



November 15, 2010

Ernest C. Manning Awards Foundation  
1800, 855 - 2nd Street, SW  
Calgary, AB  
T2P 2S5

Dear Innovation Award Selection Committee,

I am writing to nominate Mr. Ivan Milin for one of the Ernest C. Manning Awards Foundation innovation awards. Mr. Milin has commercialized a system originally developed by the Russian space program for the recycling of a spacecraft's organic waste during its two-year manned journey to Mars. Mr. Milin has developed and patented a new, mechanized way to recycle organic waste into organic fertilizer which is proving to be an exceptionally effective way to return nutrients to the earth for the benefit of food-stock production.

Raw manure produced by modern concentrated farming facilities is one of the largest sources of pollution. Human consumption of animal proteins grows daily, compounding the waste problem, and convention fertilizers continue to escalate in price. The agricultural sector creates more pollution than all transportation activities. Human, animal and the planet's health are threatened. Recycling of organic waste, by present methods, has only taken care of a small fraction of the damage from pollution. Current waste treatment technologies are not cost-effective, often offensive to the senses, and mostly inefficient.

Fortunately, Mr. Milin and the research done by scientists at the University of Guelph has demonstrated, in bench testing, that agricultural organic waste can be quickly and economically transformed into a superior organic fertilizer using insect larvae. Mr. Milin's biomechanical design allows for the full commercialization of organic waste transformation into highly nutritious and balanced organic fertilizer.

The process needs minimal energy as insects do the work' in a continuous four-day batch cycle. Additional benefits include the production of protein-rich larvae, carbon capture, and local production from local organic waste. No chemicals are used and no pollution is created. The system has now been patented world-wide and the first bench-scale demonstration plant is now in place on the Arkell Research Station, University of Guelph, with approximate daily capacity of 1 ton. Data from its operation will be used to further improve the process and equipment design.

The organic fertilizer produced by this technology provides a permanent and sustainable fertilizer that is in high demand by organic fruit and vegetable producers. The larvae/pupae produced by the process could become an alternative to fish-meal for organic aquaculture. For example, the Toronto Zoo needs the larvae as a high-protein food for their birds and other animals and hydroponic fruit and vegetable producers are anxious to obtain the fertilizer as a superior product for their organic growing operations.

As a venture capitalist and former banker, I applaud Mr. Milin's creativity and tenacity and believe that his system will give rise to a vibrant new section of the organic fertilizer industry. With minimal cost for organic waste inputs (plus the benefit of not having to dispose of it) and with prices for the outputs of fertilizer and protein valued at \$500.00 to \$1,000.00 per ton, an excellent business case exists, especially with the immediate revenue generated from the sale of the fertilizer output.

I urge you to give Mr. Milin full consideration for an innovation award.

Very truly yours,

*Alexander C. Logie*

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Alexander C. Logie  
CEO