

# The StePacker NEWSLETTER



Issue 26 | Spring 2015

## From the Editor's Desk

The spring season is in full swing and with it we bring to you the latest issue of the StePacker with updates that we hope that you will enjoy and benefit from.

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## New Sales & Marketing Mgr at StePac

Plastics veteran, Rani Kadosh has been appointed the company's new Sales and Marketing Manager, replacing Mr. Asaf Shachnai who now holds the position of General Manager.

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## Updates from the Lab: Pears & Poms

Read about the results and conclusions of packaging studies that were conducted during the autumn and winter with pears and pomegranates.

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## Small Details are Critical During Postharvest

"Spain has excellent agricultural production, which through efficiency and much hard work is reaching greatly reduced production costs.

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## Xtend Packaging for Blueberries

StePac has developed two types of Xtend packaging for blueberries to suit different supply chain conditions.

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## MA Packaging at Agritech Israel

Trade show Agritech Israel is recognized as one of the most important platforms for presenting agricultural innovation to a global audience.

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## UK Israel Tech Hub and Agritech

UK-Israel tech partnerships benefit both economies, and they can have a global impact, if companies cooperate to tackle global challenges.

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# From the editor's desk



By Deborah Meidan



## Dear readers

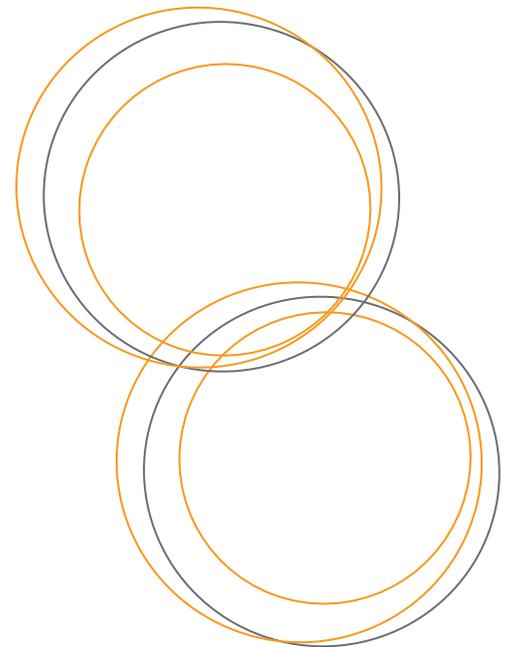
The spring season is in full swing and with it we bring to you the latest issue of the StePacker with updates that we hope that you will enjoy and benefit from.

In this issue, StePac introduces

plastics veteran, Rani Kadosh to the StePac family as the company's new Sales & Marketing Manager; we review the results of research conducted on pears and pomegranates at the R&D Lab during the autumn and winter; StePac's distributor in Spain, Agrotecnologia Aplicada writes on the importance of detail during Post Harvest handling; find out how Xtend packaging for blueberries performed during recent arrival inspections in China and Holland; learn what StePac's Technical Development Manager, Dr. Gary Ward had to say about the process of commercializing technological innovation at the recent Agritech tradeshow in Israel; and hear about the role of the UK Israel Tech Hub in facilitating bilateral partnerships in agricultural

technology. I welcome your feedback and wish you a pleasurable read.

Best Regards,  
Deborah Meidan



# New Sales & Marketing Manager at StePac

By Deborah Meidan



Rani Kadosh, StePac's Sales & Marketing Manager

StePac, leading manufacturer of Modified Atmosphere/ Modified Humidity packaging is proud to announce that plastics veteran, Rani Kadosh has been appointed the company's new Sales and

Marketing Manager, replacing Mr. Asaf Shachnai who now holds the position of General Manager.

Rani Kadosh joins StePac with a strong background in supply chain, sales, marketing and business development that he acquired from his 13 years at the Tadbik Group where he ended his impressive tenure as International Sales Director of the Labels division, generating 65% of the division's sales in the following markets: USA, Central & South America, Europe and Russia.

"We are confident that Rani's rich experience, together with his unique personality and approach to business are a perfect fit for StePac's growth objectives. ", says Asaf Shachnai, StePac's General Manager, "We welcome him to the StePac family and wish him much success."

Rani Kadosh has an MBA with a Major in Marketing from the Center for Academic Studies, Or Yehuda, Israel.



