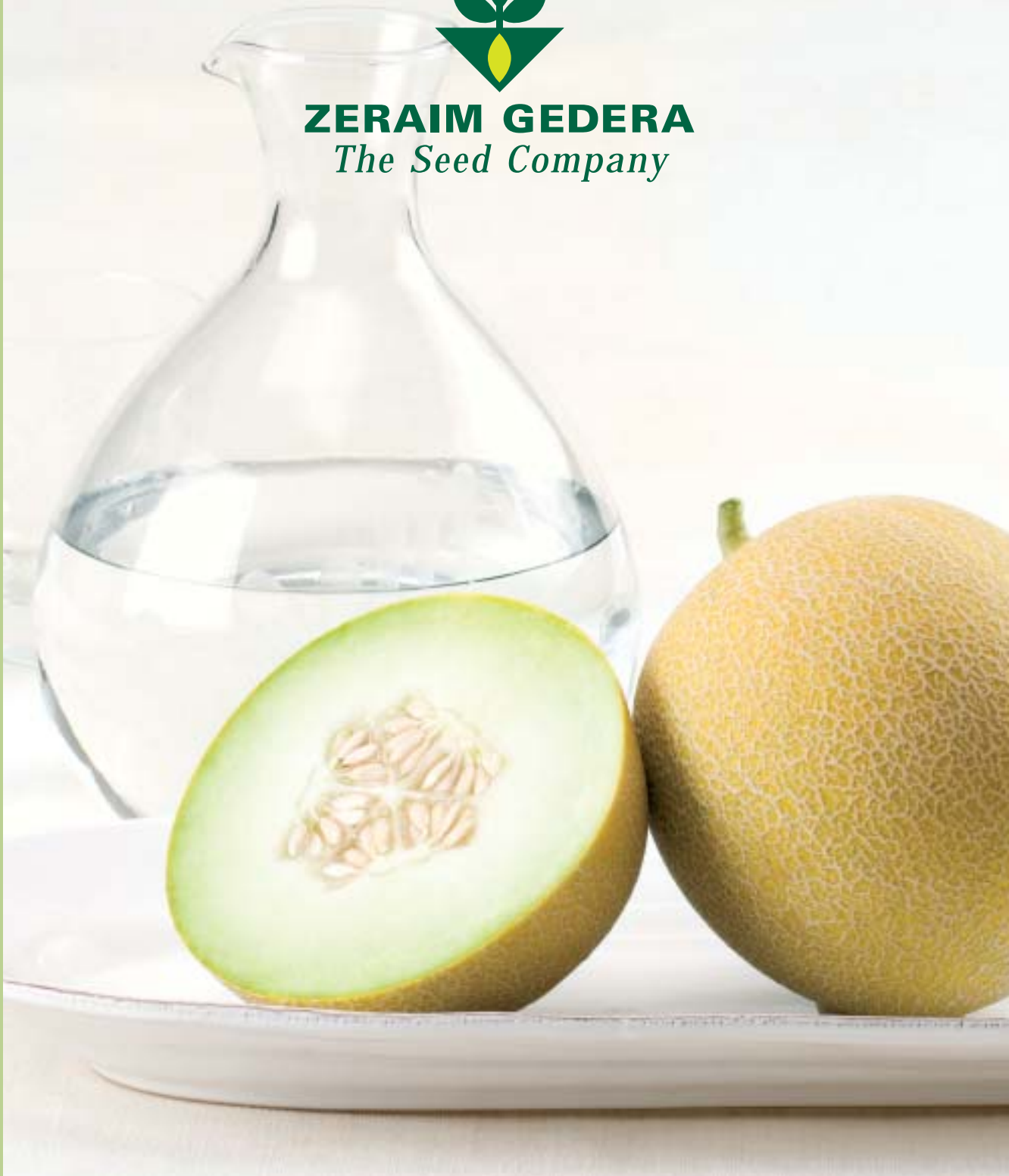


January 2007



**ZERAIM GEDERA**  
*The Seed Company*



Issue No.

4

New Research &  
Development Breeding  
Stations Around the Globe

Taste Tomato  
Program at  
Zeraim Gedera

*Because Every Seed Holds a Promise*

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## From the editor's desk

**2007** marks 55 years of uncompromising Research & Development of highly advanced vegetable varieties at Zeraim Gedera.

