



Yissum Out-licenses a Breakthrough Seed Improvement Technology to Morflora

The novel technology has been proven effective in a number of plant species

Jerusalem, Israel, November 2nd, 2011 – Yissum Research Development Company Ltd., the technology transfer company of the Hebrew University of Jerusalem, and Morflora Israel Ltd., a trait delivery innovation company, have signed a collaborative agreement for the development of a revolutionary seed treatment technology for plant improvement.

Using specific vectors, the TraitUP™ novel technology, invented by Prof. Ilan Sela and Prof. Haim D. Rabinowitch both from the Robert H. Smith Faculty of Agriculture, Food and Environment at the Hebrew University, enables the quick and efficient introduction of genetic materials into seeds and the expression of the trait or metabolic system so introduced throughout the entire plant, without modifying its DNA. The specific vectors serve as carriers to introduce desired genes into seeds in a fast and efficient way. The novel technology has already been proven effective in a number of plant species, and can be applied for a significant advancement in plant improvement.

"This is an exciting development in the plant improvement arena," said Yaacov Michlin, CEO of Yissum. "Use of the vector has already been successfully out-licensed to Morflora for two other applications, namely for curing fruit trees' diseases in orchards and groves, and seedling-treatment in the nursery. This new application via seed enables the immediate and efficient improvement of plants already before sowing."

Dotan Peleg, CEO of Morflora, added, "Morflora's TraitUP™ platform offers for the first time an innovative, fast and non-transgenic alternative for protecting and enhancing crops, easily applied to seeds and expressed within days. Until today seed companies wishing to introduce genes into plants had to rely on breeding and transformation methods which can take anytime between three to ten years to develop, and at the end express the trait in only a few, selected, plant species. Moreover, the current trait delivery methods yield less the 10% success. The new ability to deliver traits within days instead of years, and to offer a treatment with results similar to breeding to all current species – answers a long and unmet need that

will revolutionize modern agriculture and significantly impact the vegetable and commodity crop markets.”

Prof. Haim Rabinowitch has developed, together with Prof. Nachum Kedar, the first long shelf-life commercial tomato varieties in the world. Prof. Rabinowitch has been named winner of the first prize of this year’s Kaye Innovation Awards for his long-term innovations in genetic and breeding technologies. During the last 25 years, the novel results of Prof. Rabinowitch’s team breeding efforts have brought about the development of a lucrative seed industry in Israel. The export of tomato, onion and shallot seeds developed by Prof. Rabinowitch’s breeding team generates approximately \$50 million annual sales.

Prof. Ilan Sela, an renown expert in Virology and Molecular Biology. Prof. Sela was also co-founder and served as Chief Scientist and Co-Founder of Beelomics Ltd., a developer of targeted biological pest and disease control solutions for bees and bee colonies, which was recently acquired by world agro-chemical leader Monsanto.

Professors Rabinowitch and Sela will join Morflora’s Scientific Advisory Board, and will continue to lead the research of seed treatment technology towards commercial applicability. Yaacov Michlin will join Morflora's board of directors.

Plant trait improvement is a central component of modern agriculture and is imperative for creating a sustainable solution for the world's growing needs for food, nutraceuticals, energy and raw materials. Traditional breeding is time consuming, costly, and may not necessarily yield the desired outcome.

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 Monsanto, Syngenta, Vilmorin, Bayer , Novartis, Johnson & Johnson, Roche, Merck, Teva, Google, Adobe, Phillips and many more. For further information please visit: www.yissum.co.il.

About Morflora Israel

Morflora Israel Ltd., a fully-owned subsidiary of Morflora LLC., develops generic and non-transgenic trait insertion solutions into plants, to protect them from a wide variety of diseases, as well as introduce new desired traits for plant enhancement. The company targets the seed and plant treatment markets, offering technology and solutions to increase global crop yield and reduce dependency on chemical treatments and lengthy breeding processes. Established in 2008, Morflora’s mission is to become a leading supplier of plant protection and enhancement solutions for a variety of agricultural markets. For further information please visit: www.morflora.com

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