# Updates from the Lab: Pears & Pomegranates



By Gary Ward, PhD

The activities of StePac's R&D department at its postharvest and polymer lab in Tefen include the following:

- New product development
- Validation and fine tuning of existing products, wherever necessary
- Comparison of packaging performance with those of competitors
- Evaluation of complementary technologies that are likely to enhance the performance of Xtend® packaging

In this edition of the newsletter, we would like to present the results and conclusions of two packaging studies that were

conducted during the autumn and winter with pears and pomegranates.

## Comparing the performance of Xtend® with macro-perforated packaging for preserving the quality of Spadona pears, post CA

Spadona pears that were harvested in August were stored in controlled atmosphere storage (CA) for 2 months before being removed and packed in Xtend® PER2 bulk modified atmosphere packaging for 10kg pears or macro-perforated non-modified atmosphere polyethylene based

packaging. The two treatments were then stored for at 1°C to simulate subsequent shipment and storage after removal from controlled atmosphere. After 95 days, the pears were removed from the packaging, examined and then transferred to a shelf life temperature of 20°C and examined after 3 and 6 days.

A clear advantage was noticed to storing Spadona pears in Xtend® bulk modified atmosphere packaging after removal from CA. Fruit firmness was better preserved during storage as depicted in Fig. 1 below.

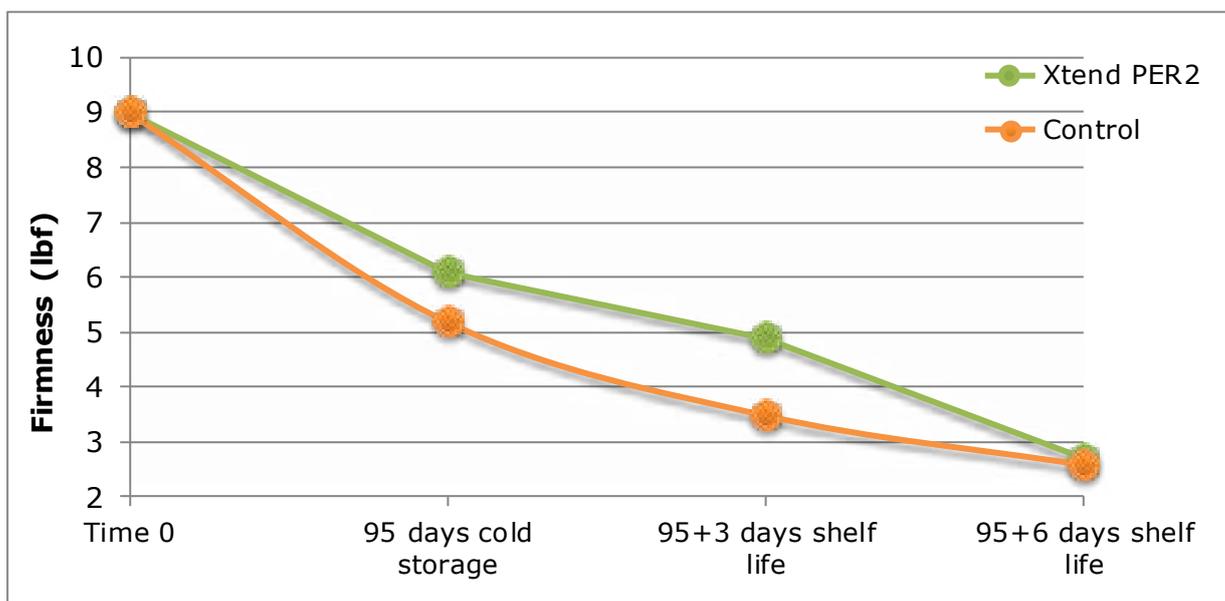


Fig 1: Loss in firmness of pears throughout the trial (95 days storage at 1°C followed by 6 days shelf life at 20°C, non-bagged). Results are presented as the average of 120 measurements on 60 fruit (10 from each of 6 bags).

In addition, weight loss of the fruit in Xtend® PER2 was much less during all stages of the study, Fig 2 below.

Most importantly, appearance, taste and texture of fruit stored in Xtend® PER2 was much

better during shelf life. The fruit previously stored in Xtend® PER2 remained attractive, ripened uniformly and was juicy, whereas distinct mealiness was noticed in the pears stored in macro-perforated packaging before shelf life.

