Entry No. 8RGS-0015

Category	: 8th Rice Genetics Symposium
Select Theme	: Genetic improvement
Endorsement email	:
Keyword 1	: Genotype x Environment Interactions
Keyword 2	: Biofortification
Keyword 3	: Breeding Strategy
Title of Entry	: Effect of Season and Elevation on Zn Content in Rice Grains
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Zn defficiency caused significant loss to human kind. The prevalence of Zn defficiency is around 30% in the world as well as in Indonesia. It cause significant loss to human kind such decrease of productivity, reduce life quality, less body immune system, etc. Stunting is one of the impact of Zn defficeincy which become special of United Nation. Stunting occured spreadly accross Indonesia. Providing of rice variety having high Zn content in the grains would hopefully overcome Zn defficiency in Indonesia. IRRI and Harvest Plus Project support Zn rice breeding in Indonesia resulting early to advanced generation mateerials and some of them are prior to be released as new varieties. The varieties are dedicated to be planted across Indonesia along the year, so that getiing information of Zn content over seasons and elevations would figure out the impact of the variety in the targeted areas. This research aims to study the effect of season and elevation to Zn content of rice grains in multi location testing materials. The experiment was conducted during DS 2016 and WS 2016/2017 in Sukamandi while in Kuningan Ten lines along with two check varieties were used in this experiment. it was conducted during DS 2017 and WS 2017/2018. Randomized complete block designed with three replication was conducted in each trials. The results showed that season and genotypes affecting Zn content, while location was not. There was interaction among genotype, season, and elevetion. Average of Zn content during wet season was higher (30.53 ppm) than dry season (26.53 ppm). Average of Zn content in low elevation (Sukamandi, 15 m asl) was 28.18 ppm, while in medium elevation (Kuningan, 800 m asl) was 28.89 ppm. All the tested lines had significantly higher Zn content compared to the check, Ciherang (25.06 ppm). Thi three highest Zn content lines are IR 97477-115-1-CRB-0-SKI-1-SKI-0-2 (32.37 ppm), B13884-MR-29-1-1 (31.59 ppm), and IR 97477-115-1-CRB-0-SK3-1-SKI-0-2 (30.69 ppm). The first line had never to have Zn content lower than 30 ppm in all the trials (around 6 ppm over the check). It indicated that the lines are prospective for overcoming Zn defficiency in Indonesia.

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