



The Puzzle of Sustainable Packaging

“Sustainability” is buzzing around the food industry. Wal-Mart’s “sustainable scorecard” and Tesco’s “carbon rating” are now pressuring suppliers to reduce packaging and energy use, and increase their percentage of recyclable material. Preferred supplier status for good scores, and the danger of relegation for poor ones, make powerful business incentives. Still more powerful are the cost savings that both Wal-Mart and its suppliers can realize. “It’s projected that in 2008 Wal-Mart will save \$3.5 billion, and their suppliers will save twice that, or \$7 billion,” says Jack Ampuja, president and CEO of Getzville, N.Y.-based Supply Chain Optimizers.

Packaging is an obvious target for such scrutiny, and involves much more than just the source material that makes up the package. Sustainability also includes energy consumption for manufacturing, processing, transportation and disposal, efficiency in transport and storage, environmental impact, recyclability and, of course, the economics of cost versus performance.

According to the Charlottesville, Va.-based Sustainable Packaging Coalition, packaging should:

- Be beneficial, safe and healthy for individuals and communities throughout its life cycle;
- Meet market criteria for performance and cost;
- Be sourced, manufactured, transported and recycled using renewable energy;
- Maximize the use of renewable or recycled materials;
- Be manufactured using clean production technologies and best practices;
- Be made from materials healthy in all probable end-of-life scenarios;
- Be physically designed to optimize materials and energy;
- Be effectively recovered and utilized in biological and/or industrial cradle-to-cradle cycles.

Finding examples of sustainable packaging is difficult because sustainability is not an absolute, but a question of degree; some packages are more sustainable than others. Petrochemical-based packaging is obviously less sustainable than that from a renewable resource, such as NatureWorks’

biodegradable PLA “corn-tainers” derived from corn. “However, because PLA looks like PET, some sorters mix it with recyclables, contaminating the stream,” says Carol Zweep, manager of Packaging Services at the Guelph Food Technology Centre in Guelph, Ont. “And many municipalities don’t have suitable composting facilities.”

Other questions arise, too. How will food prices be affected when crops are embroiled in the economics of energy prices? What about the ethics of diverting food crops to non-food uses when millions of people are starving? What about nations without suitable agricultural land to grow such crops, forcing them to rely on imports from abroad? Will monocultures deplete the soil?

There is no silver bullet, but there are multiple smaller steps that can improve packaging’s sustainability. “Improving the logistics of packaging can have a disproportionately positive impact on efficiency and, hence, sustainability,” says Ampuja. “The typical mail order/e-commerce company we’ve ana-

lyzed gets only 65 per cent cube utilization. The rest is filler and air. The customer isn’t buying either, but you’re paying freight and energy costs to transport it. Less weight and greater density are less expensive to transport. One of Wal-Mart’s toy suppliers improved the packaging for 200 of their products and eliminated the need for 727 ocean containers a year from Asia,” he says. “In another case, they worked with Unilever to concentrate laundry detergent, and thus reduce the bottle size.”

There are also real opportunities to reduce cost by making packaging as efficient as possible. “You can spend quarters to save nickels by focusing just on the package, which accounts for about 10 per cent of the impact on the supply chain,” says Ampuja. “But if you factor in warehousing costs and freight impact by improving how you optimize the package, cube utilization and skid layout, you have another 85 per cent you can work to trim.”



Determining your most efficient packaging choices can be a real puzzle.

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