Cargill and Royal DSM to establish Avansya JV

Bringing zero-calorie, cost-effective sweeteners to market faster

Presentation to Investors
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- A more comprehensive discussion of the risk factors affecting DSM’s business can be found in the company’s latest Annual Report, which can be found on the company's corporate website, www.dsm.com
Highlights of the Joint Venture

- Cargill and Royal DSM to establish a joint venture, Avansya, to bring zero-calorie, great-tasting, cost-effective sweeteners to market faster. The establishment of the JV is subject to regulatory approvals and other customary closing conditions, but expected to be finalized in Q1 2019.

- Avansya will be a 50-50 partnership between Cargill and DSM; DSM will consolidate its 50% interest in its group results (sales, adj. EBITDA).

- Avansya will produce highly sought-after, sweet-tasting molecules, such as steviol-glycosides Reb M and Reb D, through fermentation, giving food and beverage manufacturers a more scalable, sustainable and low cost-in-use solution than if these same molecules were extracted from the stevia leaf.

- Avansya will leverage the two companies’ highly complementary strengths for bringing to market fermentation-derived Reb M and Reb D steviol glycosides.

- Avansya will make use of a new fermentation facility being built at the site in Blair, Nebraska (USA), which is expected to be completed and operating in summer 2019.
**Unique Market Opportunity**
Consumers and governments globally are moving away from sugar

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**Macro-Economic**
- Growing world population
- GDP per capita growth
- Emerging economies

**Health & Wellness**
- Healthier diets
  - Sugar, salt, fat reduction
  - Digestive health
- Better taste and convenience
- Drive for natural/clean label

**Sustainability & Productivity**
- Sustainable food production (more natural, more efficient, less waste, reliable supply)
- Removal of undesired substances
- Affordable food for all

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- Food and beverage producers look to significantly reduce calories in their offerings to consumers
  - Growing need for non-artificial, zero-calorie, great-tasting sweetener options
- Fermentation-derived naturally-occurring molecules, such as steviol glycosides Reb M and Reb D, are perfectly positioned to profit from key trends driving today’s food ingredients segment
Consumers and governments globally are moving away from sugar.
Avansya well positioned
Replacing sugar - a matter of multiple functionalities

- Stevia is the most important, natural, high-intensity sweetener
  - Reb M and Reb D are the most interesting molecules, offering the best taste profile (but only available in very low concentrations in Stevia leaves)

- Fermentative Reb M and Reb D provide a more scalable, sustainable and lower cost-in-use solution than any other available technology:
  - Great taste, consistent quality, reliable supply, sustainable production, affordable for customers and consumers
  - Fermentative Reb M and Reb D are well-positioned to replace existing artificial high-intensity sweeteners (aspartame, sucralose, Ace-K, etc.), as well as reduce the use of all other high caloric sweeteners

- Market opportunity for fermentative high-intensity sweeteners is expected to grow to >€3bn by 2025

- Replacing sugar is not only a matter of replacing sweetness
  - With their broad product offering (e.g., textures), both partners are well positioned to address sugar’s multiple functionalities
DSM and Cargill combining forces to speed up route-to-market

- Unique biotechnology & fermentation know-how, including strain development
- Broad expertise and application know-how in human nutrition
- Global commercial footprint in Nutrition market
- Unrivalled application expertise and global commercial footprint in sweetener market
- Large-scale fermentation capacity
- Access to co-located raw material supplies in Blair, Nebraska (US)

Avansya

- Faster to the market: fermentation facility operational Summer 2019
- Lower costs (investment, technology, raw materials, operational)
- Unrivalled global market access through Cargill and DSM sales and application networks
- Creating strong platform, starting with Reb M and Reb D
Reducing Sugar content & calories; improving health & well-being

A healthy, naturally sourced solution as alternative for sugar for food and beverage customers

Significantly less impact on water-related ecosystems versus plant-based Stevia

Sustainable management and efficient use of natural resources (land & water) as well as avoidance of chemical extraction

Avoidance of use of arable land and use of water as well as waste of large parts of plant/leaves not applicable as sweetener

Avansya, combining strengths of DSM and Cargill for sustainable development
Avansya expected to significantly contribute to DSM’s large innovation projects

- Eubiotics/Gut Health (feed/food)
- i-Health (B2C nutrients)
- New biomedical products (tissue repair/ophthalmology)
- Solar (coatings/backsheets)
- New Functional Materials (5G)
- Apparel (Dyneema textile applications)
- ForTii (High-Performance Polymer)

- Clean Cow
- Veramaris (Green Ocean)
- Stevia (fermentative)
- Enzymes/Yeast (1.5 - 2G ethanol)
- Niaga (recyclable carpets & more)
- Additive Manufacturing (3D)
- Plant-based proteins (CanolaPRO)
- Bio-agri (fungicides/pesticides)
- Actamax (biomed adhesion barrier)

- Avansya (50% consolidated) expected to make a higher earnings contribution vs. original standalone plan
- Sales potential of several hundreds of million US$