The results illustrate the potential benefits of storing and shipping pears in Xtend® modified atmosphere packaging following removal from prolonged CA storage.

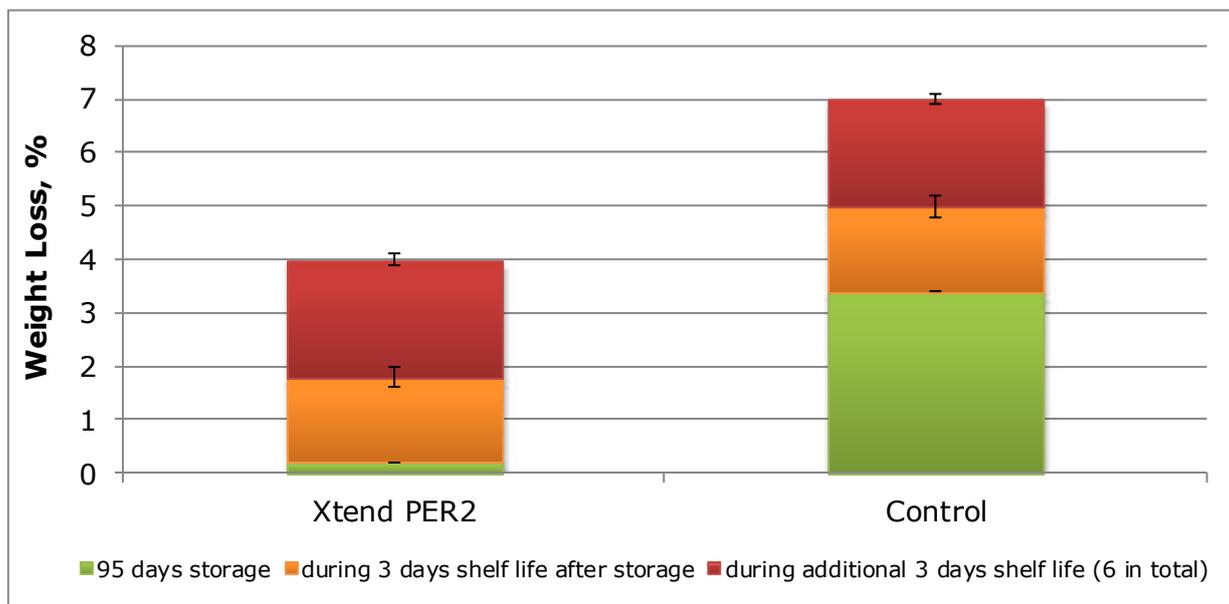


Fig 2: Cumulative % weight loss during cold storage at 1°C and subsequent shelf life at 20°C, non-bagged. Results are presented as the average ± standard deviation of at least 6 replicates.



Fig 3: Pictures of pears after 6 days shelf life at 20°C, after being stored for 95 days at 1°C in Xtend® PER2 (Left) or in macro-perforated packaging (Right)

**Comparing the performance of Xtend® 20 kg bulk modified atmosphere packaging with that of a major competitor for preserving the freshness and quality of pomegranates, c.v. Wonderful during prolonged storage**

Xtend® packaging for 20 kg pomegranates was compared with the corresponding packaging of a major competitor for prolonged storage of the wonderful variety. Fruit were harvested on 10th October, 2015, treated with the postharvest fungicide scholar cooled in open bags to 6°C, after

which the bags were sealed and stored at 6°C.

Weight loss in the competitors packaging was considerably higher than in Xtend® throughout 124 days storage at 6°C, (Fig 4).