The vegetable products have gone a long way in search of the excellent taste combined with a prolonged shelf-life.

Enhanced with the top quality of breeders, the Company is set on enhancing peoples' enjoyment from fresh and tasteful variety vegetables.

This edition of newsletter enables each and every one of you to take a glance into our Taste Tomato breeding program.

I would like to take this opportunity to congratulate our expanding North American team, led by Mr. Jose-Luis Gonzalez Beristain. A comprehensive coverage can be found in this Newsletter's inner pages.

To view Zeraim Gedera's wide range of varieties, you are welcome to visit our booth at "Fruit-Logistica" exhibition in Berlin, in February.

Yours Sincerely,

**Nitzan Kadmon**, Editor  
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# Executing Zeraim Gedera's STRATEGY

*Ohad Zuckerman, CEO of Zeraim Gedera, speaks of the past and of the future opportunities in Zeraim Gedera*

Ohad Zuckerman, CEO of Zeraim Gedera and the son of Uri Zuckerman, one of the Company's founders, has worked for the Company since 1989. "From the day I remember myself", says Ohad, "I spent my summer holidays working in the farm. I worked in the greenhouses, in the packinghouse and ploughed the fields. It was only natural for me to choose a career in Zeraim Gedera, I just fell in love with the seed business".

At the end of his BA studies in Agriculture at the Faculty of Agriculture of the Hebrew University in Rehovot, he started working in the firm. "I grew up in the city, unlike my father and grandfather, so I was not a natural "farmer", says Ohad. "As a condition to my entry to the Company, my father insisted the I attain a licence to drive tractors as that was to be my first formal job".

**Q: And what then?**

"A year later "Agritech" exhibition took place. I asked my father if the Company was participating in the event, and he replied "no, we do not sell our brand overseas". It took me a while to convince him but at the end I succeeded. After the exhibition, I was appointed as the Company's first Marketing & Sales Manager."

**Q: So you were also the Company's first Marcom Manager?**

"That's right, I produced an 18 square meter booth and the first colorful Company catalogue".

**Q: When did you become CEO?**

"In 1996 I told my father I want to become the CEO of Zeraim Gedera. There was a consultation in the Board of Directors about it. I was told that I needed to get a Master's degree in Business Administration and afterward to act for a certain time as Vice President. In addition, I was told that I should get married."

**Q: What did your father mean by that?**

"He told me that getting married means settling down, no more late nights chasing girls etc. You see, the seed business is very demanding and Seed Companies need sound managers, focused and committed. Today, looking back, I understand what was meant."

**Q: And so you got married??**

The same night I came back home to my girlfriend at that time and told her that if I ever got married to her it would be in order to become Zeraim Gedera's CEO...





Uri Zuckerman, a founder of Zeraim Gedera

that girlfriend is today my wife... Every time we argue she reminds me of that"... married to Sharon and they have two children, Ido - 7 years old and Lihi - 4 years old.

**Q: So, what were your first actions as Marketing & Sales Manager?**

"I convinced the Board to change the Company's branding strategy. We changed the seed packaging appearance, we started to invest a lot in quality because we believed, and still do, that when you sell your own product in your own brand, you must supply customers with the highest quality possible. Eventually, in 1998, we implemented our vision of Zeraim Gedera, which was then to produce and sell worldwide our own products with our own brand. I searched for distributors in the target markets we marked and established a global distribution network".

**Q: The Company has started as a very small one.**

"That's true. For example, we held the marketing department meetings at my house since we had no other place to meet and each meeting somebody else was responsible for preparing the food".

**Q: Sounds very "family like".**

"Indeed, and up to now, even though the Company has grown tremendously, it still maintains a family culture".

**Q: When was the turning point for the Company?**

It started in 1998. I realized we needed a clear vision, a guiding light for the Company. Do you remember Alice in Wonderland? When she reached the junction with the Cheshire cat, she noticed there were many options and she did not know which way to take. She asked the cat and the cat asked her where did she want to go. When she answered "I do not know" the cat answered "so, in that case, it is not important which way you choose...". Well, in Zeraim Gedera it was a bit different. We initiated a workshop with Arthur Anderson Consulting (Accenture of today) and this was the beginning of our Vertically Integrated Marketing as well as the beginning of the crystallization of our current vision".

