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Agricultural Characteristics of an Early-maturing, Multiple Resistant and High Quality Rice variety Cheolweon109

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[Abstract]

The outbreaks of blast, bacterial blight and viral diseases have been increasing in early maturing rice cultivating areas in the central northern regions, recently. As the occurrence of sudden insects pests and disasters increases due to global climate warming, it is urgent to develop a variety of disaster-tolerant, high-quality varieties in response. This study was carried out to elucidate the characteristics of early-maturing, high-quality and multiple disease resistant rice variety, Cheolweon109 that was adapted to cultivation in the mid-mountainous regions of the central northern regions. Cheolweon109 was derived from a cross between Suweon546, medium maturing variety, and Sangju44 which is early maturing and resistant to blast, bacterial blight and rice stripe virus. The heading date of Cheolweon109 was July 30, 3 days later than Odae. The culm length of Cheolweon109 was 79 cm, which was about 5 cm taller than Odae, and the ripening ratio was 85.1%, which was 10% higher than that of Odae. This variety had 5.54 MT/ha of milled rice productivity, which was 99% of the Odae. Although Cheolweon109 was tall, it was strong against lodging. It was strong against bacterial blight (K1, K2, K3 race), rice stripe virus, and the pre-harvest sprouting which rate was 2.4%. The appearance of the grains of rice was clean, the glossiness was 70.6, and the head rice ratio was 95.3% high. Because Cheolweon109 had superior disease resistance, disaster resistance, and high quality than Odae, it was expected that can be used to expand the diversity of early maturing and high-quality rice varieties in central northern regions.

[Acknowledgement]

Supported by a project grant from “Cooperative Research Program for Agriculture Science & Technology Development [Project title, Development of early maturing high-quality rice varieties to adaptability in north central region with spp(Stakeholder Participatory Program). Project No. PJ0131507]” Rural Development Administration, Republic of Korea.

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