

PC-07

## Comparision of Major Agricultural and Physicochemical Characteristics of Korean Aromatic Rice

Jun Hyeon Cho<sup>1\*</sup>, Ji Yoon Lee<sup>1</sup>, Woo Duck Seo<sup>1</sup>, Su Min Jo<sup>1</sup>, Young Ho Kwon<sup>1</sup>, So Myeong Lee<sup>1</sup>, Ju Won Kang<sup>1</sup>, Tae Heon Kim<sup>1</sup>, Sais Beul Lee<sup>1</sup>, Jong Hee Lee<sup>1</sup>, Dong Soo Park<sup>1</sup>, You Chun Song<sup>1</sup>, Jong Min Ko<sup>1</sup>

<sup>1</sup>NICS(National Institute of Crop Science), RDA, 20<sup>th</sup> Jeompiljaero, Milyang, 50424, Korea

### [Introduction]

The aromatic rices are diversely demanded based on the regional characteristics such as the shape of rice grains and amylose content as well as the scent characteristics according to the *basmati* and *jasmine*.

The purpose of this study is to provide more information for farmers and consumers by classifying fragrance components along with major agricultural and physicochemical characteristics of flavored resources.

### [Materials and Methods]

#### Plant materials

Including 16 varieties of Korean aromatic rice such as Aranghyangchal, a total of 18 varieties including typical *basmati* and *jasmine* lines were used.

#### Variety characteristics

- 1) Physicochemical Properties: Amylose and protein content, alkali digestion value and gelatinization properties were studied.
- 2) Brown rice characteristics: Pigment and grain shape(length, width and L/w ratio) of brown rice were analyzed.

#### Aroma classification

- 1) DNA analysis: *BADH2* gene marker related to flavor components was tested.
- 2) Sensory test (for foreigners): classification of fragrance series through the cooking characteristics of brown rice and white rice were tried.

### [Results and Discussion]

Beside the *basmati* family Bukkyeong2012-2 had a high amylose content of 26.1%, most of variety showed a narrow range of amylose content as 16.6 ~ 18.8% except for glutinous rices such as Aranghyangchal. The protein and alkali digestion value were 5.9 ~ 8.9% and 4 ~ 6, respectively. Eight cultivars (50%) of korean aromatic rice were classified as black rice containing anthocyanin as a functional components. The grain shape of domestic varieties was classified into short-type or semi-long grain type as L/w ratio of 1.7 ~ 2.4. In the *BADH2* marker test, seven varieties (43.7%) showed the same polymorphism as those of the *basmati* and *jasmine* families. In addition, review of fragrance characteristics according to *basmati* and *jasmine* by the sensory test will be discussed later.

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\*Corresponding author: Tel. +82-55-350-1169, E-mail. hy4779@korea.kr