



Composting News

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Implications of Canadian standards for compost

By Ron Alexander

Compost products in the U.S. can be registered with state authorities either as soil amendments or fertilizers.

Currently, 37 states have enacted the Uniform Soil Amendment Bill and most states have enacted a version of the Uniform State Fertilizer Law. But because compost has unique qualities that don't fit perfectly into soil amendment or fertilizer categories, work is underway to create a model bill specifically to register compost products.

The March 1999 issue of Composting News reported on efforts being made by the American Association of Plant Food Control Officials (AAPFCO) to create a national compost law. AAPFCO adopted an interim guideline that uses Canadian fertilizer metal limitation standards for fertilizers and EPA 503 standards for biosolids.

Following up on that report, a White Paper on the issue, written by Ron Alexander for the U.S. Composting Council, is excerpted below. The Council supports the use of EPA 503 standards for compost in lieu of the Canadian metals standards, which are far stricter. - Editor

An overview of the issue

This paper is the result of a fact-finding mission by the U.S. Composting Council to better understand and

(See Standards, page 2)

Cost savings of food recovery programs

Following are summaries of cost savings of eight food recovery programs profiled in the U.S. EPA's *Don't Throw Away That Food Report*.

Program	Average Compost Costs \$/Ton	Average Avoided Landfill Costs \$/Ton	Net Savings \$/Ton
Del Mar, Calif. Fairgrounds	\$24	\$40-47	\$17-23
Fletcher Allen Health Care, Burlington, Vt.	\$82	\$98	\$16
Frost Valley YMCA, Claryville, NY	\$56	\$121	\$65
Green Workplace Program, Ontario Govt.	\$99	\$138	\$39
Larry's Markets, Seattle, Wash.	\$55-65	\$105-110	\$40-55
Middlebury College, Middlebury, Vt.	\$42	\$137	\$95
NY State Dept. of Corrections	\$34	\$125	\$91
Shop Rite Supermarkets, New Jersey	\$33	\$90	\$57

Source: U.S. EPA, Institute for Local Self-Reliance.

Long Island composter teams with farmers on natural growing

An eight-year-old composting business on Long Island is teaming up with farmers to push composting and organic growing. Long Island Compost Corp's new "On-Farm" program has attracted 30 farmers, with more planning to join, the company said.

Participating farmers each provide an acre of land that is used by Long Island Compost as a processing site. In return, the farmers receive an annual host fee as well as 500 cubic yards of "all-natural" soil and garden amendments.

The manufacturing process, from testing, turning, aerating and shipping back to the transfer station for packaging

and distribution, is completely managed by Long Island Compost.

The program, developed in coordination with Cornell Cooperative Extension, is a unique approach to composting that enables Long Island

(See Farmers, page 2)

Highlights

- Starbucks offers coffee grounds for composting
- Venture capital fund will invest in recycling companies
- The latest composting technology

Farmers

(From page 3)

Vigliotti said he plans to introduce the program to other schools.

Long Island Compost is a family-owned operation that claims to be the largest privately-owned manufacturer of organic garden and soil products in the region. For more information, call (516) 334-6600.

Standards

(From page 1)

accurately inform our members and our industry regarding the origin and tentative recommendation for the use of the Canadian Standards for heavy metals in fertilizer products by AAPFCO, and the future implications this rule would have if applied to the compost and organics business.

AAPFCO is an organization of

regulatory officials from the U.S., Canada and Puerto Rico which regulates commercial fertilizers as well as other products such as soil amendments, agricultural liming materials and horticultural growing media. AAPFCO develops and updates model legislation that governs the labeling and distribution of these products so that interstate commerce is less affected. Once approved, model bills, terms and definitions and Statements of Uniform Interpretation and Policy (SUIP) may be enacted by state regulating authority. However, the regulating authorities are not required to enact AAPFCO model documents. For example, most states have enacted some version of the Uniform State Fertilizer Bill, but only 37 states to date have enacted the Uniform Soil Amendment Bill.

