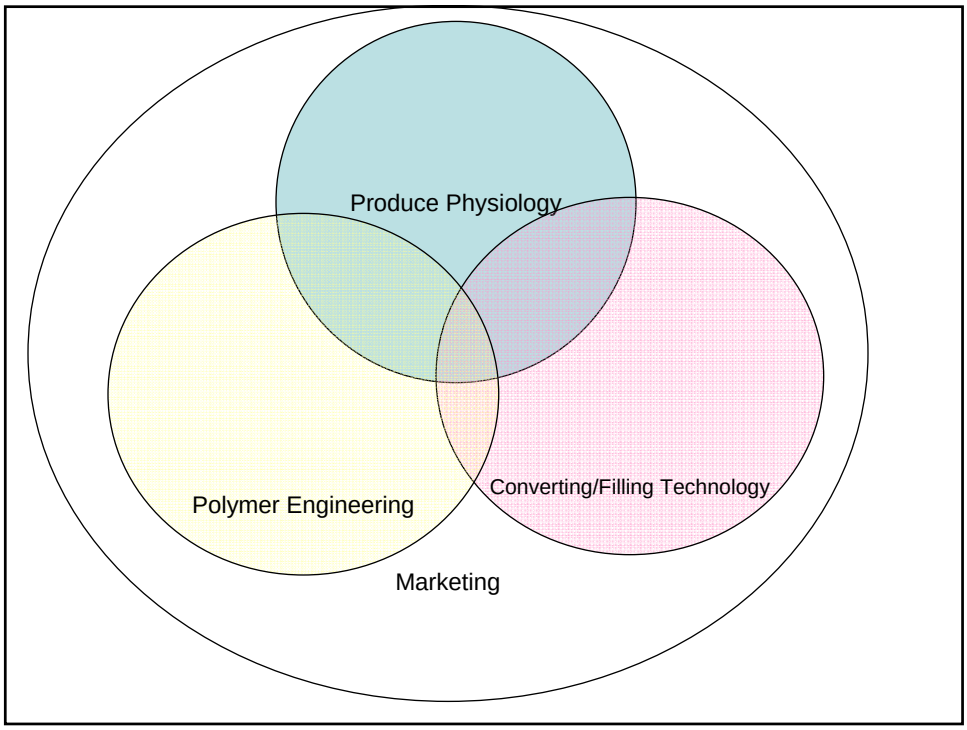
Fresh-cut products: Maintaining Quality and Safety

New Packaging Concepts

20 September 2006

Presented by:

The JSB Group



Packaging Innovation
What Drives Innovation

- Consumer Requirements
- Produce Innovation
- Packaging Misconceptions
- Packaging Technologies

Packaging Innovation
Consumer Requirements

- Convenience
- Freshness
- Quality

Packaging of Tomorrow -Gaining insight

•In September 2005, DuPont sponsored surveys (conducted by Ipsos Public Affairs) to gauge U.S. consumers' behavior and attitudes when purchasing food
–Objective:
–determine how food packaging impacts their beliefs
–Methodology:
–online survey of 1,172 U.S. adult consumers
–Telephone survey of 75 executives in food and beverage industry
–Visit www.scienceoffresh.dupont.com to see the full survey

Key Findings from Consumer Survey

Freshness is top concern
- When buying food, 60% ranked TASTE or FRESHNESS as most important
- When thinking about packaging, 35% ranked FRESHNESS as most important

Consumers are willing to pay more for freshness
- Nearly three out of four consumers(72%) are willing to pay more –at least 10¢more–on a $3 food item
- 35% would pay at least 25¢more

Packaging Innovation Produce Innovation

- Vegetables
- Fruits
- Novel Combinations
- Combinations of Protein, Carbohydrate, and Produce

Packaging Innovation Misconceptions

- Temperature Control
- Incoming Product Quality Post Harvest Technology
- Leakers
- Gas Flushing
- Static Environment
- Cold Chain Management
- One Product Fits All

Packaging Innovation
Packaging Technologies

- High WVTR Films
- Higher OTR films
- Pallet MA/CA
- Uniform Package Gas Exchange
- Quantitative RR Determination
- Quantitative MA Determination

Packaging Innovations

- Ready Eat Meals
- Microwave Cooking
- Easy Open SUP
- BBQ Bags
- "Breathable Trays"
- Bin Liners/Bag in Box
- Multi Temperature Steaming Technology
- Multi Compartment Multi Product Cooking

Unique Package Technology

- EZ open, microwaveable package with vacuum skin technology and self-venting feature
- Steams fresh vegetables so consumers can add a healthy side dish to their meal
- Also works for raw or pre-cooked entrees, i.e. stews, pot roast, meatloaf, BBQ pork, chicken breasts, fish
- **Enables prep of an entire meal in minutes**

Unique Package Technology

- <u>For produce</u>
  - Highly permeable top web with standard Simple Steps™ tray
  - Targeting fresh vegetables, retail and foodservice markets, single and multiple servings
  - Typical shelf life (fresh)…2 weeks

Estersteam™

By using rotary die cutting technology we cut a hole in the lid or pouch and then apply a heat sensitive label. The label shrinks back during cooking to allow moisture escape.

CanEster™

The Quad pack is a familiar pack but doesn't work for salad as product weight is generally too low. So you do what comes naturally market it on its side.

This then provides a good stand up presentation. If micro-perforation is need then added to the top of the pack you ensure neither product or shelf packing will block the holes.

CanEster™

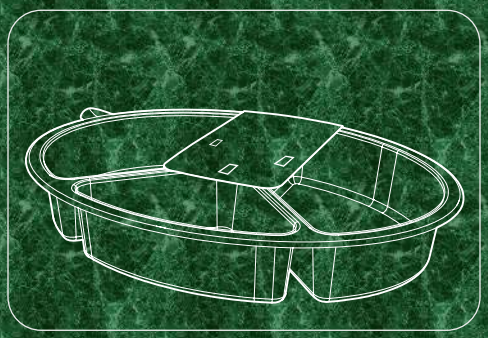
Add to this FFP's patent pending laser scoring and reseal labelling and you have got the ultimate convenience pack. Remove the label and pull, the pack tears to the seals and stops. Remove the portion of product you need, fold over and reseal using the label. Easy access to the pack through opening.

Esterpeel QBAG™

- **Esterpeel BBQ offers new levels of added value and convenience to the out door chef.**

Manual

placing in microwave



5 min.

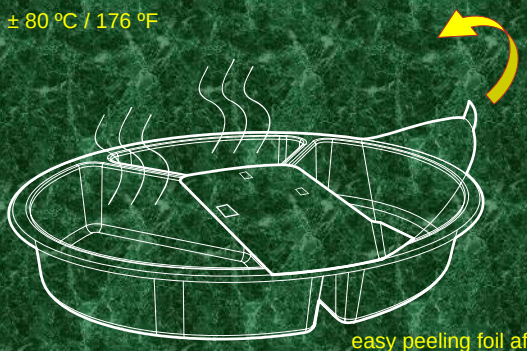
- microwave
- -2 or more compartments
- -variable micro perforations and pressure
- -different temperatures

CH Food b.v.

V.H.S. System

strip

± 80 ºC / 176 ºF



easy peeling foil after heating

V.H.S. System

Putting It All Together/ Conclusions

- Thorough Understanding of Requirements and Desired Results
- Matching Requirements to Properties
- Understand the Language
- Selecting the Proper Package
- Designing the Proper Package
- On-going Quality and Testing

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