SHORT COMMUNICATION

Flowering Behaviour of Wild Species of *Oryza*

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The plant breeders have, historically, utilized the variability in land races for selection and improvement of crop plants. The variability and germplasm resources available for many cultivated species are becoming extremely limited. Enrichment of genetic resources is therefore extremely important. Utilization of wild species is one of the technique to broaden the available germplasm (Stalker, 1980; Sahu *et al.*, 1994; Bose, 2005; Sen *et al.*, 2005). Broadening of gene pool of rice through utilization of wild species of rice for enriching the useful traits in the improved background is to be tapped more and more as the wild species are the reservoir of resistance source for many diseases and insect pests. However, it is observed that there is a wide variation in the flowering time and anthesis of wild species of *Oryza*. For successful hybridization programme; we need to know the exact floweing and anthesis time of the wild species our climatic conditions.

Nineteen wild species of Oryza were used as experimental materials and planted during wet season, 2004 at Central Rice Research Institute, Cuttack. First, the seeds of wild species were kept in oven at 50^0C for seven days to break the seed dormancy. Then seeds were exposed to room temperature for 24 hours after which seeds were dehusked and placed in petri plates containing moist filter paper for germination. After a weak, germinated seeds were transferred to earthen pots. After 25 days, seedlings were transferred to field. One row per species containing twenty plants were transplanted at 20cm plant-to-plant and 20cm row-to-row with two replications per entry. Observations on anthesis time and period of spikelet opening were recorded.

Anthesis time and period of spikelet opening are presented in Table 1. It is observed that the time of spikelet opening differed widely among the various *Oryza* species. *In Oryza latifolia, O. Alta* and *O. minuta* flowering started as early as 5.00 AM and continued upto 7.30 AM but in case of *O. australiensis* it was from 2.00 PM to 5.00 PM. The similar trend was observed for spikelet opening also. Normally, the period of opening ranged between 1.00 to 1.30 hours in majority of the species except *O. austriliensis* and *O. brachyantha* where it ranged from 2.00 to 2.30 hours. Wide variation was also observed in spikelet opening of *O. ridley* which ranged from 0.30 to 3.00 hours. Variation in anthesis time of *O. malampuzhaensis, O. grandiglumis, O. schwenifurthina, O. granulata, O. longiglumis* and *O. latifolia* was half an hour to as high as five hours in *Porteresia coarctata*. The flowering time of all the studied species of *Oryza* spreaded from 5.00 AM to 5.00 PM.

In *O. officinalis, O. Alta, O. minuta* and *O. granulata*, the flowering time of spikelet opening was between 5.00 AM to 5.30 AM while in O. australiensis it was between 2.00 PM to 4.30 PM and in others it was between these two extremes. The flowering behaviour and time of anthesis in some wild species of *Oryza* have been earlier reported by Butany and Gangadharan

Table 1. Anthesis time and period of spikelet opening in *Oryza* species

Oryza species	No. of collections Studied	Time of anthesis	Period of spikelet opening (hours)
Oryza nivara	3	9.00-10.00	1.0-1.5
O. rufipogon	6	9.30-12.00	1.0-1.5
O. longistaminata	5	11.00-14.30	1.0-2.0
O. meridionalis	2	9.30-10.00	1.0-1.5
O. officinalis	8	5.00-6.00	1.0-1.5
O. eichingeri	3	7.30-11.00	1.0-1.5
O. puncata	3	10.00-12.00	1.0-2.5
O. rhizomatis	3	5.00-6.00	1.0-1.5
O. latifolia	10	5.00-6.30	1.0-2.5
O. grandiglumis	3	7.00-7.30	1.0-1.5
O. minuta	2	5.30-7.30	1.0-2.0
O. malampuzhaensis	2	7.30-8.00	1.0-1.5
O. sweinfurt hiana	2	9.00-9.30	1.0-1.5
O. australiensis	3	14.00-17.00	2.0-2.5
O. brachyantha	2	9.30-10.30	2.0-2.5
O. ridleyi	2	7.30-9.30	2.0-3.0
O. longiglumis	2	6.30-7.00	0.5-1.0
O. granulata	3	6.00-6.30	1.5-2.0
Porteresia coarctata	2	12.00-15.30	1.0-1.5

(1960) and Harlan (1976). The knowledge of flowering behaviour and anthesis time in wild species of *Oryza* would help in hybridization programme for successful alien gene introgression into improved varieties lacking the desirable gene(s).

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