

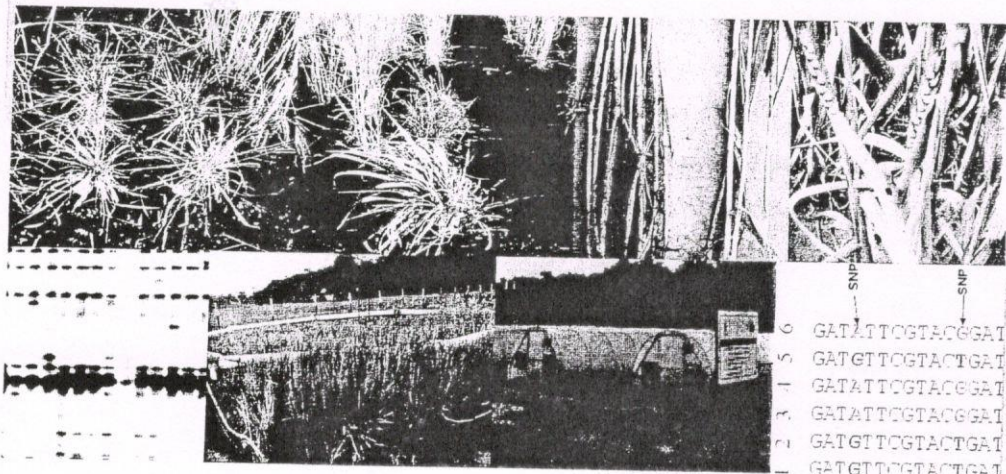


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# Book of Abstracts

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**Genetic variability of marvel grass (*Dichanthium annulatum*) germplasm with higher forage yield for sustaining arid range lands**

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Marvel grass (*Dichanthium annulatum* (Forssk.) Stapf) is a highly preferred forage grass in India. Being indigenous to the Indian and African gene centre, it shows maximum genetic diversity in India and South Africa. It forms the dominant species of *Dichanthium-Cenchrus-Lasiurus* grass cover and is known for its drought resistance. Six germplasm of marvel grass were collected from different habitats of Gujarat desert. The experiments were carried out at the research farm of CAZRI, Regional Research Station, Kukma, Bhuj (at 22° 41' 11" to 24° 41' 47" North latitude and 68° 9' 46" to 71° 54' 47" East longitude) during *kharif* season of 2004 and 2005. Seven germplasm lines (including one check) were grown in randomized block design in three replications. The annual rainfall during season of 2004, 2005 was 239.9mm and 238.2mm, respectively. Observations were recorded on morphological characters, namely, plant height (cm), number of tillers per plant, green fodder yield (kg/ha), dry fodder yield (kg/ha) and seed yield (kg/ha). Germplasm differed significantly for all the characters during both the years. The heritability (broad sense) estimates were high (> 0.8) for plant height ( $E_1$ ), number of tillers per plant ( $E_2 E_1$ ), green fodder yield ( $E_1 E_2$ ) and dry fodder yield ( $E_2$ ), whereas moderate estimates (> 0.6) were obtained for plant height ( $E_2$ ), dry fodder yield ( $E_2$ ) and green fodder yield ( $E_2$ ). The genetic advance expressed in per cent of mean was recorded high for green fodder yield 420.21 ( $E_1$ ) and 413.87 ( $E_2$ ) followed by dry fodder yield 199.02 ( $E_1$ ) and 175.86 ( $E_2$ ). Green fodder yield and dry fodder yield had high heritability estimates coupled with high genetic advance suggesting these characters were under control of additive gene action and potential possibilities exist for the improvement of these characters through simple selection.