

## **Comparative cytogenetic analysis of *Avena macrostachya* and diploid C-genome *Avena* species**

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The chromosome set of *Avena macrostachya* Balansa ex Coss. et Durieu was analyzed using C-banding and fluorescence in situ hybridization with 5S and 18S-5.8S-26S rRNA gene probes, and the results were compared with the C-genome diploid *Avena* L. species. The location of major nucleolar organizer regions and 5S rDNA sites on different chromosomes confirmed the affiliation of *A. macrostachya* with the C-genome group. However, the symmetric karyotype, the absence of “diffuse heterochromatin”, and the location of large C-band complexes in proximal chromosome regions pointed to an isolated position of *A. macrostachya* from other *Avena* species. Based on the distribution of rDNA loci on the C-genome chromosomes of diploid and polyploid *Avena* species, we propose a model of the chromosome alterations that occurred during the evolution of oat species.

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