The determining factors regarding how compost products are registered in states are based on the label claims a composter makes (marketing/sales strategy) and whether the state has

enacted a Soil Amendment Bill. A compost that bears a nutrient claim is usually registered and regulated as a fertilizer. Manipulated animal manures are considered to be fertilizers if they are marketed as manipulated manures or if nutrient claims are made.

Although the AAPFCO defines manipulation as "processed or treated in any manner, including drying to a moisture content of less than 30 percent", many states have not established a clear cut definition of the terms manipulated or manipulated manures. Manipulation has also been defined as screening, composting, bagging, etc. by various regulatory entities.

Canadian Standards Initiative

The Canadian Standards initiative began with a recommendation by the AAPFCO Heavy Metals Task Force that the association adopt "scientifically sound standards" for the acceptable

(See Standards, page 6)

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Standards

(From page 5)

cumulative levels of substances not generally recognized as plant nutrients when applied to the soil. The AAPFCO Environmental Affairs Committee's By-Products and Recycled Materials Subcommittee then presented a recommendation to the board of directors to adopt the Canadian Standards for fertilizers and the EPA 503 Regulations for biosolids.

This action occurred partly in response to the report of heavy metal contamination in fertilizer products sold in Washington, as well as the concerns that other states would adopt standards on their own, threatening the uniformity in fertilizer regulation. To address what was perceived as national concern over this issue, the Canadian heavy metal standards were developed into a SUIP by AAPFCO as a means to better define an adulterated fertilizer product.

Currently, AAPFCO considers a fertilizer to be adulterated "if it contains any deleterious or harmful substance in sufficient amounts to render it injurious to beneficial plant life, animals, humans, aquatic life, soil or water when applied in accordance with directions for use."

Any product deemed to be adulterated, or offered for sale while in violation of any provision of the Uniform State Fertilizer Bill, may receive a "stop sale" order from the regulatory authority, and the adulterated product may be immediately removed from sale.

The AAPFCO "Metals in Fertilizers SUIP" reads: "As an interim guide for implementation of Section 12(a) of the Uniform State Fertilizer Bill, fertilizers are considered adulterated when they contain metals in amounts greater than the levels established by the Canadian Standards. Biosolids shall be adulterated when they exceed the levels of metals permitted by the United States Environmental Protection Agency Code of Federal Regulations, Section 503. Note: These interim guidelines are intended for use until scientific risk based standards are established by

ongoing studies which are expected to be completed within two years." (Tentative 1998)

AAPFCO has also drafted an SUIP for "Product Labels that Meet Metal Guidelines, which reads: When applied as directed, this product meets the guidelines for metals adopted by the Association of American Plant Food Control Officials."

Canadian standards

The Canadian Standards were developed in 1979 in a trade document and are enforced under the authority of the (Canadian) Fertilizers Act and Regulations, Agriculture and Agri-Food Canada (AAFC).

The metal standards were based on generic principles and are generally applicable to fertilizers and supplements applied to land or in crop production. These standards have been used to evaluate and manage all products regulated under the (Canadian) Fertilizer Act and for which metal concerns have been raised. These products include organic fertilizers, processed sewage, compost, phosphate rich fertilizers such as monoammonium phosphate and diammonium phosphate and recycled inorganic materials. These standards tend to be conservative.

Between 1993 and 1995, the AAFC metal standards were re-evaluated in response to heavy metal standard development activities elsewhere - such as by the U.S. EPA - the variety of by-products being proposed for re-use as fertilizers and supplements and the progressive depletion of rock phosphate rock deposits worldwide. It was concluded that the AAFC metal standards remain valid.

The Canadian Standards for metals in fertilizers and supplements are based on what the Fertilizer Section, Plant Products Division, of the Canadian Food Inspection Agency, deemed as the total, acceptable, cumulative metal addition limits for soils.

The Canadian Standards affect all fertilizers and soil amendments, including compost and biosolids, marketed in Canada.

Current status

The Metals in Fertilizers SUIP is in tentative status, as is the SUIP for Product Labels that Meet Metal Guidelines.

At the AAPFCO annual meeting this month, membership will vote on keeping the Metals in Fertilizer SUIP (Canadian Standards) in tentative status for another year, and will vote to approve the SUIP for Product Labels that Meet Metal Guidelines as "official." (See *Composting News*, March 1999 for an explanation of the AAPFCO rulemaking process.)

