Plantlet regeneration from the mature embryo of *Bothriochloa ischaemum*

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Key words : *Bothriochloa ischaemum* ,mature embryo ,embryogenic callus ,plant regeneration

Introduction *Bothriochloa ischaemum* is known to have a strong vitality , produce high yields , is tolerant to grazing and has a high feeding value . The regeneration from mature embryos was studied using the mature embryos of *Bothriochloa ischaemum* as explants . The effect of various hormone compositions on callus induction and growth state was studied .

Materials and Methods The explants were first immersed for 10min in distilled water , followed by immersion in 75% ethanol for 30s , then in 0 .1% (w :v) $HgCl_2$ solution for 15 min with constant agitation , lastly extensive washing (four-five times) with sterile distilled water was undertaken . Murashige and Skoog's (MS) medium containing 3% sucrose and 0 .5% agar was used as the basal medium . The MS medium supplemented with 2 ,4-D (0 , 1 . 0 , 2 .0 , 3 .0 , 4 .0 , 6 .0 mg/L) was tried in a single factorial treatment . Each treatment consisted of three replications with 15 explants . Callus was maintained at 25 ± 2℃ , 60% relative humidity for 27d . Rapidly growing callus and embryogenesis were maintained in the callus subculture medium plus 1 .0 mg/L 2 ,4-D for 5-6d . The embryogenic callus (EC) were subsequently sub-cultured on MS media supplemented with NAA (0 .04 ,0 .05 ,0 . 06 ,0 .07 mg/L) in combination with 0 .1 mg/L of 6-BA for inducing callus differentiation .

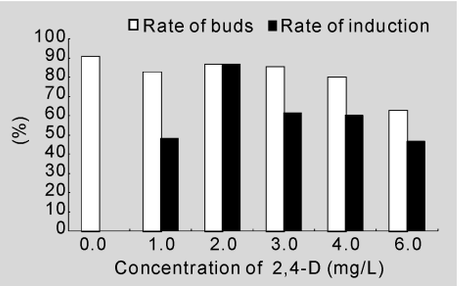

Figure 1 *The growth of seeds in different concentrations of 2 ,4-D .*

Results The frequency of callus induction reached 86 .7% on the callus induction medium supplemented with 2 .0 mg/L 2 ,4-D (Figure 1) . The rate of differentiation frequency from callus sub-cultured was 60 .9% on the differentiation medium supplemented with 0 .1 mg/L 6-BA and 0 .05 mg/L NAA . Differentiation frequency from combinations of 0 .1 mg/L 6-BA with 0 .04 or 0 .06 mg/L NAA was 43 .6% and 34 .6% , respectively (Table 1) .

Table 1 *Callus Differentiation in different combined of hormones .*

Hormone composition(mg/L)		Number of inoculation	Number of EC	Induction frequency of EC (%)	Number of differentiation	Differentiation frequency (%)
6-BA	NAA					
0 .1	0 .04	86	71	82 .6	31	43 .6
0 .1	0 .05	87	46	52 .9	28	60 .9
0 .1	0 .06	88	81	92 .0	28	34 .6
0 .1	0 .07	86	73	84 .8	21	28 .7

Conclusions The callus induction Frequency reached 46 .6% -86 .7% on most of the media combinations during 20-27 days . It has been shown that the callusing in differentiation required a low auxin and comparatively high cytokinin level .

Reference

Parrott , W . A . , 1991 . Auxin-stimulated somatic embryogenesis from immature cotyledons of white clover . *Plant Cell Report* , 10 , 17-21 .