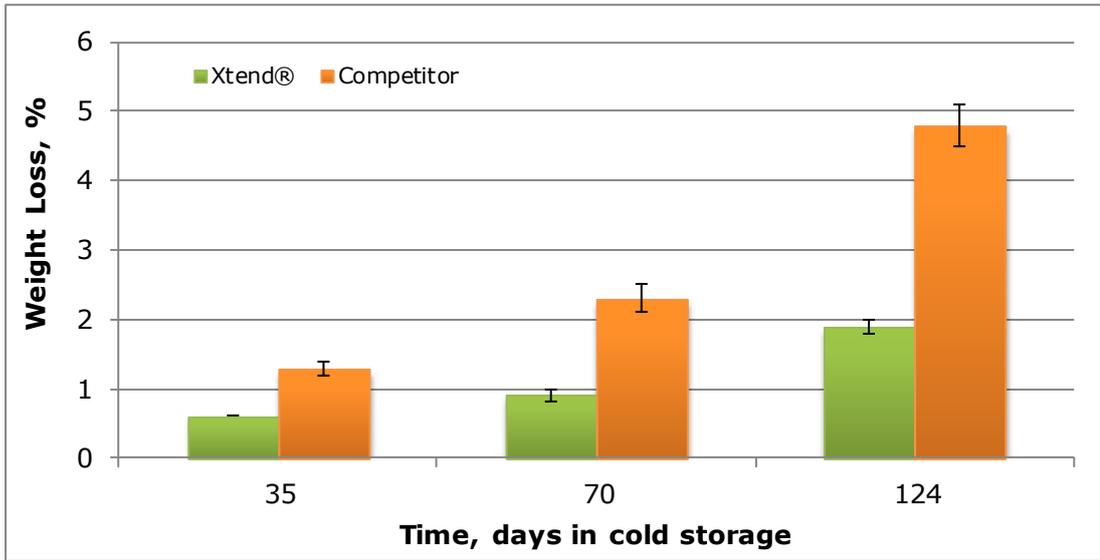


Fig 4: Weight loss of pomegranates during cold storage at 6°C. Results are presented as the average  $\pm$  standard deviation of at least 6 replicates.

The higher weight loss of the competitors packaging resulted in higher incidence of shriveling and “cornering” after 124 days storage. This was the only major difference in the quality of the fruit from both treatments at this stage of the trial (Fig 5).

There was no fungal decay on fruit packed in the two types of

packaging types and the internal quality of the fruit was similar. In a parallel trial in which the fruit were not treated with scholar before packing, there was also no decay.

After 5 days shelf life at 20°C, the differences in the quality were more pronounced. Not only was there more “cornering” on the

fruit previously packed in the competitors packaging, but there was also more brown discoloration of the white pith surrounding the arils (Fig 6 + 7). This finding was attributed not only to higher weight loss but also suboptimal modified atmosphere conditions in the competitors packaging during storage (Fig. 8).



Fig 5: Pictures of pomegranates after 124 days storage packed in Xtend® (Left) and in the competitors 20 kg packaging (Right). Note the fruit in the competitors packaging was characterized by more severe “cornering”

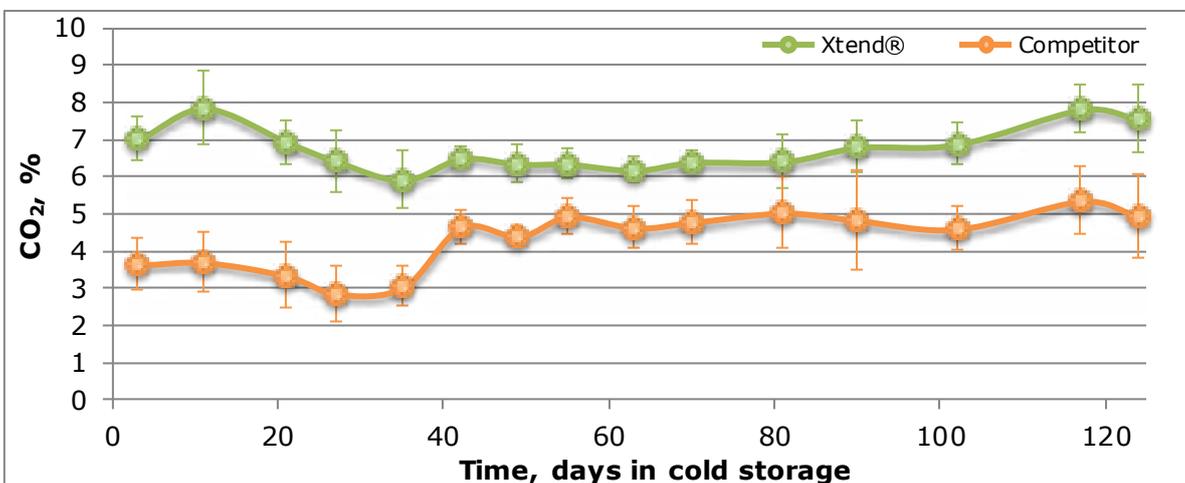


Fig 8: Average CO<sub>2</sub> levels measured within Xtend® and the competitors packaging during cold storage at 6°C. Results are presented as the average  $\pm$  standard deviation of at least 6 replicates.

The results of this study demonstrate the superior performance of Xtend® 20 kg bulk modified atmosphere packaging for prolonged storage of wonderful pomegranates and similar long storage varieties.

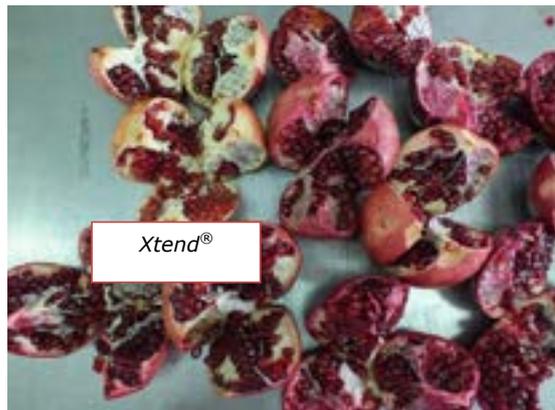


Fig 6: External (Left) and internal (Right) quality of pomegranates after 124 days storage packed in Xtend® 20 kg packaging, followed by 5 days shelf life non-bagged

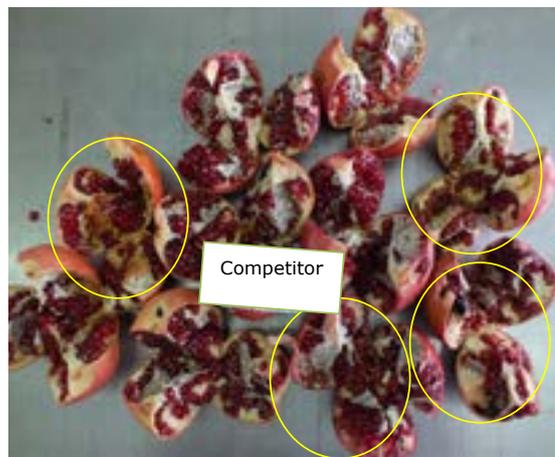


Fig 7: External (Left) and internal (Right) quality of pomegranates after 124 days storage packed in the competitors packaging, followed by 5 days shelf life non-bagged; internal discoloration (browning) circled

## Small Details are Critical During Postharvest



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Xavier Minguet is the Chief Executive Officer of company Agrotecnología Aplicada.

"Spain has excellent agricultural production, which through efficiency and much hard work is reaching greatly reduced production costs without affecting in the least the quality offered to the final consumer", shares Agrotecnología Aplicada's CEO, Mr. Xavier

Minguet, "however, we are so concerned with the production process that we forget the rest, that is, what happens to our fruits and vegetables on their long journey to the consumer".

Minguet attributes this to the fact that "the sector has always had a very accessible local market and that has prevented us from seeing the

horizon and the opportunities it holds; the markets that remain for us to conquer". It is now, when consumption in Europe is slowing down as a result of economic crisis and the threat of recession that "we notice that there are many emerging countries with high growth potential and higher per capita consumption than Europe", he declares.

And that is precisely the market niche in which Agrotecnología Aplicada wants to make its way. "Our goal is to help companies optimize the postharvest handling in order to sell their products in new markets that are currently, if not out of reach, too far away to access without changing work habits in packing houses" explains Xavier Minguet.

Agrotecnología Aplicada's activity is concentrated on advising companies on those elements that can improve postharvest efficiency, including handling, storage, and shipping to distant destination markets.

The company is the commercial and technical representative of Stepac, which focuses on the development of Xtend modified atmosphere/ modified humidity plastic packaging for the shelf life extension of quality fruits and vegetables. The packaging slows respiration, delays ripening and minimizes dehydration, thus extending the shelf life of fresh produce, which allows shipping to more distant destinations, creating new markets for Spain's domestic fruit and vegetable production".

For Agrotecnología Aplicada it is important to help our customers find new markets and assist them preserve the quality of produce on route.

Minguet says, "To be able to send, for instance, cherries to Brazil with the certainty that there is temperature and dehydration control throughout the trip is something that many companies want to achieve, and we can assist them in this process because we see it from the outside and

can detect malfunctions that would otherwise go unnoticed by our customers". It is important to emphasize that "many of the issues we see do not require large investments but rather a change of habits, of the way things are done".

