Food & Beverages
Food for a growing world

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Session outline

• Novozymes’ position and value proposition in Food & Beverages
• Views from Cargill: creating sustainable business
• Novozymes’ innovation priorities
Food & Beverages enzymes summary

The largest category in the enzyme world

A small fraction of food ingredients and processing aids

A global industry with many applications

Source: Novozymes own estimates, Leatherhead, expert interviews, GXC, Freedonia, Euromonitor

Source: Novozymes own estimates

Baking

Food & Nutrition

Starch, oils & fats

Beverages

Enzymes

- Food & Beverages

- Detergents
- Biofuels
- Feed
- Technical applications

- Flavors & colors
- Processing ingredients
- Preservatives
- Specialty proteins
- Other ingredients

Food Ingredients

DKK ~9bn

DKK ~9bn

DKK +300bn

DKK ~15bn

DKK ~9bn

DKK ~9bn

DKK ~9bn

 DKK ~9bn

DKK +300bn

DKK ~15bn

DKK ~9bn

DKK +300bn

Source: Novozymes own estimates, Leatherhead, expert interviews, GXC, Freedonia, Euromonitor

Source: Novozymes own estimates
Novozymes is the global leader in the Food & Beverages enzyme market

Most fragmented and diverse market for Novozymes

- Broad portfolio of 300+ products across applications
- Top 5 customers make up ~20% of sales vs. 31% for the Group
- Distributors important for global reach (~30% of sales)

Strong market position and robust growth driver

- Novozymes is #1 in all the main markets where it plays (all main markets except cheese coagulants)
- 6% sales CAGR since IPO – 26% of Group sales today
- Fragmented industry structure and industry profile make for slower ramp-up of new products, but long lifetime

Source: Novozymes own estimates.
We cover a broad set of end markets and applications
– We operate in different parts of the value chain. Revenue-wise, the two parts are comparable

**Processing of Ag inputs**
A global business with global solutions
- Starch processing
- Brewing
- Beverage alcohol
- Juice & wine
- Oils & fats processing

**Characteristics:**
- Starch processing main business
- Fewer product categories
- DuPont main competitor
- Fragmented global customer base
- ~60% direct sales
- ~60% emerging markets

**Food products**
Product-driven for developed markets
- Baking
- Infant food
- Flavor enhancement
- Acrylamide reduction
- Low lactose

**Characteristics:**
- Baking main market
- Many products to many end customers
- Competition more dispersed and local
- ~80% direct sales
- ~30% emerging markets
Bioinnovation and Novozymes can have a greater impact on consumers and society

Four defining trends set the scope for future growth...

- More with less
- Health
- Emerging markets industrialization
- Consumers wanting more natural foods

... and define innovation opportunities for the future

- Unlock new substrate streams
- Enhance productivity offering in existing markets
- Freshkeeping
- Remove unwanted compounds
Creating sustainable business

152,000 employees in 67 countries

Food, Agriculture, Financial and Industrial products & services

An unrivalled portfolio for a wide range of applications

Meeting ever-changing consumer demands through targeted innovation

Combining broad knowledge and deep expertise

Aging population

Increasing speed to market, protecting brand & business, and enabling sustainable growth

Clean label sustainability

Healthy formulations

Pure & Simple

Fragile brands

Urbanization

Growing world population

Benefits

Added Functional Loyalty

Fragile brands
R&D investments to drive impact and increase partnering within updated focus areas

More R&D resources for near-market impact & long-term opportunities in partnership

Innovation focus

- **Baking**
- **Food & Nutrition**
- **Oils & Fats**
- **Starch**
- **Beverages**

- Raw material flexibility
- Fresh & tasty
- Healthy & safe
- Productivity & yield
- New business incubation

**Investment**

- **Near-market**
- Incremental innovation
- Big bets
Focusing on near-market opportunities and big bets requires strengthening of two different skillsets

Partnerships a must for big bets
- Leverage partner competencies from other industries
- Develop model for stronger partner engagement
- Build innovation relationships with end customers

Drive near-market opportunities
- In-field application development
- Closer interaction with customers
- Manning-up in emerging markets
- Use of local raw materials

Benefit from changes in innovation pipeline management
- Portfolio management to reduce incremental innovation with limited commercial opportunity
Deeper and broader in a platform and with partners

Example: Deeper and broader in Oils & Fats

Situation: Smaller business today for oil processing

Future – Through partnerships:

• Develop application and process understanding to drive development, building value for partner and enabling a broader shift to biological processing of oil seeds

• Unlock other oil-rich substrate streams

Example: Deeper and broader with Cargill

Situation: Longstanding relationship in starch, but limited experience within other business areas

Future: Enhance innovation partnership to allow for broader strategic scope of collaboration across verticals. E.g. Oils & Fats processing
Conclusion

• A good longstanding business for Novozymes

• 4 defining trends shape opportunity to create more impact:
  • More with less
  • Health
  • Emerging markets industrialization
  • Consumers wanting more natural foods

• Partnering for impact:
  • Unlock new substrate streams
  • Enhance productivity offering in existing markets
  • Freshkeeping
  • Remove unwanted compounds