VARIABILITY OF MITOCHONDRIAL GENES COX I, COX II AND COB, IN RELATION TO CYTOPLASMIC MALE STERILITY (CMS) IN SUNFLOWER (H.ANNUUS)

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Some cytoplamic male sterilites (CMS) are obtained in sunflower from interspecific and interspecific crosses between wild species of Helianthus genus and H. annuus (Leclercq, 1969; Anashchenko, 1974; Whelan, 1980; Heiser, 1982; Serieys, 1984, 1987).

These CMS are genetically defined. Each of them possess specific keeping sterility lines and restorer fertility lines.

By analysis of restriction endonuclease digestion patterns of mitochondrial DNA we are able to differentiate between these CMS and with regard to fertile plant (Crouzillat, 1987).

A micro-essay of total DNA extraction from 500 mg of leaf is employed and used to study three mitochondrial genes: cytochrome oxidase I (COX I), cytochrome oxidase II (COX II) and apocytochrome B (COB). Molecular hybridizations of these probes allow us to characterize sunflower CMS and to establish some parental groups.