P31. 에세폰 처리에 따른 유색미의 안토시아닌 색소 함량변이

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Effect of Ethephon Treatments on the Anthocyanin Content of Pigmented Rice

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Objectives

The anthocyanin present in pigmented rice affect the nutritional, organoleptic, and commercial properties of this products. Because of the important influence of functional activity, anthocyanin content on black rice has been current topics. Thus we studied the effect of ethephon on anthocyanin, Cyanidin 3-glucoside and Peonidin 3-glucoside, accumulation in *Oryza sativa* L. cv. Heugjinjubyeo.

Materials and Methods

Plant materials : Heugjinjubyeo

Methods : The anthocyanin, C3G and P3G content in the grain sampled on Sep. 20 was evaluated by HPLC. Each samples were treated with ethephon which was applied at a rate of 0.06%, 0.12%, and 0.18% (v/v) in water with a manual sprayer on different days after heading.

Results

Ethephon stimulated anthocyanin accumulation in the pigmented rice grain. The level of anthocyanin accumulation was increased at a rate of 0.12 % ethephon and the highest at 0.18 %. Effect of ethephon on anthocyanin accumulation depended upon treatment time as well. Content of anthocyanin was extremely greater as it treated at 18 days after heading. Considering the correlation between the concentration of ethephon and treatment time, application of 0.18 % ethephon at 18 days after heading was the most efficient methods for increasing the anthocyanin content in Heugjinjubyeo.

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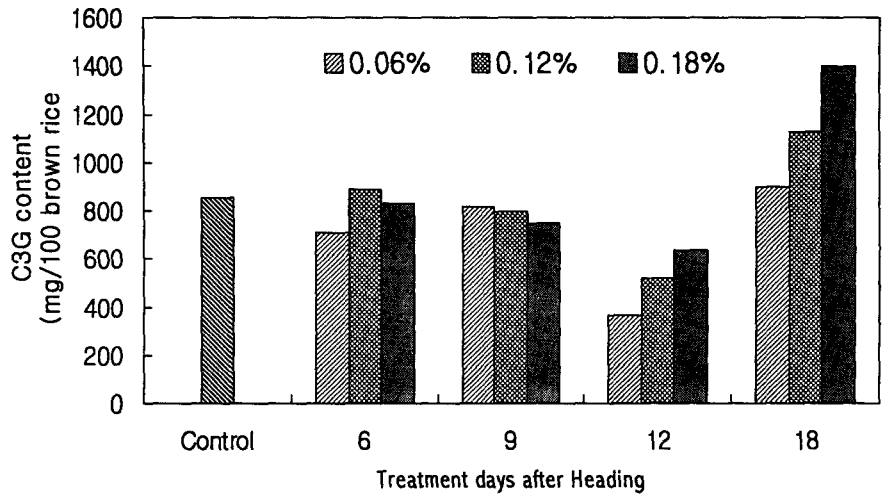

Figure 1. Cyanidin 3-glucoside content following treatment with ethephon concentrates and different spraying days after heading.

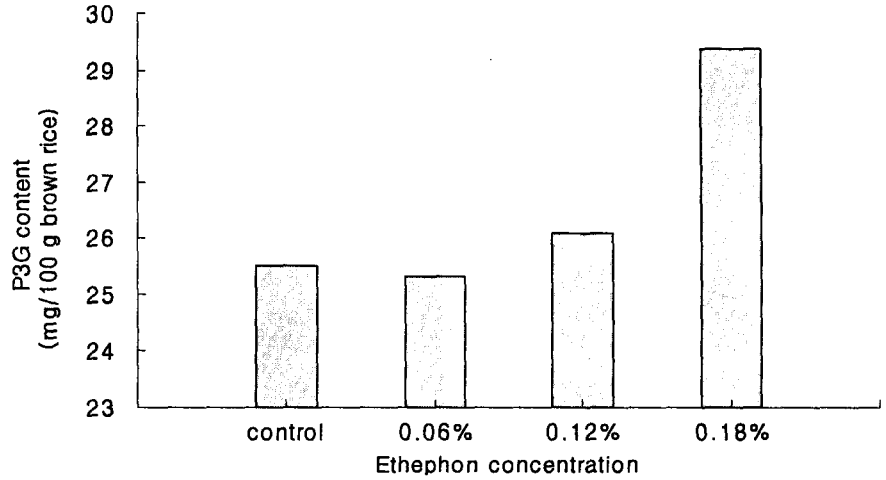

Figure 2. Peonidin 3-glucoside content according to different concentration of ethephon treatment on 18 days after heading in 1999.