



FOR IMMEDIATE RELEASE

## **Yissum and Danziger Innovations Introduce a Revolutionary Method for Modifying the Genome of Plants**

*- Invention published in Plant Physiology -*

Jerusalem, Israel, February 15, 2011 – Yissum Research Development Company Ltd., the Technology Transfer Company of the Hebrew University of Jerusalem, and Danziger Innovations Ltd., a biotechnology company engaged in the discovery and manufacture of new advanced breeding solutions to improve traits in crops, introduce a novel, groundbreaking method for genetic modifications in plants that is precise, quick, effective, reliable and applicable to all plants.

The novel method uses a modified plant virus in order to transiently infect the plant tissues and cells with genes that encode a special enzyme that is able to permanently change the plant genome in predetermined regions and in a specific manner. The unsuspecting plant cells manufacture these biological DNA editing scissors which then act to cut and change the plant genome in every virus-infected cell. The virus is then eliminated from the plant, and the seeds or vegetative tissues can be grown to generate fully modified plants.

The new technique, called MemoGene™, was invented by Professor Alexander Vainstein from the Institute of Plant Sciences and Genetics in Agriculture, the Robert H. Smith Faculty of Agriculture, Food and Environment, at the Hebrew University of Jerusalem, and by Dr. Amir Zuker, Head of R&D at Danziger. The findings were recently published in the [Breakthrough Technologies](#) section of the prestigious scientific journal *Plant Physiology*. The article describing the breakthrough technology was also chosen by the Faculty of 1000 (F1000) website which highlights important researches in various scientific fields. The MemoGene technology has already proven to be efficient in a wide variety of monocot and dicot plant and crops, including peppers, cucumbers, potatoes and tomatoes, as well as wheat, maize, cotton and canola. The technology is jointly patented by Yissum and Danziger Innovations.

In a world avalanching toward population increase accompanied with severe agricultural and energy resource decrease, improving plant traits is one of the most important ways to avoid a global hunger crisis. Currently, plant genetic engineering techniques are labor-intensive, expensive, highly unpredictable and extremely crop specific – techniques that work for the tomato might not be applicable to the potato,

Furthermore, some plants are not even amenable to traditional genetic engineering, but could be modified using the MemoGene technology.

"This invention is another testament to the innovative and influential research done at the Hebrew University. Our Faculty of Agriculture, Food and Environment is the only institute of higher education in Israel offering university degrees in agriculture, and is largely responsible for Israel's position as a world leader in cutting-edge agricultural technologies," said Yaacov Michlin, CEO of Yissum.

"The MemoGene platform will revolutionize our ability to produce tailor-made varieties with new traits, increasing the value of agricultural and horticultural products, while also allowing for the deletion of negative and unwanted characteristics. It is a highly efficient method for breeding new varieties at reduced cost and time, with predictable results," said Micha Danziger, CEO of Danziger Innovations. "One of its important advantages is that this is a generic process that can be applied to many important crops with relatively minimal effort."

### **About Yissum**

Yissum Research Development Company of the Hebrew University of Jerusalem Ltd. was founded in 1964 to protect and commercialize the Hebrew University's intellectual property. Ranked among the top technology transfer companies in the world, Yissum has registered over 7,000 patents covering 2,023 inventions; has licensed out 530 technologies and has spun-off 72 companies. Products that are based on Hebrew University technologies and were commercialized by Yissum generate today over \$2 Billion in annual sales. Yissum's business partners span the globe and include companies such as Syngenta, Vilmorin, Monsanto, Novartis, Johnson & Johnson, Roche, Merck, Teva, Google, Adobe, Phillips and many more. For further information please visit [www.yissum.co.il](http://www.yissum.co.il)

### **About Danziger Innovations**

Danziger Innovations Ltd., established in 2008, is a biotechnological company dedicated to the development of new and advanced breeding solutions. The Company's main current platform, MemoGene™, is an innovative technology enabling site specific mutation and site specific transformation in all plants. Danziger Innovations is a spin-off of Danziger "Dan" Flower Farm, founded in 1953, and managed and owned by Micha and Gaby Danziger. Danziger "Dan" Flower Farm, a global leading breeder of bedding plants and cut flowers, holds hundreds of patents and breeder's rights and offers over 500 different plant varieties, sold in more than 60 countries. The Company markets its varieties to approximately 450 customers and holds more than 200 license agreements with nurseries world-wide. For further information please visit [www.danziger-innovations.com](http://www.danziger-innovations.com).

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