



## Science & Innovation

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### Organic Grocery Store Wastre Recycled into Farm Compost

By EduTransfer Design Associates and Haywire Creative

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Photo by AZN2 Environment



AZN2 Environment president Michel Dufour had an 'Aha!' moment when he was doing some work with the local food bank. The food bank had to dispose of unsuitable organic food products at the landfill at an annual cost of \$150,000 per year. Their solution was to compost the organic fruits and vegetables at a nearby farm.

"They showed that composting of organic food products could work, and asked if they could not use the agriculture infrastructure to add value to organic waste from grocery supermarkets," explains Dufour. AZN2 Environment is located at Plessisville, Québec, about 100 km southwest of Québec City.

However, based on past experience, Dufour knew that there had to be something in it for both the farmer and the grocery store. In the past, Dufour has seen similar projects fail because the supermarkets provided contaminated organic waste and the farmer did not receive enough value for his efforts. "For 12 months we worked to find a solution to the problems and developed a business model that we thought would work."

At the end of November 2008, Dufour approached two large grocery chains, IGA and Loblaws, to conduct a pilot project in conjunction with a local agricultural nursery, Cramer Cedar Nursery.

Beyond the reduction in landfill costs, the supermarkets also reduce transportation costs. The landfill is located 110 km away from the grocery stores, while the local nursery is only 8 km away. However, Dufour explains that the primary motivating factor for the grocery chains was the environmental benefits.

"Not only is there an economic advantage to dispose of the organic waste locally, but there is also an environmental advantage," says Dufour. "The green component is very important and is a result of the reduction of greenhouse gas emissions from organic waste in landfills."

The pilot project was set up using a separate container for organic waste at the grocery stores. Once a week, a forklift truck collected the organic material and delivered it to the farm. The truck had a weigh scale to measure the weight of material, because the supermarkets only wanted to pay for what was actually hauled away. The farm used covered storage for composting and the material was turned weekly.

Contact:  
Michel Dufour  
Ph: 514-453-7125  
Email: [mdufour@azn2.com](mailto:mdufour@azn2.com)  
<http://www.azn2.com>

To keep the project running, Dufour realized that staff training at the grocery stores would be key so that the farmer only received organic waste, primarily fruits and vegetables. He developed a training module for grocery store staff, based on education and on treating the farmer with respect. Dufour stressed the importance that the farm was not a waste disposal site. "We emphasized that the process was to sort at source and not at the farmyard."

At the two stores, 45 employees in the fruit and vegetable section were trained. Fruit and vegetables make up 95 % of the organic waste of a grocery store. No meat was included because of health and odour problems. The training paid off. After the 12 month pilot period, only two refuse buckets and a peanut butter bowl were found in the compost.

AZN2 also provided technical expertise and training on composting to the farmer. AZN2 continues to work with both a covered and open-air composting process to assess the most cost-effective method.

During the 12 month composting period, 175 tonnes of organic waste were shipped to the farmer. The pilot project concluded successfully in November 2009, and Dufour has moved forward with commercialization of the project.

In Québec, the average grocery store produces 1.5 to 3 tonnes of organic waste per week. With 500 supermarkets in Québec, that could easily add up to 100,000 tonnes of waste per year, so Dufour sees great potential for this approach.

He is rolling out the program across Québec, and hopes to then expand into the eastern United States and the rest of Canada. He currently has 10 supermarkets signed up, and expects to have 40 to 50 in Québec by July 2010.