AAPFCO is still seeking additional scientific data (risk based, peer reviewed) to evaluate the risk from heavy metals in fertilizers distributed in the U.S. AAPFCO's process will allow for the evaluation of new data, including additional data from The Fertilizer Institute (TFI), the states of California and Washington and the EPA. Since these two SUIPs are in tentative status, any regulatory authority may adopt the SUIPs on an interim basis.

Or they may adopt any other standard or labeling statement if the political pressures to do so are strong enough.

All chemical (inorganic) fertilizer products, both in bulk and bagged form, will be affected by these SUIPs, as well as organic fertilizers, many animal manure products and any other products registered and marketed as a fertilizer bearing nutrient claims on the label.

The types of products affected in the U.S. will be dependent upon the state's fertilizer and soil amendment laws as well as their interpretation of the laws and definitions within. The current SUIP for Metals in Fertilizers defines biosolids as adulterated only if their metal content is above those outlined in the US EPA 503s, thereby exempting them from the Canadian Standards.

Washington State

Concern over the content of heavy metals in fertilizers appears to have begun in Quincy, Wash. when farmers blamed crop yield reductions and sick looking cows on the use of fertilizer

(See Standards, page 11)

Standards

(From page 7)

products containing a steel mill by-product. This by-product was considered a hazardous waste at the steel mill, and handled as such, but based on EPA Resource Conservation and Recovery Act (RCRA) regulations, could be sold as a fertilizer ingredient. A series of events occurred, culminating in public meetings involving the Washington State Department of Ecology and the *Seattle Times* article series "Fear in the Fields".

These high-profile public events led the Washington State Department of Ecology to create a team to evaluate the issue of heavy metals (non-nutritive elements) in fertilizer products and led the State's legislature to take action, creating Senate Bill 6474. Once passed, this legislation gave the Department of Ecology oversight authority over "waste-derived fertilizers."

On June 11, 1998, the act became law; the Fertilizer Regulation Act, which adopted the Canadian Standards for maximum acceptable heavy metals additions to soils. The standards limit the levels of nine heavy metals in fertilizers (see box, right).

The act also requires that all fertilizer products distributed in Washington, at a minimum, must have the following labeling statement: "This product has been registered with the Washington State Department of Agriculture. When applied as directed, this fertilizer meets the Washington standards for arsenic, cadmium, cobalt, mercury, molybdenum, lead, nickel, selenium and zinc. You have the right to receive specific information about Washington standards from the distributor of this product."

Effective July 1, 1999, the label must also state: "Information received by the Washington State Department of Agriculture regarding the components in this product is available on the internet at <http://www.wa.gov/agr/>."

Maximum Annual Metal Additions to Soils in Washington

	Metals Lbs./acre/year
Arsenic (As).....	.297
Cadmium (Cd).....	.079
Cobalt (Co).....	.594
Mercury (Hg).....	.019
Molybdenum (Mo).....	.079
Nickel (Ni).....	.713
Lead (Pb).....	1.981
Selenium (Se).....	.055
Zinc (Zn).....	7.329

This required labeling language might not be acceptable in other states in which the product is marketed, and may require fertilizer manufacturers to register and/or label their product differently in those states.

In the state of Washington all fertilizers, agricultural liming materials, manipulated animal manure products and any other products making nutrient

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claims fall under the purview of this law.

If a compost product or any other soil amendment makes a nutrient claim or is registered as a fertilizer in Washington it would fall under the purview of the law.

The language used on a product's bag or label will determine whether it will be considered a fertilizer or a soil amendment.

Implications for the composting industry

Any state's department of agriculture can adopt the Canadian Standards for heavy metals in fertilizer for use on an interim basis as a means to define if a fertilizer product is adulterated. This would enable those states to order the "stop sale" of any adulterated products until they can meet the standards. Under current interpretation of the "Metals in Fertilizer" SUIP all products marketed as fertilizers (making nutrient claims), or defined as fertilizers by the Uniform State Fertilizer Bill or a particular state's department of agriculture, will be affected by this SUIP.

