Prafulla Gawande et al., Agrotechnol 2015, 4:2
http://dx.doi.org/10.4172/2168-9881.S1.016

OMICS International
conferenceseries.com

4th International Conference on
Agriculture & Horticulture
July 13-15, 2015 Beijing, China

Heterosis and combining ability studies for yield and yield contributing traits in chilli (*Capsicum annuum* L.)

Prafulla Gawande, S M Pathare, S S Nichal, S M Ghawade and **M J Patil**
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, India

Ten parents and their twenty one hybrids from a line x Tester design were evaluated for fruit yield and its component characters. The variance due to line x tester was highly significant for almost all the traits except days to first harvest and 1000 seed weight indicating the presence of significant differences between lines and testers, whereas variance due to lines was non significant for all the characters under study except average fruit weight and 1000 seed weight. While variance due to testers was non significant for all the traits. On the basis of GCA effects the testers N-51 and N-57 were identified as most promising parents for involving in breeding programme aimed in improving number of fruits per plant, while the line AKC-435 showed significant GCA effects for average fruit weight and could be used as donor parent for improving average fruit weight in chilli as well as other important yield contributing characters. The cross combinations AKC-438 x GP-03-2, AKC-435 x N-72-2, AKC-435 x N-57, AKC-435 x GP- 235, AKC- 436 x N- 44-2 and AKC- 438 x N-51 were recorded as specific combiners for wet red chilli yield per plant due to positive significant SCA effects. The magnitude of heterobeltiosis ranged from -26.88 to 102.35 per cent for the character fruit yield (Q/ ha). The most promising crosses with significant positive heterobeltiosis for wet red chilli yield per plant were AKC- 435 x N-57 (102.33%), AKC-435 x N-72-2 (83.02%), AKC- 438 x N-57 (51.27%) and AKC-436 x N-57 (50.16%).

Biography

Prafulla Gawande has completed his PhD in the field of Genetics and Plant Breeding at the age of 27 years from Dr. Balasaheb Sawant Kokan Krishi Vidyapeeth, Dapoli, Maharashtra State, India. He is working as Assistant Vegetable Breeder at Chilli and Vegetable Research Unit, Dr. PDKV, Akola, Maharashtra State, India. He has published over 17 research papers in the journal of repute and is working on vegetable crop improvement.

ppgawande78@gmail.com

Notes: