表1. Auxins **及** Cytokinins **對根莖誘導癒合組織之影響**

Table 1. Effect of auxins and cytokinins on callus formation from cultured tuber segment of *Corydalis yanhusuo*

BA (mg/l)	NAA (mg/l)	2,4-D (mg/l)	Percentage of explants producing embryos**	Percentage of explants producing callus**	Average fresh weight of callus per explant (g) **
0.0	0.0	0.0	61.3	100	1.68^{f}
0.0	0.5	0.0	22.6	100	2.20^{de}
0.0	1.0	0.0	28.2	100	2.81^{c}
0.0	2.0	0.0	36.5	100	2.06^{e}
0.0	0.0	0.5	0.0	100	3.20^{b}
0.0	0.0	1.0	0.0	100	3.48^{ab}
0.0	0.0	2.0	0.0	100	3.22^{b}
2.0	0.5	0.0	41.6	100	2.49^{cd}
2.0	1.0	0.0	52.8	100	2.71^{c}
2.0	2.0	0.0	66.5	100	3.08^{c}
2.0	0.0	0.5	4.3	100	3.29^{c}
2.0	0.0	1.0	5.2	100	3.72^{a}
2.0	0.0	2.0	5.3	100	3.43^{b}

Sample size：20 explants for each treatment. Data was collected after 30 days of culture.

* Basal medium：MS basic salts with 3% sucrose, and 0.9% Difco agar, pH = 5.7 ± 0.1.

** Data collected from 200mg callus was cultured for 30 days. Means of 40 samples that with the same letters are not significantly different at 5 % by LSD test.

表 2.**不同基礎培養基對延胡索癒合組織生長之影響**

Table 2. Effect of various basal salts on callus growth of *C. yanhusu**

Basal salts**	Average fresh weight of callus (g)***
B_5	1.141^{c}
MS	1.569^{a}
N_6	1.385^{b}
WPM	1.127^{c}

* Culture medium : Basal medium with 3% Sucrose and 0.9% Difco agar. Data was collected after 30 days of culture.

** Basal salts : MS (Murashing and Skoog, 1962) ；B_5 (Gamborg et al., 1968)； N_6 (Chu. et al.,1975) WPM(Lloyd & McCown, 1980)

*** Same as Table 1.

表 3. **碳源對延胡索癒合組織生長之影響**

Table 3. Effect of carbon soure on callus growth of *C. yanhusuo*

Carbon source 3%*	Average fresh weight of callus (g)**
Fructose	1.146^{c}
Glucose	1.335^{b}
Maltose	0.306^{d}
Sucrose	$1.594g^{a}$

* Basal medium：MS salt with 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 4.**不同蔗糖濃度對延胡索癒合組織生長之影響**

Table 4. Effect of sucrose concentration on callus growth of *C. yanhusuo*

Sucrose (%) *	Average fresh weight of callus (g)**
1	0.62[d]
3	1.53[b]
5	1.70[a]
7	1.34[c]

* Basal medium：MS salt with 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 5. **瓊脂** (agar) **對延胡索癒合組織生長之影響**

Table 5. Influence of agar on callus growth of *C. yanhusuo*

Basal medium* with agar (%)	Average fresh weight of callus (g)**
0.45	1.421[b]
0.60	1.666[a]
0.90	1.574[a]
1.20	1.446[b]
1.50	1.168[c]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 6. **不同濃度之** MS **基本培養基對延胡索癒合組織生長之影響**

Table 6. Effect of MS salts strengths on callus growth of of *C. yanhusu*

MS salts* Strength	Average fresh weight of callus (g)**
1/4 MS	1.211[c]
1/2 MS	1.419[ab]
MS	1.583[a]
2 MS	1.016[d]

* Basal medium： 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 7. **光照對延胡索癒合組織生長之影響**

Table 7. Effect of Light on callus growth of *C. yanhusuo*

Light intensity ($\mu E/m^2S$)	Average fresh weight of callus (g)**
100	1.301[b]
0	1.553[a]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表8. Auxins **類生長調節劑對延胡索癒合組織生長之影響**

Table 8. Effect of auxins on callus growth of *C. yanhusuo*

Basal medium* with		Average fresh weight of callus (g)**
2,4-D (mg/l)	NAA	
0	0	1.506[f]
0.5	0	2.036[d]
1	0	2.837[a]
2	0	2.436[b]
4	0	2.181[d]
0	0.5	1.896[de]
0	1	2.369[bc]
0	2	2.508[b]
0	4	2.236[c]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1 . Data was collected after 30 days of culture.

