Reducing food losses by innovative postharvest storage solutions

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Innovative food storage solutions

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Global food losses & waste

Studies led by the FAO demonstrated that third (1.3 billion tons) of all food produced on the planet is lost along the supply chain.

Global losses of fruit & vegetable are ~50%!
Food losses by weight:
Fresh fruit & vegetables provide 64% of all food losses!
Institute of Postharvest and Food Sciences
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Dry Grains

Fresh F&V

Animal products
Innovative storage solutions in Israel

We develop various postharvest technologies:

- **Breeding** for better postharvest life
- **Safe sanitation** treatments
- **Cold chain** management
- **Packaging** and coatings
- **Postharvest operations**, etc.

All these aspects greatly reduce food losses!
Today I wish to discuss 2 key issues that may significantly reduce F&V losses in supermarkets and consumers homes (municipal organic waste):

1. Retail packaging
2. Education and storage instructions
Retail and consumer packaging
Packaging’s Role in Minimizing Food Loss and Waste Across the Supply Chain

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Energy for food consumption

Figure 1. Energy for one person’s weekly consumption of food, MJ/person/week. Source: Adapted from INCPEN and Verghese et al. 

60,29
Packaging innovations poised to reduce Australia’s $50 billion food waste bill

By newsadmin - November 27, 2017
“At the store level, packaging is identified as a key solution to reduce nearly 10-15% of food waste. At the household level, packaging is promoted to reduce 20-25% of food waste”.
We found that proper packaging retains F&V quality and reduces food wastage during marketing and in consumers homes!

However, it is necessary to use proper packaging materials and perforation rates for different produce, and maintain a proper cold chain management!
Reduction of F&V losses by retail bags
Education and storage instructions

1. We need to increase public awareness to the problem of food losses and waste!
2. We need to instruct produce managers in wholesales and supermarkets how to properly store the produce!
3. We need to instruct costumers how to properly store the produce at their homes!
Food loss education programs in schools

This initiative begun 2 years ago by the Israeli Ministry of Education (studies on sustainability)
Storage instructions for food supply operators

We provided F&V storage instructions in the website of the Israel Ministry of Agriculture

http://www.moag.gov.il/Pages/HomePage.aspx
Home storage instructions for customers

A magnet (pictogram) with home storage instructions

How to store fruit & vegetables in consumer's homes?

- Store in refrigerator
- Ripen on the counter and afterwards store in the refrigerator
- Store on the counter
- Store in the pantry

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Conclusions

Adopting advanced postharvest packaging technologies in combination with education and storage instructions will reduce F&V losses and municipal food waste!

Thank you