

## Somatic Embryos Produced From Aseptic Seedlings of Wild Cyclamen Species®

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Somatic embryos were produced using aseptic seedlings of wild *Cyclamen* species. The seeds of 18 wild *Cyclamen* species were cultured in the dark at 15 to 20°C until germination, and then maintained under a 16/8-light/dark photoperiod at 24°C. Modified Murashige and Skoog medium supplemented with 30 g · liter<sup>-1</sup> sucrose and 3.0 g · liter<sup>-1</sup> Gellan gum was used for culture of aseptic seedlings. The seeds of *C. balearicum*, *C. creticum*, *C. intaminatum*, and *C. repandum* did not germinate. Aseptic seedlings were obtained from 14 *Cyclamen* species: *C. africanum*, *C. cilicium*, *C. coum*, *C. cyprium*, *C. graecum*, *C. hederifolium* f. *album*, *C. libanoticum*, *C. mirabile*, *C. parviflorum*, *C. persicum*, *C. pseudibericum*, *C. purpurascens*, *C. rohlfsianum*, and *C. trochopteranthum*. Sectioned petioles and leaves from the seedlings were inoculated on two types of induction media. The induction was carried out in the dark at 24°C. Among the 14 species, only *C. creticum*, *C. libanoticum*, and *C. parviflorum* did not produce calli. The calli were subcultured and transferred to a somatic induction medium without plant growth regulators. Variations in the type of callus, the frequency of callus formation, and the potential for somatic embryogenesis were observed among the species. Somatic embryogenesis was achieved in *C. africanum*, *C. cilicium*, *C. persicum*, *C. rohlfsianum*, and *C. trochopteranthum* and shoot formation in *C. africanum* and *C. hederifolium* f. *album* for the first time in this experiment (Table 1).

Table 1. Results of culture in wild *Cyclamen* species.

Subgenus	<i>Cyclamen</i> species	2n	Aseptic seedlings	Callus formation	Somatic embryogenesis	Shoot formation
<i>Psilanthum</i>	<i>balearicum</i>	20	X	-	-	-
	<i>creticum</i>	20 or 22	X	-	-	-
	<i>repandum</i>	20	X	-	-	-
<i>Gyrophoebe</i>	<i>colum</i>	30	0	0	X	X
	<i>parviflorum</i>	30	0	X	-	-
	<i>trochopteranthum</i>	30	0	0	0	X
	<i>cilicium</i>	30	0	0	0	X
	<i>intaminatum</i>	30	X	-	-	-
	<i>mirabile</i>	30	0	0	X	X
	<i>cyprum</i>	30	0	X	-	-
	<i>libanoticum</i>	30	0	X	-	-
	<i>pseudibericum</i>	30	0	0	X	X
	<i>persicum</i>	48	0	0	0	X
<i>Cyclamen</i>	<i>africanum</i>	34 or 68	0	0	0	0
	<i>hederifolium</i> f. <i>album</i>	35 or 68	0	0	X	X
	<i>purpurascens</i>	34	0	0	X	X
	<i>graecum</i>	"84, 85-87"	0	0	X	X
	<i>rohlfianum</i>	96	0	0	0	X