**Q: You previously mentioned that Zeraim Gedera had about 60 employees when you entered the Company. How many are working here now?**

"We have over 200 members in the Zeraim global community today".

**Q: How do you explain the Company's growth?**

"The answer to this question arises from many decisions. The first one was to sell our products with our brand and not act as a seed producer and a marketer of varieties developed by others. Side by side with starting to promote our brand in our target markets, we started to invest in breeding. We wanted to have our own products and not to be dependent on the Research Institutes. Accordingly we recruited during the last decade more than 15 breeders and established breeding teams and, in recent years, we have started to see the results of this investment. In

addition, the decision to sell with our brand forced us to dramatically improve our seed quality. Therefore, we have invested in machinery and skilled personnel and thanks to that we have raised Company profile. The joint venture we have with "Incotec" took us to an even higher stage and allowed us to reposition ourselves at the top of the industry. We have received enthusiastic reactions from growers and plant raisers all over the world stating the big progress they had with their Zeraim Gedera crops. The Company's strategy is set on giving high importance to quality and service without compromise on price. We are also very proud to have received the ISO 17025 accreditation, which, consequently, allows our customers the peace of mind that we provide them with the highest possible seed quality. All these improvements were achieved due to the fact that we invested also in the quality of our employees. For example, in 1989 we had only 5 agronomists, including myself in the Company; today the Company consists of 80% academics."

**Q: So you see R&D as one of the core competencies of Zeraim Gedera?**

**The Company's strategy is set on giving high importance to quality and service without compromise on price.**

"Certainly. A seed Company will rise or fall on its R&D. We are lucky to have exclusive projects at the Israeli Institutes in addition to our in-house breeding efforts. In order to shorten time-to-market, we started to breed in our target markets and the first breeding and demonstration station was established in January 2006 in Mexico. It gave the Company a great momentum in the North American market not only professionally but also from the positioning point of view, since it emphasized our commitment to this market.

**Q: How do you summarize 2006 at Zeraim Gedera?**

"2006 was the third year in succession of the highest turnover and profits ever for the Company. We increased our sales by 20% and distributed substantial dividends to our shareholders. Our management strengthened its teamwork and we made some significant organizational changes to fit better the changing market. Overall, I am satisfied and grateful to our employees for their efforts and to our distributors and business partners for their support. I think our main achievement in 2006 is that we managed to position Zeraim Gedera as an integrated vegetable seed Company that sells-in addition to our traditional product, tomato - also pepper, watermelon and cucumber seeds in large quantities".

**Q: What are the Company's goals for 2007?**

"Our first mission is to prepare our organizational structure, procedures and processes as well as our global infrastructure, so that we will operate better as a multi-national Company. In addition, we marked China and North America's growth drivers and we intend to invest heavily in these two markets. It goes without saying that

## " 2006 WAS THE THIRD YEAR IN SUCCESSION OF THE HIGHEST TURNOVER AND PROFITS EVER FOR THE COMPANY "

we will continue our efforts in all the other markets in which we are active and our plan is to change our Company's look & feel and continue strengthening our Company's brand. In addition, we have now strengthened our Vertically-Integrated Marketing activities with the addition of a new VIM manager to further our relationships with our business partners in the fresh produce industry.

### Q: How do you see your role as CEO?

"I believe that good managers understand that they manage people and not money nor processes. In our Company we are looking for people with certain values as human beings and I think that our success is a result of the wonderful people we succeeded to recruit. I divide

my role as CEO into the following elements:

1. I should position the right people at the right places at the right time
2. I should define, together with them, the Company's Vision, Mission, culture, and strategy and make sure the whole organization understands them and acts accordingly
3. I should see to it that the Company has a good business plan in place and sufficient financing, and sets the milestones to monitor the achievements in view of the plan
4. I see myself as a support system for each and every employee in Zeraim Gedera, personally and business wise. My door is always open"

...we marked China and North America growth drivers and we intend to invest heavily in these two markets

I admit that there is a huge personal price my family and I pay. I cannot do all this sitting in my office and going over my e-mails, therefore I spend a third of the year overseas: I visit farmers, plant raisers, dealers and distributors, category managers, shippers and supermarkets and attend conventions and exhibitions to keep in touch and be updated with the trends in the seed and produce industries". Ohad said he misses his family dearly when he is out of the country, but always brings presents to his children "mainly to calm my conscience", he jokes. "I would like to end this interview by wishing our partners and customers worldwide and their families a year of achievement and prosperity, happiness and health."



