

LOCALIZATION OF A PLASMID-LIKE ELEMENT IN THE DIFFERENT GENOMIC COMPARTMENTS OF AN ISOGENIC COUPLE (HA 89) OF SUNFLOWER (H. ANNUUS)

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A plasmid-like element of mitochondrial origin P₁ (1,45 kb) (Leroy, 1985) has been cloned from mitochondrial genome of cytoplasmic male sterile line CY of sunflower, and was sequenced.

Native mitochondrial DNA of the isogenic couple HA 89 was hybridized with this plasmid as a probe (Crouzillat, 1987). P₁ is detected under supercoiled form in the mitochondria of the male fertile line, and is not present in the mitochondria of the male sterile line.

No sequence homology is shown master mitochondrial chromosome of either the two lines.

Furthermore, no sequence homology is detected with chloroplastic DNA of the isogenic couple, by hybridization analysis with this probe.

We are able to detect sequence homology with P₁ plasmide in the nuclear genomes of the two lines. The identity of hybridization signals in either the two nuclear genomes allow us to corroborate, on a molecular level, the isogenic status of the HA 89 couple.

This probe can discriminate between the mitochondrial genomes of the isogenic couple, but is not reliable to the Francaise cytoplasmic male sterility (Leclercq, 1969) of Sunflower (Crouzillat, 1987).