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Title of Entry	: Growth, yield and anthocyanin content in black rice (Oryza sativa L ‘Cempo Ireng’) treated with paclobutrazol and methyl jasmonate
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: ABSTRACT Black rice (Oryza sativa L.'Cempo Ireng') is getting popular because of low glychemic index and anthocyanin content that can functions as an antioxidant. Paclobutrazol is a growth retardant that reduce the plant height but increased assimilate allocation to the sink, whereas methyl jasmonate is a hormone that may regulate the biosynthesis of secondary metabolites in plants. This research was aimed to evaluate the effect pf paclobutrazol and methyl jasmonate on growth, yield and anthocyanin content in black rice. Black rice seeds were obtained from local farmer in Bantul, Yogyakarta. Seeds were selected and placed in a plastic tray containing a growth medium then wetted with water (control) or paclobutrazol of 12.5 ppm, 25 ppm or 50 ppm. Seedlings of 2 weeks old were transplanted in a plastic bucket containing a growth medium; two seedlings were planted in each bucket. Seedlings were watered regularly and methyl jasmonate was sprayed to the plants at 4 and 8 weeks following transplantation. The concentration of methyl jasmonate applied were 0 mM (control), 2.5 mM, 5 mM or 7.5 mM. Eight replicates were made for each treatment combination. Parameters observed were plant height, tiller number, percentage of full grain, chlorophyll, oxalic acid content in leaves, and anthocyanin content in black rice caryopsis. The results showed that paclobutrazol reduced plant height, but when combined with methyl jasmonate tiller number and chlorophyll content were increased. Percentage of full caryopsis increased by application of paclobutrazol 12.5ppm or 25 ppm combined with methyl jasmonate of 2.5 mM or 5 mM. The oxalic acid content increased in plants treated with 5 mM methyl jasmonate whereas seven type of anthocyanins were determined in black rice and three of them were dominant, namely cyanidine 3-O-β-D glucoside cyanidin 3 O-β-D galactoside and delphinidin 3 O-β-D galactoside. Those anthocyanins were increased significantly in plants treated with paclobutrazol of 25 ppm combined with methyl jasmonate of 7.5 mM. In conclusion the growth, yield and anthocyanin content of black rice can be increased by an appropriate combination of paclobutrazol and methyl jasmonate. Key words : black rice, yield, anthocyanin content

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