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Generation of a T-DNA Mutagenized Camelina Population

A mutagenized *Camelina sativa* population is being generated with the insertion of T-DNA, which creates random mutations in Camelina plants. Random mutations in Camelina can be detected with a selection marker. Transformation is feasible in Camelina plants due to the infiltration method which easily allows the insertion of T-DNA. The vector used for this experiment has two main advantages: its presence of fluorescent protein marker and it has a plasmid backbone which will be used for plasmid rescuing. Transgenic seeds are obtained with a DsRed fluorescent protein selection marker which makes the Camelina seeds glow red under green light when view through a red filter. Genetic transformation events will be studied by further growth of transgenic seeds. DNA will be extracted and digested from younger leaves and after the DNA extraction, plasmid rescue will be performed for DNA sequencing. Gas chromatography will be used to detect the fatty acid composition of the oil from transgenic seeds. The goal of this project is to identify genes that affect oil quality in camelina seeds.