



Research Note

***ms17*: a meiotic mutation causing partial male sterility in a corn silage hybrid**

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ABSTRACT. Cytological analysis under light microscopy of the single hybrid P30R50 of silage corn revealed an abnormal pattern of microsporogenesis that affected the meiotic products. Meiosis progressed normally until diakinesis, but before migration to the metaphase plate, bivalents underwent total desynapsis and 20 univalent chromosomes were scattered in the cytoplasm. At this stage, meiocytes also exhibited a number of chromatin-like fragments scattered throughout the cell. Metaphase I was completely abnormal in the affected cells, and univalent chromosomes and fragments were distributed among several curved spindles. Anaphase I did not occur, and each chromosome or group of chromosomes originated a micronucleus. After this phase, an irregular cytokinesis occurred, and secondary meiocytes with several micronuclei were observed. Metaphase II and anaphase II also did not occur, and after the second cytokinesis, the genomes were fractionated into polyads, generating several unbalanced microspores, with various-sized nuclei. About 35% of the tetrads were abnormal in the hybrid.

This spontaneous mutation had been previously reported in a USA maize line called *ms17* and was found to cause male sterility.

Key words: *ms17*; Corn silage; Meiotic mutation; Breeding; Male sterility