From left to right: Ohad Zuckerman, Prof. Haim Rabinovich of the Hebrew University and Amnon Eshet, Executive VP, Marketing, Sales & Business Development of Zeraim Gedera



# Costa Rica – A Dreamland for Melon Trials



Interviewing Gadi Avisar / Cucurbits Product Manager / [gad@zeraim.co.il](mailto:gad@zeraim.co.il)



Costa Rica has become in the last few years a dreamland for melon trials, including those of Zeraim Gedera. "We are now working on a project", says Gad Avisar, Cucurbits Product Manager of Zeraim Gedera, "where we are trialing our melon varieties in different locations for the purpose of promoting them to sales within this coming year. Chronologically speaking, the trials begin in Costa Rica. The first results would be in Costa Rica and then in Spain."

**Q: Why was Costa Rica chosen specifically for that purpose?**

Costa Rica is considered a large grower/producer of Melons for export, a big supplier of the fruit during the winter in Europe and the USA, it is an area suitable for melon growing due to favorable temperatures and humidity. Costa Rica enjoys wet and dry seasons, the wet one between May and November and the dry one between November to May. During the wet season, the Costa Ricans grow rice and in the dry season, to fulfill the economic demands, they grow melons and watermelons.

**Q: What melon varieties do we trial there?**

The main segments we trial there are the Yellow Canary and Galia ones. The melon varieties we breed and trial specialize in high yield, great color and shape. Those characteristics enable us, as a Company, to enlarge our melon market share around the world.

**Q: A high priority is given these days to the taste of fruits. Is that considered a relevant factor when breeding the melons?**

Taste is very relevant and an extremely important factor

in our Company. It qualifies or disqualifies a variety. As Cucurbit Product Manager of the Company, I can tell you that every single melon variety is checked to see whether it has a good taste and accumulates enough sugar.

**Q: A little bit about Costa Rica.**

From my point of view, I can tell you that once you have been to Costa Rica, you realize that this was actually meant to be the promised land....the scenery is extraordinary, combined with a very nice population and climate, making it a desirable place for visiting and working.

**Q: Why was Costa Rica chosen specifically as one of Zeraim Gedera's melon trials spots?**

It was chosen for its good climate and for the great distributor we work with, "Semillas Camaru".

**Q: With a three years perspective of trialing there, what could you say is the difference that occurred during these years for Zeraim Gedera's melon world?**

Firstly, the number of melon varieties we are selling, consequently, has grown tremendously within these years. This year we have started selling the varieties.

**Q: What do you foresee for Zeraim Gedera's melons in the future?**

The Company's market share is in growing stages as far as melons are concerned. We are aiming at strengthening our hold in the Brazilian and Spanish markets, which are considered the largest in the world for melons.

**Q: How do you learn the needs of those melon strategic markets?**

If we look at the Brazilian market, for example, we have combined forces with the Brazilian melon product managers at choosing the varieties with added values for the local market there. They see the products before it



gets to their market. That helps us spread the product all around Brazil, with highest of recommendations.

# Zeraim Gedera's Nova Cucumber - a Huge Breakthrough in China



By Uri Stern / Agrotechnical Support, China / [uris@zeraim.com](mailto:uris@zeraim.com)

Up until recently, the Chinese housewives, wishing to feed their children with Cucumbers, had only one option: a long and spiny one. It is a variety known for its good taste, combined with crispiness, but has one big disadvantage: a short shelf-life.



Uri Stern (second left), in a Chinese cucumber greenhouse

Being attentive to our customers, we foresaw the changing demand for cucumbers varieties in China. Our R&D Department at Zeraim Gedera, breeding new varieties all year long, for the benefit of our customers, worked hard on breeding longer shelf-life cucumbers, and at the same time making sure that its great taste would not be affected.

As a result, there is a growing demand in China in the past few years for our "Beit Alpha" cucumber, 14 cm long. One can find it served in the most prestigious of meals in China, in hotel dining rooms and in the supermarkets.

The high yield of our "Nova" cucumber made many of the local farmers displace their Rose plots in favor of our variety.

The "Nova" is grown in open fields during the late Autumn season while the northern parts of China suffer from freezing temperatures (below 0°C). One of "Nova's" great advantages for the local farmers is that they enjoy low investments in growing and at the same time benefit from high incomes.

**Our R&D... is aimed at breeding longer shelf life cucumbers, and at the same time making sure that its great taste would not be affected.**

Other beneficiaries are the seed distributors that enjoy the Chinese growers reactions to the variety and, consequently, give high priority to promoting the "Nova" throughout the Southern provinces of the country.

In Yunan province, for instance, our "Nova" has gained a huge success and is now considered a leading cucumber variety in the region, its unique shape and distinctive color and taste – all complying with local farmers' wishes. As a result, the demand for the variety has grown tremendously and we are already prepared for our next "Nova" planting season this coming February.





# News from Zeraim Gedera's North America Team



By Jose Luis Gonzalez Beristain

Desk Manager, NAFTA, Central & South America / [jluis.gonzalez@zeraim.com.mx](mailto:jluis.gonzalez@zeraim.com.mx)

A year has passed since Zeraim Gedera first established its subsidiary in Mexico. This has been, without a doubt, one of the most hectic periods in my career at the Company. As Zeraim Gedera considers North America as one of its strategic markets, one can imagine how much we have already grown and will continue to grow in order to achieve our medium and long-term goals.

We have built a comprehensive business plan that set our long term objectives for North America. Based on this plan, we started building our technicians' team, which today consists of five people.

Zeraim North America will continue building the team, which is set to consist of eight professionals at strategic sites on the continent. This team will work in conjunction with the Company's region's sales department: Jorge A. Benitez, PD & Sales, Central Mexico; Tomi B. Sappington, PD & Sales, Texas; and Carl Woody Speir, PD & Sales, Florida.

To complement this solid team, Zeraim North America has recruited a professional in charge of the Vertically-Integrated Marketing program - Meir Peretz. He will support and enhance the promotion of our unique products by creating the link between the grower and the market.

Eliezer Zuckerbraun continues to support the team from Israel.

Several members, with a broad range of tasks and missions, have joined our team as a result of this growth.

We are a young and solid team in Mexico, aware of the needs along the supply chain. In order to meet the demands involved, we have personnel in the areas that we deem necessary. These include Juan Manuel Nuno, a Breeder Assistant, who, together with Elvis Hernandez, Zeraim Gedera's Mexico Operations Manager, is fully involved in the logistics and process of establishing, evaluating and selecting both hybrids and parental lines in specific regions per crop.

Aware of the importance of giving the right technical advice, Zeraim North America decided to establish its own R&D Station, managed by Guadalupe Osuna, in Mexico's most important agricultural region: the Culiacan Valley in Sinaloa. With this decision, Zeraim Gedera has not only won the respect of growers, dealers and competitors, but has also had the day-to-day achievement of providing the best possible agro-technical conditions for our varieties, letting them express their optimal potential under the local and unique conditions of this part of the Western Hemisphere.

We are pleased to announce new positions in our North American Team:

- Jose Luis Gonzalez Beristain as America Desk Manager
- Elvis Hernandez as Mexico Operation Manager
- Tomi B. Sappington as Texas Product Development & Sales
- Carl Woody Speir as Florida Product Development & Sales

We wish them all great success in their new positions!



theQUARTER  
RECIPE:  
**OUR  
SWEET  
MELON  
SOUP**  
(4 people)

**Ingredients:**

- 1 Melon
- 1/2 cup of honey
- 1/3 cup of mint leaves

**Preparation:**

- Peel the melon and cut it to cubes
- Pour the ingredients into a food processor and wait until they are mashed

*(Could be served with ice cream aside)*

## Stirring-Up Interest at the Watermelon Growers' Symposium in San Antonio, Texas

This year, the watermelon symposium took place in San



*Eliezer Zuckerbraun (left) and Jose Luis Gonzalez Beristain at the symposium*

Antonio, Texas. A well-known fact in the watermelon world, is that Texas and watermelons are like Americans and apple pies. Eliezer Zuckerbraun, the Sales and Marketing Manager of Zeraim Gedera in North America, was the organizer and master of ceremonies. The event took place in November. It started with a reception at the historic Emily Morgan hotel. Scores of customers, growers, seed dealers, university experts and Zeraim Gedera's staff attended the reception. The highlight of the event was the presence of two watermelon queens, the National Queen and the Texas Queen who both did a wonderful job of talking to customers and posing for pictures with many of us. At the symposium, about a hundred participants came from various locations as far as Oregon, Georgia, Michigan and even a visiting professor from China. The conference not only included interested customers and Companies with whom we work, but also some of our competitors

such as Hazera, Seminis, Syngenta and Nunhems.

