Discerning the Relationship Between Copy Number and DsRed Fluorescence Marker

Wang, Salina (School: Manhattan High School)
Zhao, Mian (School: Manhattan High School)

Camelina sativa is an oilseed crop for biofuel production. Genetic modifications have improved traits like oil content and stress resistance, with the DsRed fluorescence marker used to identify transgenic seeds. However, the relationship between DsRed fluorescence intensity and gene copy number is unclear, potentially introducing bias in seed selection. This study explores the correlation between fluorescence intensity and transgene copy number in modified Camelina sativa. T0 plants expressing EfDAcT protein and DsRed marker will generate T1, T2, and T3 generations for analysis using quantitative PCR (qPCR). Findings suggest that higher fluorescence intensity correlates with larger transgene quantities.

Awards Won: