



RESEARCH PAPER

Performance of rice varieties, irrigation methods and foliar spray on growth attributes of aerobic rice

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Abstract : A field investigation was carried out at east farm of Pandit Jawaharlal Nehru College of Agriculture and Research Institute, Karaikal during winter (*Navarai*), 2017. Two rice varieties viz., V_1 - ADT 46 and V_2 - KMP 175 were evaluated under two irrigation methods viz., I_1 - Surface irrigation as flooding and I_2 - Drip irrigation at 1.2 CP Each with six foliar spray treatments on 55 and 75 DAS viz., F_1 - Water spray, F_2 - Silica @ 500 ppm, F_3 - KCl @ 10000 ppm, F_4 - Boric acid @ 0.4 ppm, F_5 - Triacntanol @ 2 ppm, F_6 - Brassinosteroids @ 1 ppm along with F_0 - control. The aerobic rice experiment was laid in Split split plot design. Surface irrigation as flooding (I_1) and the variety KMP 175 (V_2) have proved superior by registering taller plants when compared to their respective other treatments. However, the number of tillers produced per hill and LAI of the variety ADT 46 were significantly higher when compared to KMP 175 and surface irrigation again had favoured significantly higher number of tillers and LAI. At the same time, the response of ADT 46 in producing higher number of tillers and LAI was significantly higher under surface irrigation method while the response of the variety KMP 175 under both the irrigation methods was similar. Averaged across irrigation methods and foliar treatments, the variety KMP 175 had significantly and consistently registered higher DMP. Similarly, averaged across varieties and irrigation methods, application of brassinosteroids had consistently registered significantly higher DMP at all the growth stages of rice. Among the two varieties tested, KMP 175 had significantly registered lengthier roots than ADT 46. On the other hand, the root volume and root DMP of the variety ADT 46 was significantly higher than the variety KMP 175. Similarly, foliar spraying of KCl, water spray and Brassinosteroids had significantly registered statistically at par and higher root volume than the other foliar treatments. Therefore, it could be concluded from the experiment that surface irrigation had favoured most of the growth parameters of aerobic rice. The growth performance of the variety KMP 175 under aerobic soil was significantly higher in terms of plant height, DMP and root length whereas ADT 46 had produced more number of tillers, LAI and root volume. Among the foliar treatments, brassinosteroids had registered higher DMP and root volume.

Key Words : Aerobic rice, Irrigation methods, Foliar spray, Varieties, Growth attributes

View Point Article : Kiranmai, N.A., Mohan, R., Poonguzhalan, R. and Nadaradjan, S. (2020). Performance of rice varieties, irrigation methods and foliar spray on growth attributes of aerobic rice. *Internat. J. agric. Sci.*, **16** (2) : 131-137, DOI:10.15740/HAS/IJAS/16.2/131-137. Copyright@2020: Hind Agri-Horticultural Society.

Article History : Received : 13.02.2020; Revised : 22.04.2020; Accepted : 28.04.2020

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