

Plant Scent Enhancement (Yissum)

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Genetic modification leading to increased day/nighttime scent production 10-fold

Category	Agriculture, Transgenic Plants, Flowers/Ornamental Plants, Fragrance
Development Stage	Controlled modification demonstrated in commercial crop
Patent Status	U.S patent application filed
Market Size	The global cut flower business is growing by 20 per cent a year.

Highlights

- Breeding for other qualities has resulted in the loss of scent in many flowers and plants.
- Genetically enhancing production of scent compounds and changing the plant's rhythm of volatile scent compound production to a continuous steady state so that daytime scent production is essentially at the same level as nighttime production.

Our Innovation

Genetic modification leading to an up to tenfold increase in the production of volatile phenylpropanoid compounds, irrespective of the plant's endogenous rhythm of scent production.

Key Features

- Increases level of plant-pollinator interactions
- Enables the creation of novel genetic varieties for breeding purposes
- Increases plant/flower's commercial appeal


Development Milestones

- To identify target commercial varieties and to generate plants with the desired traits

The Opportunity

- Over a third of participants in Flowers and Plants Association surveys stated that scent influenced their choice of flower purchase.
- Floral scents are one of the most popular smells and the perfume industry expends a great deal of effort trying to reproduce the authentic fragrance of fresh flowers.
- Israel is the Middle East's flower-producing superpower. Its flower, plant and propagation-material exports bring upward of \$200 million into the economy annually. The country is third only to the Netherlands and Kenya in supplying the EU with flowers. Each year 1.5 billion stems are exported, twice as many as only 10 years ago.

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