

Israel

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Arabidopsis projects in Israel are funded via national and binational grants, particularly through the *The United States - Israel Binational Agricultural Research and Development Fund (BARD)*, *Israel Science Foundation (ISF)*, *German - Israeli Foundation for Scientific Research and Development (GIF)*, *U.S.-Israel Binational Science Foundation (BSF)*, and the *Deutsch-Israelische Projektkooperation (DIP)*. Rather disturbingly, *BARD* announced that their "Model System and Functional Biology in the Service of Agriculture" panel, the panel that funded the majority of Arabidopsis research, will be discontinued in the coming year. As *BARD* sponsored ~\$1,000,000 in Arabidopsis research annually, this is potentially a large loss for the Israeli Arabidopsis community. There are as yet still no national funding initiatives specifically targeting Arabidopsis functional genomics.

A possible positive change in the general acceptance of Arabidopsis as a model for basic science was seen in the recent FISEB (Federation of Israeli Societies of Experimental Biology) congress. While Arabidopsis talks at this large congress (>1000 participants) were in the past placed in plant-specific sessions, Arabidopsis and other plant talks this year were integrated within the main sessions.

In 2007, ~40 research articles employing Arabidopsis were published from groups in Israel. The major centers of Arabidopsis research are in The Hebrew University of Jerusalem, Tel Aviv University and the Weizmann Institute of Science.

At least two recent papers are worth highlighting. Both deal with modulation of metabolic networks - one using Arabidopsis as a model for basic science, and one using an Arabidopsis gene for biotechnological purposes in petunia flowers.

The laboratory of Asaph Aharoni at the Weizmann Institute reported the discovery of a post-transcriptional mechanism in plants that uses a riboswitch to control a metabolic feedback loop. that results in differential RNA processing (Bocobza et al., 2007, G A possible positive change in the general acceptance of Arabidopsis as a model for basic science was seen in the recent FISEB (Federation of Israeli Societies of Experimental Biology) congress. While Arabidopsis talks at this large congress (>1000 participants) were in the past placed in plant-specific sessions, Arabidopsis and other plant talks this year were integrated within the main sessions.

- Genes Dev 21: 2874-9). In this loop, the riboswitch, located in the metabolite biosynthesis genes, directly senses the metabolite itself, which thus leads to the formation of an unstable splicing product, down-regulating the levels of the metabolite. This study paves the way for future engineering of plant riboswitches in metabolic engineering, as riboswitches transformed in plants can act autonomously to modulate gene expression.
- The laboratory of Sasha Veinshtein at the Hebrew University recently published a report where they showed that expression of a specific Arabidopsis Myb transcription factor, *Pap1*, in petunia flowers led to a large increase in volatile compounds (Zvi et al., 2008, Plant Biotechnol J). The volatile profile could then be modified by applying phenylalanine to the flowers. This opens up new options for the biotechnological modulation of scent production.

Major funding sources

- Israel Science Foundation (ISF), Jerusalem, israkeren@isf.org.il, www.isf.org.il/ Total *Arabidopsis* funding 2006 - \$842,750
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- Deutsch-Israelische Projektkooperation (DIP), Bonn, nadia.meyer@dlr.de, www.internationales-buero.de/de/819.php