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## Effect of diquat dibromide on occurrence of Green Stem Syndrome (GSS) in soybean

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This study investigated the effect of diquat dibromide, a crop desiccation agent, spraying on the senescence and abscission of soybean leaves. Green Stem Syndrome (GSS) is a phenomenon that delays the senescence of leaves and stems in soybean (Glycine max L.). Because of GSS, a problem often arises when we harvest soybean with a combine. It tangles like a gum and causes the machine overloading. GSS can be caused by genetic or environmental factors. These effects have a negative impact on the production of soybean pods. When the number of pods increases, occurrence of GSS increases. To reduce this phenomenon, diquat dibromide is commonly used in many countries including the United States. This agricultural desiccation was registered for rice, barley and potato in South Korea. Daewonkong, a late maturity soybean cultivar, was sown on June 20th in 2016, with inter row spacing of 70×40 cm. During R5 reproductive growth stage (beginning seed), 50% of the pods were eliminated to induce GSS in maturity. The treatment concentration was a half (5ℓ/ℓ), standard (10ℓ/ℓ) and double (20ℓ/ℓ) of diquat dibromide 10 days before harvest. The leaves discolored on the 3rd day after spraying and leaf abscission appeared on 5th day. After 10 days, the leaves were almost eliminated. Chemical residues in soybean seed were not detected in case of half and standard but were detected in double. The investigation concludes that diquat dibromide is effective and useful on the senescence and abscission of soybean leaves for mechanical harvest. Further studies on the spraying concentration are required.

### Biography

Jin Woo Bae has completed the Master's degree from Pusan National University. He is an active member of National Institute of Crop Science (NICS). Currently, he is working as a Researcher in Crop Production Technology Research Division of NICS and studying laborsaving cultivation of soybean and peanut. He joined the institute in 2012 and currently looking for his scientific career. He is interested in Ripening and Senescence Physiology. He is always eager to participate in national and international conferences and looking forward to meeting scientific personnel.

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