** Same as Table 1.

表 9. Cytokinin **類植物生長調節劑對延胡索癒合組織生長之影響**

Table 9. Effect of cytokinins on callus growth of *C. yanhusuo*

Basal medium* with (mg/l)				Average fresh weight of callus (g)**
BA	Kinetin	Zeatin	TDZ	
0	0	0	0	1.560[d]
1	0	0	0	2.448[ab]
0	1	0	0	2.159[c]
0	0	1	0	1.478[de]
0	0	0	1	2.787[a]

* Basal medium：MS salt with 1 mg/L 2,4-D, 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 10. TDZ **對延胡索癒合組織生長之影響**

Table 10. Effect of TDZ on callus growth of *C. yanhusuo*

Basal medium* with TDZ(mg/l)	Average fresh weight of callus (g)**
0	1.448[d]
0.5	2.681[ab]
1	2.892[a]
2	2.667[ab]
4	2.247[c]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 11. **水解酪蛋白** (CH) **對延胡索癒合組織生長之影響**

Table 11. Effect of casein hydrolysate (CH) on callus growth of *C. yanhusuo*

Basal medium* with CH (mg/l)	Average fresh weight of callus (g)**
0	1.427[c]
250	1.945[a]
500	2.096[a]
750	1.718[b]
1000	1.645[b]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 12. **蛋白　對延胡索癒合組織生長之影響**

Table 12. Effect of peptone on callus growth of *C. yanhusuo*

Basal medium* with peptone (g/l)	Average fresh weight of callus (g)**
0	1.519[b]
1.0	1.699[a]
2.0	1.711[a]
3.0	1.846[a]
4.0	1.737[a]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 13. 椰子汁對延胡索癒合組織生長之影響

Table 13. Effect of coconut milk(CM) on callus growth of *C. yanhusuo*.

Basal medium* with CM(%)	Average fresh weight of callus (g)**
0	1.457[c]
5	1.766[b]
10	1.992[a]
20	1.763[b]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 14. 酪胺酸對延胡索癒合組織生長之影響

Table 14. Effect of tyrosine on callus growth of *C. yanhusuo*.

Basal medium* with tyrosine (mg/L)	Average fresh weight of callus (g)**
0	1.496[c]
5	2.124[a]
10	1.803[b]
15	1.668[b]
20	1.414[c]

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 15. Cytokinin **類植物生長調節劑對延胡索癒合組織誘導體胚之影響**

Table 15. Effect of cytokinins on induction of somatic embryogenesis from tuber-derived primary callus of *C. yanhusuo*

Basal medium* with (mg/l)				Average number of somatic embryos produced per callus**
BA	Kinetin	Zeatin	2ip	
0	0	0	0	3.1[d]
0.5	0	0	0	9.6[b]
0	0.5	0	0	13.6[a]
0	0	0.5	0	8.6[b]
0	0	0	0.5	6.3[c]

* Basal medium：MS salt with 1 mg/L 2,4-D, 3 % sucrose and 0.9 % Difco agar, pH = 5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 16. ABA **對體胚苗誘導體胚之影響**

Table 16. Effect of ABA on induction of somatic embryos on converted somatic embryos of *Corydalis yanhusuo*.

ABA (mg/L)	% converted somatic embryos showing development of somatic embryos	Average no. somatic embryos produced per converted embryo	Average length of cotyledonary-stage somatic embryo (mm)
0.0	73.3 ± 1.7	3.7 ± 0.4	1.84 ± 0.36
0.5	80.0 ± 5.0	13.6 ± 1.2	2.43 ± 0.17
1.0	81.7 ± 4.4	14.5 ± 1.3	1.77 ± 0.06
2.0	76.8 ± 1.7	16.2 ± 1.3	1.43 ± 0.11
4.0	81.7 ± 1.7	17.7 ± 1.4	1.41 ± 0.08
8.0	76.7 ± 1.7	24.6 ± 2.3	1.40 ± 0.06
12.0	50.0 ± 5.8	4.0 ± 1.1	1.20 ± 0.02
16.0	35.0 ± 5.8	3.2 ± 1.3	1.07 ± 0.10

* Basal medium：MS salt with 3 % sucrose and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

表 17. ABA **在不同濃度之** MS **培養基對體胚苗誘導體胚之影響**

Table 17. Effect of MS salts strength with ABA on induction of somatic embryos on converted somatic embryos of *Corydalis yanhusuo*.

MS salts Strength	Average number of somatic embryos produced per callus**
1/2 X MS	12.87[b]
1X MS	18.75[a]
2 X MS	1.32[c]

* Basal medium：MS salt with 3 % sucrose, 2 mg/L ABA and 0.9 % Difco agar, pH =5.7 ± 0.1. Data was collected after 30 days of culture.

** Same as Table 1.

表 18. **不同生長調節劑對體胚苗誘導體胚苗之影響**

Table 18. Effect of various phytohormones on conversion of somatic embryos derived from converted somatic embryos of *Corydalis yanhusuo*.

Phytohormone (mg/L)	% conversion	Average length of converted embryo (cm)	Length of cotyledonary leaf (mm)	Length of root (mm)
None	75.0 ± 2.9	1.41 ± 0.07	10.91 ± 0.73	3.78 ± 0.28
1.0 Kinetin	30.0 ± 5.8	1.71 ± 0.04	13.69 ± 0.45	1.02 ± 0.21
1.0 Zeatin riboside	43.3 ± 4.4	2.49 ± 0.04	20.28 ± 0.88	2.24 ± 0.13
0.1 GA_3	80.0 ± 2.9	2.77 ± 0.09	20.39 ± 1.30	6.01 ± 1.98

* Basal medium：MS salt with 3 % sucrose, pH =5.2 ± 0.1. Data was collected after 15 days of culture.

** Same as Table 1.