv. "Monte Casino" during <i>in vitro</i> rooting stage .....	40
5	Effect of media composition on survival percentage after acclimatization stage for <i>in vitro</i> plantlets of <i>Aster ericoides</i> cv. "Monte Casino" .....	40
6a	Effect of GA <sub>3</sub> and light treatments on plant length of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	43
6b	Effect of GA <sub>3</sub> and light treatments on plant height of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	43

	<b>Page</b>
7a Effect of GA <sub>3</sub> and light treatments on main stem diameter of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	44
7b Effect of GA <sub>3</sub> and light treatments on main stem diameter of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	44
8a Effect of GA <sub>3</sub> and light treatments on number of internodes of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	45
8b Effect of GA <sub>3</sub> and light treatments on number of cutting of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	45
9a Effect of GA <sub>3</sub> and light treatments on number of branches of <i>Aster ericoides</i> cv "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	47
9b Effect of GA <sub>3</sub> and light treatments on number of branches of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	47
10a Effect of GA <sub>3</sub> and light treatments on fresh weight(g) of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	48
10b Effect of GA <sub>3</sub> and light treatments on fresh weight (g) of <i>Aster ericoides</i> cv."Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008).....	48

	<b>Page</b>
11a Effect of GA <sub>3</sub> and light treatments on dry weight (g) of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	49
11b Effect of GA <sub>3</sub> and light treatments on dry weight (g) of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	49
12a Effect of GA <sub>3</sub> and light treatments on time of flowering (days) of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	51
12b Effect of GA <sub>3</sub> and light treatments on time of flowering (days) of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	51
13a Effect of GA <sub>3</sub> and light treatments on flower diameter (cm) of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	52
13b Effect of GA <sub>3</sub> and light treatments on flower diameter (cm) of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture plants in the two seasons (2006/2007 and 2007/2008).....	52
14a Effect of GA <sub>3</sub> and light treatments on number of flowers of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	54
14b Effect of GA <sub>3</sub> and light treatments on number of flowers of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture plants in the two seasons (2006/2007 and 2007/2008).....	54

	<b>Page</b>
15a Effect of GA <sub>3</sub> and light treatments on number of ray flowers of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	55
15b Effect of GA <sub>3</sub> and light treatments on number of ray flowers of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	55
16a Effect of GA <sub>3</sub> and light treatments on carbon % of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	57
16b Effect of GA <sub>3</sub> and light treatments on carbon % of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008) .....	57
17a Effect of GA <sub>3</sub> and light treatments on N % of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008).....	59
17b Effect of GA <sub>3</sub> and light treatments on nitrogen % of <i>Aster ericoides</i> "Monte Casino" in the two seasons (2006/2007 and 2007/2008) .....	59
18a Effect of GA <sub>3</sub> and light treatments on C/N ratio of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008) .....	60
18b Effect of GA <sub>3</sub> and light treatments on C/N ratio of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008).....	60
19a Effect of GA <sub>3</sub> and light treatments on total chlorophyll of <i>Aster ericoides</i> cv. "Monte Casino" from cuttings in the two seasons (2006/2007 and 2007/2008).....	61

	<b>Page</b>
19b Effect of GA <sub>3</sub> and light treatments on total chlorophyll of <i>Aster ericoides</i> cv. "Monte Casino" from tissue culture in the two seasons (2006/2007 and 2007/2008).....	61

## LIST OF PLATES

No.		Page
1	Effect of BA and/or NAA concentration levels on the multiplication stage of buds for <i>Aster ericoides</i> cv. Monte Casino (from up to down and left to right)...	37
2	Effect of NAA levels on <i>in vitro</i> rooting stage of <i>Aster ericoides</i> cv. Monte Casino at 0.0, 0.2, 0.4 and 0.6 ppm from left to right.....	38
3	Acclimatization stage of <i>Aster ericoides</i> cv. Monte Casino after rooting stage of <i>in vitro</i> culture.....	40

**Table (6a): Effect of GA<sub>3</sub> and light treatments on plant length of *Aster ericoides* cv. "Monte casino", in the two seasons from cuttings (2006/2007 and 2007/2008)**

Treatment	First Season			Second season		
	G <sub>1</sub>	G <sub>2</sub>	Mean	G <sub>1</sub>	G <sub>2</sub>	Mean
L <sub>1</sub>	62.72	70	66.36	62.67	70.42	66.54
L <sub>2</sub>	69	73.92	71.46	68.75	73.83	71.29
L <sub>3</sub>	72.08	78.17	75.13	72	77.67	74.83
Mean	67.93	74.03		67.81	73.97	

L<sub>1</sub>:L<sub>3</sub> = Light

G<sub>1</sub>:G<sub>2</sub> = GA<sub>3</sub>

LSD: GA<sub>3</sub> = 0.4373

GA<sub>3</sub> = 0.3773

Light = 0.5356

Light = 0.4621

GA<sub>3</sub> \* Light = 0.7575

GA<sub>3</sub> \* Light = 0.6534

**Table (6b): Effect of GA<sub>3</sub> and light treatments on plant height of *Aster ericoides* cv. "Monte casino" cultivar *in vitro*, in the two seasons from tissue culture (2006/2007 and 2007/2008)**

Treatment	First Season			Second season		
	G <sub>1</sub>	G <sub>2</sub>	Mean	G <sub>1</sub>	G <sub>2</sub>	Mean
L <sub>1</sub>	61.42	68.33	64.88	63.58	70.58	66.08
L <sub>2</sub>	68.08	72.33	70.21	70.17	75.42	72.79
L <sub>3</sub>	71	77.58	74.38	72.42	79.33	75.88
Mean	66.83	72.75		68.72	75.11	

L<sub>1</sub>:L<sub>3</sub> = Light

G<sub>1</sub>:G<sub>2</sub> = GA<sub>3</sub>

LSD: GA<sub>3</sub> = 0.04986

GA<sub>3</sub> = 0.6724

Light = 0.6106

Light = 0.8235

GA<sub>3</sub> \* Light = 0.8636

GA<sub>3</sub> \* Light = 1.1647