

Aegilops ovata Syn. Aegilops geniculata: Cytogenetics of Hybrids with Wheat, its Complete and Partial Amphiploids. (C01-mujeebkazi121954-Poster)

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Abstract:

Aegilops ovata ($2n=4x=28$, MMUU) represents a valuable source for diversity to several biotic/abiotic stresses. Our primary focus has been to develop its addition lines and to transfer its Karnal bunt resistance to a leading Pakistani bread wheat cultivar Sarsabz. Over this study, we have also hybridized other *Ae. ovata* accessions with elite spring bread and durum wheat cultivars and developed amphiploid stocks for future utilization for traits like salinity, leaf rust, BYDV and cereal cyst nematode. F1 hybrids were readily produced but in low frequency, possessed $2n=4x=28$, or $2n=5x=35$ chromosomes with univalent F1 meiotic characteristics and a co-dominant phenotype. Stable amphiploids were produced from all combinations ($2n=8x=56$ or $2n=10x=70$) with good fertility giving normal C-1 progeny upon selfing of C-0 seed, except for the Sarsabz combination described in detail here. With Sarsabz C-0 meiosis was $4.6I+29.5II+1.4III+0.2IV$ and yielded aneuploid C-1 progeny from which no normal 70 chromosome plants were recovered. Its spontaneous 56 chromosome partial amphiploid was stable with 28II but possessed only 30 chromosomes of wheat (missing 3A, 4A, 1B, 2D, 5D, 7D), and 13 *Ae. ovata* chromosome pairs from which so far 11 disomic addition lines have been extracted

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