One of the clearest examples of this situation "is the fact that most of the time fruit sit in the packing area once the pallet is finished and labeled, simply because it is no longer a priority. Managing this avoids putting stress on packed fruit due to temperature fluctuations that, far from being beneficial, reduce the fruit's shelf life". Minguet is a postharvest expert who knows the process start to finish and assists his customers in optimizing and developing new opportunities.

**Xtend® modified atmosphere bags extend the shelf life of fresh produce and allow export to distant markets.**



A selection of stone fruit packages in Xtend® modified atmosphere/ modified humidity packaging

# Xtend® Packaging for Blueberries: a winner with Chilean exporters to China and Europe



By Gary Ward

**Xtend modified atmosphere/modified humidity bulk packaging for blueberries is becoming more and more popular amongst Chilean blueberry exporters on account of its ability to provide optimal modified atmosphere conditions and also manage condensation during prolonged shipment, thereby reducing decay and preserving firmness, arguably better than any other product on the market.**

“StePac has developed two types of Xtend packaging for blueberries. One was designed to provide optimal modified atmosphere and condensation control during storage and shipment at optimal conditions of 0-2°C. The other was carefully designed to tolerate irregularly high temperatures that are common after arrival at some destinations such as the Guangzhou and Shanghai Markets in China and still provide the added value that the Chilean exporters and their customers are looking for. It is StePac’s unique offering of customized Xtend packaging solutions coupled with expert postharvest know-how and a very professional distributor in Chile, Empack, that are key to success.” commented

Gary Ward, StePac’s Technical Development Manager.

The excellent performance of Xtend packaging was recently witnessed during inspections of blueberries arriving at Guangzhou and Shanghai Markets in China from Chile by Mr Ivo Tunchel, Commercial Manager of StePac South America, together with Gabriel Romero of Empack. The condition of blueberries packed in Xtend packaging designed for 1.5 kg cartons was consistently excellent and superior to that of competitors packaging arriving at the same markets.

“The Guangzhou and Shanghai Markets in China are gateways to China’s major domestic commercial markets; the

storage conditions at these two markets are far from optimal and high temperatures are common which accelerate deterioration of produce and are potentially catastrophic if modified atmosphere packaging is incorrectly designed.”, commented Gabriel Romero of Empack.

“In all of the inspections that we conducted, (Fig 3), fruit visibility was outstanding due to the ability of Xtend to remove excess moisture” (Fig 1) reported Mr. Ivo Tunchel. “We were delighted to see that fruit was firm and there was no evidence of fruit rot on account of condensation control and optimal gas compositions (Fig 2 + 3). Blueberries packed in Xtend bags remained crunchy,



Fig. 1: Xtend packaging containing blueberries upon arrival in China. Note the lack of condensation and high clarity of the film, both of which make the produce easily visible thanks to its anti fog properties.



Fig. 2: Measuring gas compositions upon arrival in China.



Fig. 3: Gabriel Romero of Empack evaluating blueberries in Xtend packaging at Guangshou Market, China.

There was a high prevalence of condensation in competitors packaging at the markets and gas compositions were suboptimal, both of which resulted in a higher incidence of decay and softer fruit upon arrival, (Fig 4).

Xtend Blueberry packaging is also being used for shipment of blueberries from Chile to Europe, (Fig 5), where StePac has also

been following up to validate performance. In this case, the second design having a lower permeability suitable for supply chains with optimal cold chain management is used. A recent inspection of Brigitta and Legacy varieties arriving in Holland 28 days after loading the container in Chile, once again showed that gas compositions were optimal and coupled with condensation control

which helped prevent decay and preserve firmness of the blueberries during the sea freight.

Xtend packaging solutions for Cherries, Stone Fruit, Kiwi and pomegranates are also being used extensively for export from Chile.

**For more information on this and other Xtend products, write to us: [info@stepac.com](mailto:info@stepac.com)**



Fig. 5: Evaluating Brigitta blueberries in Xtend packaging in Rotterdam, Holland.

