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Expressed Agronomic Characteristics of OsMADS1 gene Transformants in barley(*Hordeun vulgare*)

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Objectives

To evaluate the agronomic characteristics about *OsMADS1* gene expression of inserted transformants derived from malting barley (*H. vulgare*)

Materials and Method

- OsMADS1 gene (*Oryza sativar* MCM1, AGAMOUS, DEFICIENS and SRF(serum response factor)) transformants(T_1) 34 line (Danweonbori 17, Jinyangbori 17)
- Seedling Date : January 9 ~ 27 2003
- Cultivation : Non adding temperature green house after germinating in the 25°C incubator, Transplanting in the ¢ 20cm pot, Fertilization : N-P_2O_5-K_2O = 12-8-7kg/10a
- Agronomic Traits investigated : Number of leaves emergence, Number of days by fist heading time, Number of days by heading time, Culm length, Panicle length, Awn length, Number of spikelets per panicle, Number of panicle per hill, 1000 grains weight (g)

Results and Discussion

1000 grains weight was inclination that decrease from 46.6g to T_1 line 44.1g in occasion of Danweonbori compare trait of pheynotype but Jinyangbori was increased greatly from donor species 31.0g to 50.5g. Change of branches and flag leaves emergence of T_1 line in Jinyangbori was earlier on 70 days after seeding, also number of leaves during growing period, donor species' ones was added about two leaves. Danweonbori origin *OsMADS1* gene transformants was recognized significantly in number of leaves emergence, number of days by first heading time, number of days by heading time, culm length, panicle length, number of panicle per hill, 1000 grain weight except awn length and number of spikelets per panicle, and Jinyangbori also was same except number of spikelets per panicle. Culm lengths and first heading time of Danweonbori *OsMADS1* transformants, culm lengths and heading date were negative correlation, heading date and first heading time, number of spikelets per panicle and culm lengths, number of spikelets per panicle and panicle length were positive correlation, in the Jinyangbori, number of leaves emergence and awn lengths, heading date and culm lengths, first heading time and culm lengths showed negative correlation, and first heading time and heading date showed highly positive correlation. Path coefficient by characteristic affected first heading time of *OsMADS1* transformants of Jinyangbori was ordred number of heading date, culm lengths, awn lengths, 1000 grain weight, number of panicle, number of spikelets per panicle and number of leaves emergence, and when Danweonbori was compared with donor species in order of culm lengths, 1000 grain weight and panicle lengths, transformants of Jinyangbori showed highly to gene expression.

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