

## Mystery source of orange GMO petunias identified

A recall campaign for commercial, orange flowering petunia varieties in spring 2017 caused economic losses worldwide. The orange varieties were identified as undeclared genetically engineered (GE)-plants, harboring a maize dihydroflavonol 4-reductase (DFR, A1), which was used in former scientific transgenic breeding attempts to enable formation of orange pelargonidin derivatives from the precursor dihydrokaempferol (DHK) in petunia.

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[Our results] unequivocally [point to] the first scientific GE-petunia from the 1980s as the A1 source....

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American and European authorities unambiguously stated that the GE-petunia is not harmful to consumers and environment. It is still unknown, how plants harboring the A1 construct of [Meyer et al. \(1986\)](#) entered classical breeding programmes.

Nefarious use of GE-plants is unlikely, due to foreseeable troubles when plants inevitably attract attention. There are, however, several scenarios how the GE-petunia could have escaped. After its creation at the Max Planck Institute for Plant Breeding Research in Cologne, and the contentious field trial in Germany in 1990, the plants were kept in several institutions, and were also used for breeding purposes, followed by field trials in the US. Currently, the most favored explanation seems to be that during a chain of company fusions the GE-background of orange petunias was forgotten, and the lines could therefore enter new breeding programmes.

**Read full, original post:** [Great Cause—Small Effect: Undeclared Genetically Engineered Orange Petunias Harbor an Inefficient Dihydroflavonol 4-Reductase](#)