



Hans Vriens – Chief Innovation Officer

R&D and Innovation -  
Creating competitive advantage



# Innovation & R&D at Barry Callebaut

BC has a team of 189 researchers, 100% dedicated to cocoa and chocolate. Group divided and devoted to 2 tasks:

## Pro-active Innovation



- New product developments in line with consumer concerns and key market developments
- Fundamental Research on cocoa and Chocolate
- Clinical studies
- Farmer productivity & quality: Agroforestry, experimental farming, post-harvest techniques, control fermentation, bean tracing

## Applied R&D



































- Combined teams with customers to apply chocolate to the finished products
- Renovate products / recipes
- Apply new technology or developments to finished products
- Exchange knowledge and consumer insights with customers (Innovation days)
- Competence centers (fillings, chocolate, cocoa, gourmet applications)















# Global chocolate and cocoa R&D network






America	
USA:	    
Canada:	  
Brazil:	  
Mexico:	

Europe	
Belgium:	     
France:	     
Italy:	 
Poland:	   
Switzerland:	   
United Kingdom:	   
The Netherlands:	  
Sweeden:	

Africa	
Ivory Coast:	 

Asia	
Malaysia:	    
Singapore:	  
India:	 
China:	
Japan:	



-  R&D Center
-  Pilot line: Mini factory to produce chocolate and/or cocoa on lab scale
-  Application lab: Small scale production processes for finished products
-  Chocolate Academies
-  Competence center (CH: chocolate, CO: cocoa and CP: compound)



# Our competitive advantages in innovation

## Capabilities & Expertise

- Broadest global R&D capabilities: largest network of pilot lines, application labs and chocolate academies
- Largest sized, most focused and experienced R&D team: >500 technical/customer visits per year

## Partnerships

- >30 partnerships with Universities, Research Institutes, labs, scientists etc. around the world
- 9 human clinical successful studies performed in 2009-2011 to support health claims for Efsa approval

## Intellectual Property

- >35 patent families filed in past 5 years, providing unique technology
- >40 international patents filed
- Proprietary product & process knowledge leads to more effective outsourcing

## Broad Offer

- Ability for industrial volume of above-grade beans/products
- Broadest offer of certified chocolate, compounds and fillings
- Broadest industrial supplier of decorations, inclusions, and printing product

## Performance

- >1900 new projects started (>850 successfully closed)
- Implementation of large outsourcing deals leads to repeat outsourcing
- Successful at premium specialties: Terra Cacao, Certified, Nut fillings
- Deepest new product funnel – 83 new products under development
- Prize-winning agronomics research (Selbourne cocoa plantation)

