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EMBRAPA-UEPAE DE SO CARLOS

13560, SO CARLOS, SP, BRAZIL

UEPAE / SÃO CARLOS
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SEPARATAS

The chromosomal studies on domestic animals were initiated at the end of the last century; up to the decade of 1940 several experiments were carried out with the objective of establishing the chromosome number of various species. However, such studies were done on bone marrow, through a direct method without hypotonization, difficulting both the counting and morphological analysis of chromosomes.

The pre-treatment of cultivated cells with colchicine and hypotonic solution, carried out by Tjio and Levan (1956), initiated a new phase in cytogenetics, opening up new perspectives to the study of chromosomes, since it allowed their dispersion through the cells with the apparent maintenance of shape and size. This phase culminated with the paper of Lejeune (1959) who, for the first time, related the karyotype with the phenotype by showing that, in man, the chromosomal abnormality known as trisomy 21 was related to the Down's Syndrome. At the same time, Jacobs and Strong (1957) showed that in the Klinefelter's Syndrome the carriers had three sex chromosomes and Ford et al. (1959) described the absence of one sex chromosome in individuals with the Turner's Syndrome.

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