The watermelon symposium covered a variety of topics from weed control to merchandising. One of the most intriguing lectures there was that of Judy Marshall of HEB supermarkets from San Antonio. The watermelon growers were very interested in what she had to say about consumer trends and about the purchasing needs of HEB supermarkets. One of the main facts she stated is that they are still selling seeded watermelons in Texas, an estimate of around 37% of their sales.

Eliezer Zuckerbraun gave a presentation dealing with the grafting of watermelons. The lecture raised a lot of interest and quite a few questions.



*Miss Watermelon at the symposium*



*Meir Peretz (right) at the symposium*

Customers were very pleased with the organization and with the chosen location of San Antonio as one of the favorite cities in the USA.

The meeting was well balanced and we kept the attention of people by alternating topics. As our main dealers, such as Siegers, Champion Seeds, Gowan Seeds and K-W Seeds, also had a strong presence at the symposium.



# New R&D Breeding Stations for Zeraim Gedera Around the Globe



Dr. Moshe Bar / VP R&D / [moshe@zeraim.co.il](mailto:moshe@zeraim.co.il)

In order to strengthen Zeraim Gedera's breeding capabilities in the Company's strategic markets, to shorten time-to-market and to get the right products in the marketplace, we decided, during 2004, to establish R&D breeding stations in some of those markets, such as Mexico, China and Spain.

Establishing a station enables breeding teams to focus on the local environmental conditions and to develop suitable products for this market, rather than breeding in Israel, where environmental conditions are different.

## The objectives of the R&D stations

- Develop, select, and adapt the most suitable varieties for the local market.
- Develop vegetables varieties that meet the dynamic needs of the market through innovation and creativity.
- Develop innovative and new products for specific market needs.
- Improve the breeder team's capacity to breed for resistance to local pathogens, especially those that do not exist in Israel, by establishing phytopathological and molecular marker laboratories.
- Strengthen the Company's position in strategic markets.
- Protect the Company's intellectual property.

The market penetration strategy will be enhanced by breeding varieties at the R&D local station to create a high correlation between the products and the local growing conditions, thereby shortening time-to-market. At the stations, breeding is, and will be, performed according to the Company's product profile. Breeding will be executed while adapting products to the local environmental conditions and will be carried out by local breeding teams (Company employees) under the supervision of the breeders at the parent Company. In addition to breeding, the station will set-up demonstration plots to enable customers to observe varieties of local crops and hold open days for marketing purposes.

## The R & D Station in Mexico

For the past two decades, Mexico has been one of the main growing areas supplying fresh vegetables to the United States. In order to strengthen its position in this market and to breed tailor-made varieties for the North American market, in 2005, Zeraim Gedera established a breeding station in Culiacan Valley, in the state of Sinaloa. The Zeraim Mexico station manager is responsible for the



Opening of R&D station in Mexico

station's day-to-day management. The breeding station has been used for both research and breeding purposes and to demonstrate our various commercial products to clients.

Juan Manuel Nuno from our R&D staff in Mexico coordinates the breeding work. He is both the

breeder assistant on the farm and is also responsible for all screening trials conducted among farmers.

The R&D Station includes open field, net houses and greenhouse cultivation on a three-hectare site, which supports tomato, pepper, cucumber and squash breeding programs.

## R&D Station in China

The incredibly rapid Chinese economic development and the rising demand for top-quality produce obliges us to respond and to have the required products for this strategic market on time. Therefore, Zeraim Gedera plans to establish an R&D breeding station in Shandong Province during 2007. The Zeraim Hong Kong station manager will be responsible for the day-to-day management. The breeding station will be used for both research and breeding purposes and to demonstrate our various commercial products to clients.

Liu Xue from our R&D staff in China will coordinate the breeding work. She works as the breeder assistant and is also responsible for screening trials conducted among farmers. The R&D station will initially include four to six Chinese greenhouses to support tomato, pepper and cucumber breeding programs.

