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Somatic Embryogenesis of Zoysiagrass (*Zoysia matrella* L. Merr.) cv. Konhee From Immature Flowers and Stem Internodes

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Objectives

We have established the optimized conditions for the efficient regeneration of stem internodes and immature flowers of vegetatively propagated zoysiagrass cultivar Konhee.

Materials and Methods

1. Material

Plant –Zoysiagrass cultivar Konhee growing in the green house of Konkuk University.

2. Methods:

Stem internodes and immature flowers were surface-sterilized and cultured onto the callus induction medium containing 1-2 mg/l 2,4-Dicholorophenoxyacetic acid (2,4-D), 0.01-0.1 mg/l 6-benzylaminopurine (BAP), and 0.01 mg/l Abscisic acid (ABA). After embryogenic callus formation, they were transferred to regeneration medium with 1-2.5 mg/l BAP and 0.5 mg/l Naphthalene acetic acid (NAA).

Results and Discussion

Vegetatively propagated zoysiagrass cultivar Konhee was regenerated from stem internodes and immature flowers via somatic embryogenesis. Immature flowers formed embryogenic callus in MS media supplemented with 2 mg/l 2,4-2,4-D and 0.01 mg/l BAP. The embryogenic callus regenerated on the MS media supplemented with 2.5 mg/l BAP. The regenerated plants formed roots in 1/2MS media.

Stem internodes formed embryogenic callus on MS media containing 2 mg/l 2,4-D, 0.01 mg/l BAP and 0.01 mg/l ABA. Callus was separated from internodes and cultured into the suspension media with above hormone combination. Somatic embryo cluster (SEC) formed on the callus in the suspension media. The SEC was regenerated into shoots in the media containing 1 mg/l 6- BAP, 0.5 mg/l NAA and 0.2 mg/l Gibbrellic acid (GA_3). The shoots rooted on 1/2 MS media.

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