



ORIGINAL ARTICLE

STUDY OF THE GENETIC BEHAVIOR OF CROSS-HYBRIDS OF THE ALFALFA (*MEDICAGO SATIVA* L.)

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Abstract: A field experiment was carried out in the fields of the Department of Field Crops, College of Agricultural Engineering Sciences, University of Baghdad, Al-Jadriya in two seasons in the year 2021-2020. Half cross-hybridization was carried out between four cultivars of jet, Purity Storm and Durat, and the results showed significant differences between the genotypes of all studied traits. Father Purity Storm outperformed in the trait of number of leaves, as it gave the number of leaves amounted to 312.67 leaves of plant⁻¹. Whereas Father Eureka outperformed in the trait of number of stems per plant and wet weight, as it gave results of 23.33 stems of plant⁻¹ and 1022.67 g of plant⁻¹. As for the hybrids (in terms of number of leaves and wet weight, we note the superiority of the hybrid Tronto × Purity Storm, as it gave results of 51.4- leaf¹ and 935.33 g plant⁻¹, and the hybrid Eureka outperformed in the trait of the number of stems per plant at a rate of 29.4 - plant stem). As for the genetic traits the local father distinguished in the inheritance of the number of leaves and the number of stems gave results of 8.67 leaf¹ and 29.78 stem⁻¹ on the sequence and the superiority of the father Eureka in the wet weight trait with a value of 224.08 g plant⁻¹.

Keywords: Genetic behavior, Cross-hybrids, Alfalfa, *Medicago Sativa* L.

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