

## Effect of Basal Medium and Plant Growth Regulator on *in vitro* Plant Regeneration from Axillary Buds of Walnut New Cultivar “Sinlyeong”

Young Hee Kwon<sup>1\*</sup>, Joung Kwan Lee<sup>1</sup>, Hee Kyu Kim<sup>1</sup>, Kyung Ok Kim<sup>1</sup>,  
Jae Seong Park<sup>1</sup> and Yoon Sun Huh<sup>2</sup>

<sup>1</sup>Horticultural Research Division, Chungcheongbuk-do Agricultural Research and Extension Services

<sup>2</sup>Crops Research Division, Chungcheongbuk-do Agricultural Research and Extension Services

The walnut (*Juglans regia L.*), a member of the *Juglandaceae*, is native to the mountain ranges of central Asia. This species of walnut is valued commercially for its nuts and in some areas for its timber. The seeds of walnut are recalcitrant and it has strong integument dormancy and their germination is irregular, making its natural propagation difficult. Low percentage of seed germination and long propagation cycle are the main problems of propagation. This study was conducted medium composition on *in vitro* plantlet regeneration from axillary buds of walnut. It has proved to be the most generally applicable and reliable method of *in vitro* propagation. Micropropagation culture that axillary buds are excised aseptically enables faster multiplication of plants. The axillary buds of walnut new cultivar “Sinlyeong” were cultured on two basal media which contained the different plant growth regulators depending on the respective shooting and rooting stage. After 12 weeks, the shoot generation rate was 85.3%, the shoot number and its length were 1.9/explant and 2.7 cm in the most favorable medium composition. The percentage of rooting was 25.4%. From these results, it was found the optimum basal medium and plant growth regulator for *in vitro* plant regeneration from axillary buds of walnut new cultivar “Sinlyeong”. However, we have continued to search the other medium additives to enhance the rate of walnut root.

**Key words:** Walnut, Axillary culture, Basal medium, Plant growth regulator

\*(Corresponding author) E-mail: tomato94@korea.kr, Tel: +82-43-220-5652