This would have an immediate effect on composts registered as fertilizers and many manure products.

Also, under current interpretation, biosolids products would not be affected, unless they are marketed and registered as fertilizers. Biosolids that are directly

land applied (especially where nutrient data is provided along with the product) have not been addressed so far.

It seems apparent that manipulated animal manures and soil amendments registered as fertilizers will likely be the most affected products if the Canadian heavy metal standards are enacted by AAPFCO. These products will be required to meet both the new metal standards and the labeling requirements.

Since the term "manipulated manure" is open for interpretation in many states it will be difficult to determine how many states will categorize composted manure even if they do not make nutrient claims as fertilizers. These labeling requirements could be extremely problematic if not standardized on a national basis.

In states where the Uniform Soil Amendment Bill has not been instituted, or where a company simply chooses to register its compost product as a fertilizer, composters will be affected by the "Metals in Fertilizers" SUIP.

In states where the Uniform Soil Amendment Bill has not been instituted, a composter who wants to register its product with the department of agriculture must register it as a fertilizer.

In these instances, the adoption of the Canadian Standards could cause certain companies to not register their compost

products with their state department of agriculture. Companies marketing manure products, and those making nutrient claims for their products, may choose to change name of their product to something other than manure, and may choose not to make nutrient claims.

Based on the fertilizer survey completed in Washington State, most fertilizer products will likely meet the Canadian Standards, because they are applied at relatively low application rates, and the heavy metals standards are based on cumulative loading rates.

Under current interpretation, yard waste, biosolids, food, municipal solid waste and other composts should not be affected by the "Metals in Fertilizer SUIP" unless they are registered as fertilizers. However, there are several questions that exist regarding future interpretations of the "Metals in Fertilizer" SUIP by individual states.

For instance, how will the SUIP effect the land application of biosolids, since testing and reporting of biosolids for nutrients, as well as heavy metal content, is required. Also, if biosolids are considered to be adulterated only if they do not meet the US EPA 503's heavy metal standards, then shouldn't dried and granulated, or composted

(See Standards, page 12)

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Standards

(From page 11)

biosolids be exempt from the SUIP even if they make nutrient claims?

Also, will certain states choose to adopt the Canadian Standards for soil amendment products as Canada has? The state of California has already created a Heavy Metal Facilitated Rule-Making Committee to evaluate the heavy metal standards by which biosolids and other organic products should be governed. A similar committee has already evaluated standards for certain heavy metals in inorganic fertilizers based on research completed in California.

The possibility of the Canadian Standards snowballing to affect products other than fertilizers is very possible and could be done non-uniformly on a state-by-state basis.

The author is president of R. Alexander Associates Inc., Cary, N.C. (919) 388-0030.

In the news...

• **N-Viro International Corp.** recently completed the first phase of a demonstration project involving the recycling and economic utilization of Christmas trees. The demonstration project was performed for the **city of Toledo**, in cooperation with the Northwest District Office, **Ohio EPA**.

"Christmas trees have long been a problem for municipalities that have large volumes of waste trees and limited landfill capacity," said **J. Patrick Nicholson**, CEO and chairman. "Some composting has been successful but time, cost and odors are a real concern of these composting operations."

Late last year N-Viro introduced its patent-pending green conservation solution to Toledo officials. The technology incorporates finished N-Viro Soil & Trade, a product manufactured from Toledo biosolids, and shredded Christmas trees to immediately

immobilize volatile ammonia, thus further reducing odor and increasing market value of the N-Viro Soil product.

The company said Christmas trees are only one of many materials which can be utilized in the process to reduce and immobilize ammonia. The company believes this technology will have applications in related industries, where the immobilization of ammonia is beneficial.

• **Massachusetts** waste haulers recently protested against the state moratorium on new waste disposal sites.

"Unless action is taken quickly, we will have a 2 million ton shortfall by the end of the year," said **Steven G. Changaris**, regional manager of the **National Solid Waste Management Association (NSWMA)**. "During 1998, we disposed of 2.5 million tons of waste at 73 landfills in Massachusetts. By the end of this year, Massachusetts will have only 12 landfills in operation with

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