Summary of the event "A Fresh Approach to Packaging and Waste"

10th October 2011, Chatteris

This event was organised by InCrops Enterprise Hub for businesses involved in the fresh produce supply chain interested in waste reduction and packaging innovations.

Biodegradable waste, which includes food waste, accounts for 90% of the direct carbon emissions from the waste sector (1). Annually, 8.3 Million tonnes of total household food & drink waste is generated in the UK, of which 5.3 Million tonnes is classified as avoidable waste, such as unopened or unfinished food (2).

Packaging plays an important role in preserving food and minimising waste. The impact of packaging waste on the environment is much smaller than the impact of food waste. Nonetheless, packaging waste represents one sixth of household waste (4.9 Million tonnes in 2009), more than half of which comes with groceries (2). Total household, commercial and industrial packaging waste amounted in 2009 to 10.8 Million tonnes and only 66.7% of that is recycled. Hospitality & food service added in 2009 another 1.12 Million tonnes of food and packaging waste (2).

Compostable packaging materials are well suited to food with high respiration, such as fruit and vegetables, and to products with a short shelf life. Biodegradable packaging that is certified compliant with EN13432, including films, trays and bags, can be disposed of via AD and industrial composting (3). Some commercially available biodegradable packaging materials have been certified as suitable for anaerobic digestion systems (4).

Three speakers at the event addressed different aspects of waste generated in the fresh produce supply chain: waste management, use of compostable packaging, and use of packaging innovations such as printed electronics.

Tina Benfield of the Chartered Institute of Waste Management gave a broad overview of the Government Waste Policy Review released in June 2011. The targets for reduction of landfilled biodegradable waste (7.5 Million tonnes or 50% of the 1995 rates by 2013, and 5 Million tonnes or 35% of the 1995 rates by 2020) drive anaerobic digestion in food waste treatment. The waste industry has identified an essential need to review the role of compostable packaging in the reduction of food waste. Nonetheless, there is a mismatch between food waste and packaging due to the issues of contamination, consumer confusion, and technical issues at treatment facilities with further optimisations required to enable the processing of compostable packaging. The waste industry needs to liaise with developers of materials, the packaging industry, retail, and consumers

in order to develop a suitable framework for the use of compostable packaging in reducing food waste.

Bruce Drew and David Wilkinson of Fresh Technologies UK have brought a different perspective into the discussion. Their business currently helps companies in Europe, North & South America, South Africa, and India to reduce food waste by extending the shelf life of fresh produce. The second arm of the business revolves around developing packaging solutions based on compostable and renewable materials. Fresh Technologies has developed a family of materials under the Compost-Ready™ brand, which incudes packaging films, trays, and mulch film grades. Compost-Ready™ conforms to EN13432 standard and is ready to obtain DINCERTCO and OK COMPOST certification. Bruce Drew stressed that compostable packaging is still not used in large volumes due to higher cost and complications around disposal. On the other hand, cradle to grave strategy is essential when development of compostable packaging.

The third speaker, Brian Weeks of Interactive Product Solutions Ltd introduced the audience to various applications of printed electronics in packaging. His talk reviewed the status of the technology developments taking place and the new market opportunities being created. 'Intelligent' packaging in various forms has been available for many years, but a new breed of materials and inks is now available, enabling electronics devices to be printed onto flat flexible substrates such as polymer films and carton board. These innovations have profound implications for packaging of all types. There are many potential opportunities and innovative ways of making packaging more effective, attractive and interactive using printable electronics.

In conclusion, Liliya Serazetdinova reinforced the message that the performance of compostable packaging is constantly improving. Compostable packaging is well suited to food with high respiration and products with short shelf life. There are a number of commercially available compostable packaging materials on the market. Biodegradable packaging is still more expensive but price parity will be reached in the medium term owing rising crude oil prices and growing production scales for bioplstics. The biodegradable packaging market is predicted to achieve about £1.7 bln in 2016 with a five year CAGR of 20.5% (BCC Research, 2011). Compostable packaging could be combined with innovative technologies such as printed electronics to ensure better communication of compostbility advantages, to facilitate access to younger consumers, to improve performance, help differentiate from competitors, track sock and usability, and strengthen the brands.

1) Waste Policy Review, 2011
2) Handy Facts & Figures, 2011
3) NNFCC Report, Anaerobic Treatment of Packaging Waste 09-011
4) Metabolix press release, July 2011