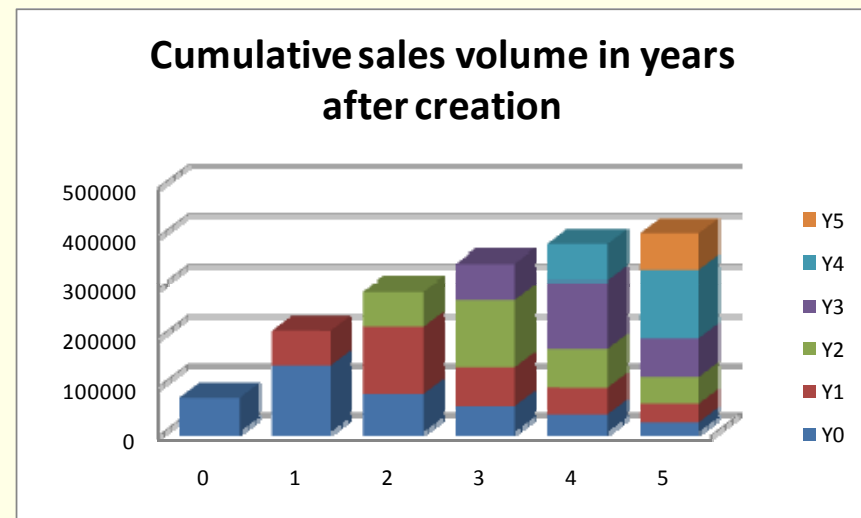
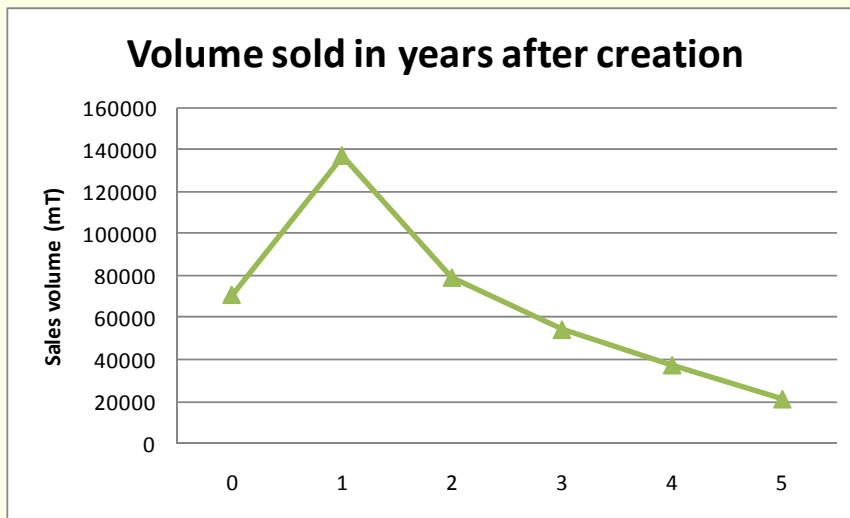




# R&D Performance:

## New products lead to significant new volume

- ▶ New products have a 5 year lifecycle
- ▶ New products (created in any FY) generate sales volume of 400KT during their life-time
  - ▶ **72%** of the yearly sales volume with new products, made in past 5 yrs
  - ▶ New products generate **70KT** volume in Y0 and **130KT** in Y1
  - ▶ New products generate 49% of sales in the 1<sup>st</sup> 2 years

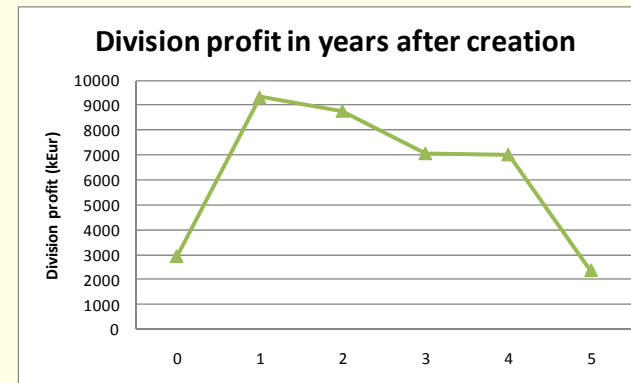
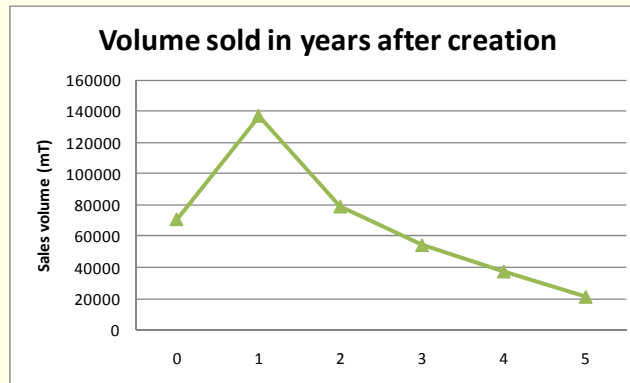




