

# NOVA SCOTIA ENVIRONMENTAL NETWORK (NSEN) BIOSOLIDS & WASTE WATER CAUCUS (BWWC)

## POSITION STATEMENT ON SOIL APPLICATION OF BIOSOLIDS ONTO NOVA SCOTIA'S RURAL AGRICULTURAL LAND

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### **Our Position:**

The BioSolids & Waste Water Caucus does not support the use of biosolids on agricultural soils in the Province of Nova Scotia. The Nova Scotia Environmental Network's BioSolids Waste Water Caucus promotes responsible agricultural land stewardship practices which adhere to sustainable and ethical use of land for growing food or raising livestock. Biosolids, although recognized by the Organic Council of Nova Scotia to have some benefits as a slow release nitrogen delivery system, are deemed incompatible with organic agriculture or any other socially or environmentally responsible land stewardship practice and is listed as a prohibited substance by the Canadian Government within its own 2008 Canadian Organic Standards.

### **About BioSolids:**

BioSolids are derived from human sewage sludge from residential, commercial, industrial, hospital, and street run off sources and are mixed at waste water plants, dewatered and transported to a facility (N-Viro Systems Canada in Halifax) for processing. During processing equal amounts of an industrial waste product, known as cement kiln dust, is added to the sludge with the intended purpose of sterilizing the product of any harmful pathogens. Although hundreds, if not thousands, of pollutants have been detected in urban sewage sludges, testing in Nova Scotia is limited to 11 heavy metals, two bacteria, and nutrient composition. At N-Viro in Halifax, bio-solids processing, per tonne, costs \$175. The final product is currently being sold to farmers for \$19 per tonne.

### **The Concerns:**

The BWWC has numerous concerns about the overall safety of the product being used on agricultural land and subsequently entering our local food chain and the environment of rural communities. Some classes of contaminants that are giving cause for concern are heavy metals, volatile organics, pharmaceuticals (including hormones, steroids, and chemotherapy drugs), flame retardants, poly-aromatic hydrocarbons, dioxins, personal care products, pesticides, viruses, bacteria, and parasites. Current industrial technologies may be creating risks of unknown magnitude for public health and these risks could last for generations given that many of the components found in BioSolids are bio-accumulative and persistent. Other components have been known to leach into groundwater or reach other water systems via field run off while others are up-taken by plants and ingested directly by livestock or humans. The fate of multiple organic and inorganic contaminants, in addition to numerous other pathogens, is largely unknown. It is speculated that there is a potential for the spread of infectious viral or bacterial diseases via air, food, or water transport mechanisms. The BWWC worries that the onus of responsibility for environmental, livestock, and public safety may fall onto the end user, the farmer. The high cost of fertilizers is making bio-solids a more attractive choice as a soil amendment for struggling producers in rural Nova Scotia. Concerns about the interpretation, application and enforcement of the guidelines for BioSolids use in Nova Scotia and that the risks of liability to farmers are currently not being addressed adequately or responsibly by government. Consumers have recently been expressing concerns that there is a lack of public consultation, transparency and communication with regards to the production, distribution, location of use, and costs associated with BioSolids use in Nova Scotia. Speculation exists that the increased use of BioSolids in local agriculture will have a very negative impact on recent gains made promoting

the Buy Local movement and that, without labeling, processors avoid being held responsible for resultant harms.

### **About Testing:**

Comprehensive testing is not required on the BioSolids that are now being land applied in Nova Scotia. Present regulations do not adequately address the need to test for pollutants, pharmaceuticals, carcinogens, toxic heavy metals, and pathogens that are contained in many BioSolids. The absence of scientific evidence requiring BioSolids testing does not mean that there is no risk involved in the practice of land applying BioSolids; instead, it shows that there is not enough evidence to deem it a safe practice. Of interest, a sample of "exceptional quality" BioSolids was privately tested at a Canadian laboratory for thirty heavy metals, volatile organic compounds (VOC's), poly-aromatic hydrocarbons (PAH's), and flame retardants by concerned citizens. Results were typical for 11 of the heavy metals but, of the remaining other 19 heavy metals, no safety benchmarks are known to compare test results with. Negative test results were determined for the VOC's, the PAH's, and flame retardants; however, follow up inquiries at other accredited U.S. labs specializing in sludge studies, questioned these results. Dr. Rob Hale of the Virginia Institute of Marine Science indicated that the equipment used for testing, in most Canadian labs, is not adequately sensitive enough nor do they use standardized testing protocols to be able to detect meaningful concentrations of pollutants that are expected to be present in most urban sewage sludges, including bio-solids from Halifax. Dr. Murray McBride, from the Cornell Waste Management Institute and who has spent his career questioning the merits of using sewage sludges on farmland as a soil amendment, commented that spreading BioSolids on Nova Scotia's agricultural soils is an unsafe and unsustainable farm management practice.

### **Alternative Uses:**

Many other countries do not utilize BioSolids on their agricultural lands as the practice has very little public acceptance. In many of these countries, responsible government is evidenced by the priority placed on public health and safety. Alternative uses for BioSolids are numerous and some of the best technologies are practiced right in here in Canada. For example, Plasma Assisted Sludge Oxidation, as done in Valleyfield Quebec, is a Canadian invention which converts municipal sludges to an inert 5% of its original mass using a plasma torch and UV irradiation. The process uses no fossil fuels, creates negligible air emissions, and produces useable energy in the process. The technology is simple, safe and robust and can be "fitted" to the sewerage needs of any municipality. Although potentially more expensive than current technologies, the savings to human and animal health, reduced environmental impacts, and the growth of positive public perception of local agriculture, as it relates to food safety, far outweigh any extra costs. Other sludge disposal technologies, of which some may have merit, include fluid bed incineration, solar aquatic living lagoons, anaerobic digestion with biogas production, or land filling.

### **Unanswered Questions:**

- Should it be acceptable that urban sewage disposal is becoming a rural farmland problem?
- Are farmers being adequately advised about all the potential risks of using BioSolids on agricultural soils?
- Why is our government fanning uncertainties and promoting inaction about the use of BioSolids and the negative impacts on human health, livestock health and the environment?
- Should we expect foods resulting from BioSolid use to be labeled appropriately in the future?
- Considering all the previous testing done by other research organizations, such as the U.S. Environmental Protection Agency and Cornell University about the multitudes of commonly-

found contaminants in typical urban sludges, should N.S. taxpayers be expected to shoulder further costs for extensive testing of multiple pollutants in our own BioSolids?

- Why have Nova Scotians been largely uninformed about the processing and distribution of BioSolids for land application onto our food sources?
- Must taxpayers continue to bear the burden of paying for the transportation, processing, distribution, and the resultant negative environmental or health effects by the use of BioSolids when the practice lacks apparent public acceptance?

**BIOSOLIDS: UN-TESTED, UN-LABELED, UN-SAFE, & UN-ACCEPTABLE**