

# Evogene: Addressing the Global Demand for Food, Feed and Fuel



## AT THE FOREFRONT OF PLANT GENOMICS

Evogene is a world leading developer of **improved plant traits**, such as yield, improved nitrogen use efficiency and drought tolerance, for a wide diversity of key crops through the use of plant genomics.

Using cutting edge computational genomics technologies, Evogene offers a powerful solution for plant trait improvement by combining state-of-the-art **biotechnology** and **advanced breeding** methods.

Evogene's plant genomics capabilities combine high throughput field experiments, proprietary genomic data creation and plant validation systems.

Evogene collaborates with world leading seed companies, including Bayer CropScience, Limagrain, Monsanto, DuPont, Syngenta and other companies, to introduce its improved plant traits into key commercial crops, such as corn, soybean and wheat.

Evogene employs 150 personnel, of which over 85% are involved in R&D. The multi-disciplinary team includes experts for plant genetics, plant physiology, bioinformatics and agronomy.

Evogene's headquarters are in Rehovot, Israel. Evogene stock is traded on the Tel Aviv Stock Exchange (TASE: EVGN).

## EVOGENE'S MISSION

To be the world leader in applying Plant Genomics for improving plant performance to address the global demand for food, feed & fuel



## PARTNERSHIPS

Evogene is collaborating with world leading seed companies to introduce its improved traits into commercial crops, and further develop & commercialize seeds displaying improved performance.

Among Evogene's partners are Bayer CropScience, Biogemma (the Limagrain Group), Monsanto Company, DuPont, Syngenta and other companies.

Under Evogene's business model, Evogene specializes in the upstream innovative development phases while downstream activities are undertaken by its partners. Genes discovered are licensed to Evogene's partners for further plant evaluation to commercial launch through seed products sales. The collaborations are based on research & licensing agreements that usually include Evogene receiving research payments, milestone payments and royalties from seeds sold.

## COLLABORATIONS HIGHLIGHTS

### Monsanto Company

On 2008, Evogene entered multiyear collaboration with Monsanto Company to improve yield, drought tolerance and nitrogen use efficiency in key commercial crops, including corn, soybean, canola and cotton.

The agreement, which was expanded in 2011, includes research payments to Evogene of \$47 million, development milestone and royalty payments based on sales of resulting products. In addition, Monsanto acquired \$18 million equity stake in Evogene with Evogene's option for an additional investment by Monsanto of \$12 million.

### Bayer Crop Science

On 2010, Evogene entered 5 year collaboration with Bayer CropScience to improve yield, drought tolerance and fertilizer use efficiency in wheat utilizing a combination of advanced breeding and biotechnology methods.

Agreement includes research payments to Evogene of \$20 million, development milestone and royalty payments based on sales of resulting products. In addition Bayer CropScience acquired \$12 million equity stake in Evogene.

## TECHNOLOGY & PRODUCTS

Evogene's established capabilities in plant genomics enable it to conduct multiple trait discovery and validation efforts under continuous programs, resulting in a rich R&D pipeline of beneficial traits, for a wide diversity of key crops, leading to sustainable agricultural production.

Evogene focuses on key traits, valued by the industry at annual revenues of billions of dollars, including:

- Yield
- Drought tolerance
- Nitrogen Use Efficiency
- Plant diseases and pests

To date, Evogene discovered over 3,000 novel genes under granted and pending patents relating to these plant traits, hundreds of these genes are under development in its partner's pipelines. Most advanced genes are currently undergoing phase II of development in field trials for corn.



### EVOFUEL - SUPPLYING SEEDS OF ADVANCED 2<sup>ND</sup> GENERATION FEEDSTOCK FOR BIOFUEL

On January 2012, Evogene spun off its biofuel activity into a wholly owned subsidiary – Evofuel.

Evofuel is focusing on developing and commercializing seeds of second-generation feedstock to serve as a viable, cost efficient and sustainable source for biofuel. Evofuel currently focuses on advanced castor seeds, displaying high oil yield under rain-fed conditions and suitable for commercial growth and fully mechanized management.

## CUTTING EDGE COMPUTATIONAL TECHNOLOGIES

Evogene's core competence strongly relies on its computational technologies, combining unique analysis tools with extensive plant genetics and agriculture know-how, resulting in a rich and robust trait pipeline. These technologies are designed to analyze various data type of different organisms, including genomes, RNA, metabolite and phenotypic data sets, covering over 200 plant species from both public and self-generated proprietary data, allowing to predict the effect and compatibility level of candidate genes.

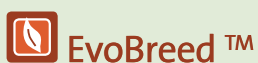
Evogene's key computational technologies:



Computational technology for gene discovery. The ATHLETE is comprised of unique algorithmic tools and novel data mining concepts, resulting in a list of genes predicted to impact a target trait.



Array of computational technologies to improve mode of use of genes to increase trait efficacy and the probability of successful development of biotechnology seed product.



Computational technology for discovery of SNP (single-nucleotide polymorphisms) sets to enhance plant breeding.



### Proof of Concept in Plants

Evogene has developed a high throughput model plant validation platform, which offer a quick and efficient way to assess gene effects, with a capacity for validating over 1,000 genes per year. The plant validation process includes molecular biology, plant transformation, extensive greenhouse and field trial experiments as well as advanced imaging and data analysis techniques. Evogene's model plant system uses Arabidopsis as a model for dicots and brachypodium as a model for monocots.