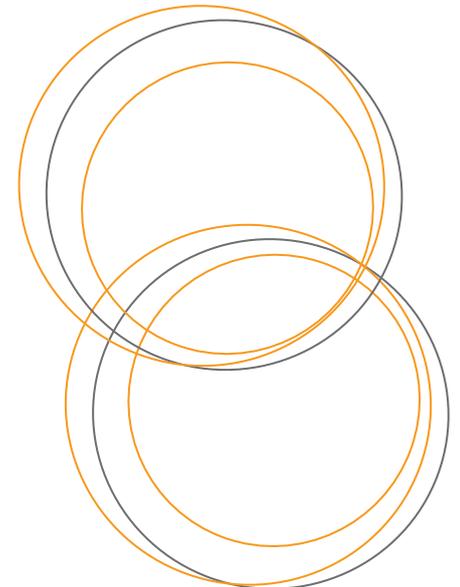


Fig. 4: Competitor arrivals showed substantial rot due to high condensation and suboptimal gas compositions in bags.

# Creating and realizing the added value of MA Packaging at Agritech Israel



By Deborah Meidan & Gary Ward

**StePac recently participated in the 19th International Agricultural Conference and Exhibition, Agritech that took place April 28-30 at the Tel Aviv Center, Israel.**

Recognized as one of the most important platforms for presenting agricultural innovation to a global audience, the focus topic at this year's Agritech was facing challenges in postharvest food losses.

Presenting at the distinguished conference was StePac's Technical Development Manager, Dr. Gary Ward, (Fig 1), who spoke to the audience about creating and realizing

the added value of modified atmosphere packaging and how, through pioneering postharvest work and the ongoing research and development that occurs at StePac, Xtend® Modified Atmosphere Packaging meets the challenges of real supply chain conditions. "We see firsthand that not only does Xtend® achieve commercial success, but it is also a part of the solution to reduce carbon footprint and food wastage. I was delighted to be a part of this year's Agritech speaker panel."

During the Agritech event, Dr. Gary Ward and Asaf Shachnai, StePac's General Manager also attended an exclusive

networking event held at the Bravdo winery at Carmi Yosef, which was organized by the UK Israel Tech Hub of the British Embassy in Tel Aviv, (Fig 2). A high level delegation of UK agritech experts attended, led by Prof. Robin Grimes, Chief Scientific Adviser for the UK's Foreign and Commonwealth Office. It was certainly an evening to remember: great company, excellent food, wine and a fascinating lecture on the translation of scientific knowledge and experience into the production of fine wines given by the Bravdo winemakers, Prof Ben Ami Bravdo and Prof. Oded Shoseyov.



Fig. 1: Dr. Gary Ward, StePac's Technical Development Manager Speaking at the recent Agritech Conference, Tel Aviv, Israel.



Fig. 2: StePac at British Embassy's UK Israel Tech Hub networking event held at the Bravdo Winery, Carmi Yosef.

# The UK Israel Tech Hub and Agritech

By Yoni Dolgin, Cleantech Manager, UK Israel Tech Hub

**As British Prime Minister David Cameron said when he visited in Israel in March 2014, innovation and technology is at the heart of the relationship between Britain and Israel.**

UK-Israel tech partnerships benefit both economies, and they can have a global impact, if companies in both countries cooperate to tackle global challenges. It is in this spirit that the UK Israel Tech Hub was established in 2011 - a team based at the British Embassy in Israel dedicated to promoting technology partnerships between British and Israeli companies.

The Hub creates technology partnerships in areas where both economies have strong capabilities and room for

growth, including the agritech sector. The global agriculture technologies sector is worth \$400billion, and the UN forecasts that by 2050, global food production will need to increase by 70%. The agriculture and food sectors play an important part in the UK's economy, contributing 14.4billion, and employing more than 500,000 people. In an effort to position the UK as a world leader in agriculture technology, innovation and sustainability, the British government launched its Agritech Strategy, injecting 140 million GBP in government funding to support the commercialization of agritech innovation.

Over the past two years, the UK Israel Tech Hub has

facilitated bilateral partnerships in agritech. Most recently we hosted a UK delegation at the Agritech Israel 2015 Conference & Exhibition.



The UK delegation included a mix of British academics, startups, growers and retailers seeking Israeli partners in joint research and development, and commercial opportunities. It was our honour to introduce Stepac executives to this delegation - not only because of the potential commercial opportunities, but because of the special connection Stepac has to both Israel and the UK.



**For more information contact [yonid@ukisraelhub.com](mailto:yonid@ukisraelhub.com)**

UK agritech delegation to Israel, meeting select members of Israel's business community including StePac's Asaf Shachnai, GM, and Dr. Gary Ward, Technical Development Manager.

Credit: Eyal Guttman