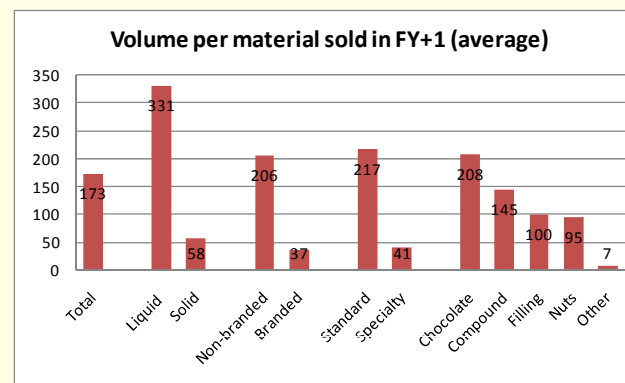
# R&D Performance:

## New products generate new volume & profit

- ▶ New products (created in any FY) generate CHF 52Mio. during their life-time



- ▶ New product types achieve different results, helping to define clear future R&D priorities



Source: SAP Western Europe – Avg past 5 yrs.



# R&D focus for the future:

## 9 predictions about chocolate and BC's response

- ▶ **Cocoa price increase (double in 5-7 yrs)**
  - ▶ Implement programs to increase yield & quality
  - ▶ Help farmers to make cocoa farming competitive
- ▶ **Backward integration (competitive presence increases)**
  - ▶ Establish Model or Exploratory farms to do agronomics research
  - ▶ Strengthen direct sourcing via certification & controlled fermentation
  - ▶ Establish broader origin presence away from West Africa
- ▶ **Increased margin pressure**
  - ▶ Push customer-specific cost savings programs pro-actively
  - ▶ Expand gourmet focus
  - ▶ Experiment with flexibility
  - ▶ Focus new product development toward lower cost products
- ▶ **Compounds to double (20-25% of chocolate in 5 yrs)**
  - ▶ Develop lower-cocoa alternatives
  - ▶ Develop cocoa powder extenders/replacers and more intense powders



# R&D focus for the future:

## 9 predictions about chocolate and BC's response



- ▶ **Fillings to grow (>25% of chocolate in 5yrs.)**
  - ▶ Evaluate flexibility in fillings (process, flavours, packaging)
  - ▶ Expand fillings offer geographically – Nafta, Latam, Asia
  - ▶ Expand fillings offer with white space products – e.g. nut-based,
- ▶ **Inclusions & decorations grow profitably (>10% of chocolate)**
  - ▶ Expand offer
  - ▶ Develop new capabilities - printing
- ▶ **Competitive indulgence becomes premium differentiator**
  - ▶ Expand Terra Cacao – 1st entry into premium indulgence
  - ▶ Expand sensory capabilities
  - ▶ Deliver new products to beat competitive indulgence
  - ▶ Deliver an expanded offer of sensory services
- ▶ **Increased demand for diversification from key accounts**
  - ▶ Deliver customer specific specialties
- ▶ **Increased regulatory pressure**
  - ▶ Healthier product developments – Stevia, clean label, healthier fats
  - ▶ Deepen research in new sweetener solutions







# Innovation creates competitiveness: “Some cases to illustrate”

Prediction - increased cocoa cost:

- Full-service-application supplier - Fillings expertise and technical assistance group leads to above-market growth in compounds & fillings world-wide and to +25% in “specialty fillings”
- Cocoa powder replacers – technical expertise saves core customers >CHF10Mio.
- Recipe cost reduction - >900 recipe cost saving projects ongoing, helping to achieve longer-term outsourcing commitments by small/medium customers

Prediction - backward integration:

- Certified - origin access, complexity handling and broadest assortment leads to +106% volume growth in Europe in FY10/11 and new outsourcing contracts



# Innovation creates competitiveness: “Some cases to illustrate”



Prediction - Upgrade competitive indulgence:

- Terra Cacao – use of CF to get superior quality beans for superior quality chocolate breaks sales record for best sold specialty in year 1
- Mood chocolate – use of specific origin beans and preservation methods to deliver higher indulgence cocoa. Makes ice-cream brand more indulgent



Prediction - more differentiation

- Decorations & Printing – better industrial printing leads to new products

Prediction – more regulatory pressure

- Customer entry into Stevia chocolate

