

CALLUS CULTURES FROM SEEDS AND ANTHERS OF
Sesamum indicum L.*

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ABSTRACT

Continuously growing *Sesamum* hypocotyl callus cultures were successfully initiated from hypocotyl tissues of seeds cultured on Wetherall's Medium containing 0.5 mg/l 2,4-D and subcultured on Murashige and Skoog (MS) medium containing 0.1 mg/l 2,4-D and 100 mg/l inositol. Both 2,4-D and inositol appear to be essential for maintenance of continuous growth. Callus cultures were likewise established from explants of anthers, cotyledon, and hypocotyl on the MS medium with the occurrence of arrested globular structures in some cultures.

* Entregue para publicação em 22.10.1979.

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Table 1 - Medium for sesame callus (D.J. Wetherall, 1966, Pers. Communication)

Compound	mg/l	mM/l
KNO_3	4000	40
NH_4Cl	540	10
$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	185	0.74
CaCl_2	166	1.5
KH_2PO_4	68	0.45
$\text{MnSO}_4 \cdot \text{H}_2\text{O}$	7.0	0.04
$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	4.0	0.01
H_3BO_3	2.4	0.04
$(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$	0.01	1×10^{-6}
KI	0.38	2×10^{-3}
CuSO_4	0.01	6×10^{-5}
$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	14.0	0.05
Na_2EDTA	18.6	0.05
thimine HCl	3	
2,4-dichlorophenoxy-acetic acid	0.5	
sucrose	20000	
pH 5.6		

Table 2 - Fresh weights of 22-day old sesame callus grown on MS medium with various hormone combinations. The number in parentheses is the number of samples for each treatment. The inoculum was 0.1-0.2 g. and the hormone concentrations are in mg/l.

Medium	Fresh Weight (g)
MS - hormone + CW	1.5 (3)
MS + 0.1 2,4-D	0.5 (3)
MS + 0.1 2,4-D + CW	0.5 (3)
MS + 0.5 2,4-D + CW	0.8 (5)
MS + 0.5 2,4-D + 0.1 kinetin	1.8 (13)