# Taste Tomato Breeding Program



Dr. Moshe Bar / VP R&D / [moshe@zeraim.co.il](mailto:moshe@zeraim.co.il)

Dr. Arthur Schaffer / Head, Dept. of Vegetable Research, Volcani Center / [vcaris@volcani.agri.gov.il](mailto:vcaris@volcani.agri.gov.il)

As the Company launches hybrid tomato cultivars from its "Taste Tomato" series, we present the history of the fruitful cooperation that has led to the success of the Project. The Company tomato breeding group, originally led by Dr. Moshe Bar and now by Ari Efrati, has been working together with a Volcani Center research group led by Dr. Ari Schaffer on a joint R&D project, with the goal of developing tomato varieties with improved taste, reminiscent of the 'tomatoes of old'. The strategy adopted was to utilize the wild species of tomato to modify and improve sugar metabolism and accumulation in the commercial tomato fruit. The research project began in 1986 with the initial interspecific cross at the Volcani Center and, about 10 years later, the joint R&D project began, based on the tomato germplasm that had been developed.

The researchers began with a wild species of tomato found in Peru, *Lycopersicon hirsutum*, which has an inedible, small green and hairy fruit. But the researchers realized that underneath its hirsute skin lay a unique and genetically-determined sugar biochemistry that could theoretically be advantageous for improving sugar levels in tomatoes. Sugar content is the primary component determining tomato fruit taste, along with the acid and volatile aroma contents, and this became the target of a multifaceted research program to identify the genetic variability for sugar metabolism in the wild species and to introgress it into tomato germplasm.

One of the first traits to be transferred was that of sucrose accumulation. All cultivated tomatoes contain approximately equal amounts of the two hexoses, glucose and fructose, while the disaccharide sucrose is absent. Since practically all high-sugar fruits store sucrose, it was considered a promising strategy to transfer this trait to tomato. Sucrose accumulation is determined by a single recessive gene that encodes for the invertase enzyme that is responsible for the breakdown of sucrose. Wild species have no such invertase activity allowing sucrose to accumulate whereas the cultivated tomato has very high enzyme activity, preventing sucrose accumulation. During the research program, the trait of sucrose accumulation was successfully transferred by classical breeding techniques, molecular markers for the trait were developed and the breeding group was able to create novel varieties of sucrose-accumulating tomatoes. These have shown special promise in the Japanese market, seeking sweet, low-acid tomatoes.

The research and development is continuing as additional genes are being identified that further modulate sucrose accumulation. Major strides have also been made in understanding the molecular control of sucrose accumulation and even shedding light on the evolution of the cultivated tomato from a wild sucrose accumulator to the cultivated hexose accumulator to which we have grown accustomed.

Another strategy taken by the research group was to modify the young tomato fruit metabolism so that it stores a larger reservoir of transient starch that turns to sugar in the ripening fruit. The cultivated tomatoes store very little starch but we can identify tomato plants from the wild species crosses that had a higher sugar content in the ripe fruit due to a higher starch content in the young ovary. This has led to the identification of the gene responsible for the increase, enabling development of a molecular marker for use by the breeding unit and the Company molecular marker unit. The ongoing research has even led to an understanding of how the wild species sub-unit improves the starch synthesis in the tomato fruit and this serves as an example of what is referred to a molecular heterosis.

A third strategy adopted was to modulate the fructose and glucose levels in the tomato fruit, considering that fructose is twice as sweet as glucose. Therefore, a tomato fruit storing primarily fructose would be sweeter with the same amount of total sugar, or just as sweet as a regular tomato even with less sugar, allowing for the development of novel low-sugar tomatoes. At least two genes have been identified which act in consort to increase the ratio of fructose to glucose in the ripe fruit and germplasm with 3-4 fold fructose has been developed.

The two groups, Research and Breeding, have now been cooperating for nearly 10 years in a truly synergistic manner. Plant material, information and test results flow back and forth freely and this has been instrumental in the success of the joint project. All of this is part of Zeraim Gedera's strategy to join research and breeding efforts to produce improved quality products.





## Elvis

Elvis, our new blocky pepper, enjoys excellent shiny red color, very good size, shape uniformity and firmness. The fruit would achieve highest results when planted in autumn, winter and spring late growing seasons, Dutch or Spanish cultivation, and in both net houses and greenhouses. With the addition of a very vigorous plant, good leaf coverage, high yield and great plant continuance, our growers can be certain of enjoying results. Elvis farmers will all benefit from its extraordinary regularity, 180-195 gram weight, 80-95 mm diameter, 80-95 cm length, great vine storage and very good setting at low temperatures. Add the fruits thick walls and you will be sure to get a very juicy pepper for the benefit of your customers. Elvis has resistance to TM3 (L4) and tolerance to TSWV\*.



## Barroco

Our new and fresh Barroco tomato is rapidly gaining popularity due to its special fruit qualities, high yield and good setting under high temperatures. With uniform elongated fruits, length of 70-80 mm. and a width of 40-50 mm. that weigh 60-80 gr, Barroco fruit has no hollowness nor cracking. Clusters hold 6-8 fruits with an arrangement that allows harvesting as a cluster. Barroco fruits are different from regular Roma-type tomatoes in being longer and narrower. The fruits are firm with long shelf-life, thick walls and low water content that makes them ideal for cooking and sandwiches..

With disease resistance to V, F-1, ToMV and N, Barroco will achieve best results when planted in autumn and spring, in plastic or net houses.



## Super Crisp 32

"Super Crisp 32", our triploid seedless watermelon, enjoys a brilliant red color, shape and size uniformity, high yield and a fruit weight of 7-9 kg.

With an oval shape and a medium-green rind color, the growers benefit from a vigorous plant, with good leaf coverage and good plant health, that can be planted from early Spring up to the late Autumn, indoor and outdoor. The advantage of this new watermelon is that it can fill the production gaps unfillable by previous varieties. This will enable shippers, retailers and consumers to enjoy this fabulous tasting product all year around instead of seasonally.



## Jazmo

Our excellent sweet, round and aromatic taste melon is highly recommended by our breeders due to its high yield and its good fruit shape and size uniformity. Add the fruit's green flesh color and firmness, outstanding taste and TSS content, and you are sure to make your customers pleased. With its strong plant vigor, high fruit-setting continuancy, good plant health and leaf coverage, this melon helps the farmers achieve high yield. The heavy netting helps increase its shelf-life. The melon reaches the weight of 800-1100 gr. Our breeders recommend planting the melon in Spring, outdoor. Resistances include F-0, F-1, F-2, PM\*, MNSV.





# Pollination in Melons

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**F**lowers / Most melon varieties have male, female and perfect (male and female parts in the same flower) flowers. The staminate (male) flowers are on the main stem and they appear first. The lateral stems produce the pistillate (female) flowers and often the first node of the lateral branch has a perfect flower. To get fruit set there must be some aid to pollination because the pollen is large and sticky. Even in a perfect flower the heavy, sticky pollen tends to fall to the outside of the flower and not towards the pistil (female part). Therefore, bees are used to facilitate pollination and get fruit set.



bee in the flower



beehives outside the tunnel openings

**Bees** / In melons the hives should be placed in the field or greenhouse only when open flowers begin to appear on the main stem (male flowers). The bees are attracted to the pollen and nectar of the flowers but the quantities are relatively low compared to many other crops and neighboring crops can often attract the bees away, especially in springtime. Moreover, if the hives are placed too early (before the open flowers) then the bees might migrate to other fields because other crops will be more attractive.

Melon flowers open in the morning and become shriveled by the end of the day. On the day the flowers open they need about 6-8 visits by the bees for good pollination. Pollination begins in the morning when the flower opens and the pollen levels are high and is usually completed by noon or early afternoon. The pollen levels decrease very quickly during the day. In hot dry areas the pollen is probably only effective in the early morning. In order not to interfere with the bee activity it is recommended to do the agrotechnical work on the plants in the afternoon.

The normal recommendation is one bee per plant or 2-2.5 hives/ha with more bees required if there is a high density planting. In greenhouses the hives should be on the outside of the structure with the entrance facing an opening in the greenhouse. The hive should be very close to the opening so that the bees can easily enter both the greenhouse and the hive. In the field the hive should be placed inside the field as opposed to the edge of the field.



trellised and hanging fruit in high tunnel

**Pesticides** / Care should be taken when applying pesticides to avoid killing the pollinators. Insecticides with short residual activity are best and should be applied in the late afternoon/early evening since the pollinating insects are usually active in the morning. This is true of all cucurbits.





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