Conseil canadien du COMPOST Council of Canada

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FOR IMMEDIATE RELEASE

Compost Council of Canada Launches Initiative to Fight Climate Change through Organics Recycling and Soil Health Improvement

New initiative targets municipalities/communities and IC&I sector to reduce methane emissions, promote sustainable waste management and improve the health of our soils

May 11, 2023: The Compost Council of Canada (CCC) has announced the launch of the "Advancing Organics Recycling Throughout Canada" initiative, a program designed to support the adoption of organics recycling programs in Canadian municipalities and the industrial, commercial, and institutional (IC&I) sector. The CCC invites motivated organizations and individuals to access our Council's expertise and availability to learn the how-to's of organics recycling specific to their situation. Additionally, the CCC initiative includes education and awareness about the essential role that soil and compost play in mitigating climate change.

"The reality is that all Canadians still have the opportunity to fight climate change instead of accepting it as a given," said Susan Antler, Executive Director, Compost Council of Canada. "Our soils and compost bins are important allies in this battle. Through organics recycling and the return of organic matter back to our soils, we not only reduce greenhouse gas emissions but also create additional benefits such as improved soil health and biodiversity, increased agricultural productivity, enhanced food security and water quality."

The CCC will be providing resources, training, and technical support to municipalities and IC&I organizations interested in implementing organics recycling programs. The goal is to facilitate widespread adoption of these programs, leading to significant reductions in waste sent to landfills and greenhouse gas emissions. This project was undertaken with the financial support of the Government of Canada through the federal Department of Environment and Climate Change.

"This initiative is a call-to-action for municipalities and the IC&I sector to join us in promoting organics recycling," said Larry Conrad, Chair, National Board of Directors, Compost Council of Canada. "By working together, we can build a sustainable future for Canada and showcase our nation as a leader in environmental stewardship."

The Compost Council of Canada is inviting interested parties to express their interest in participating in the "Advancing Organics Recycling Throughout Canada" initiative. For more information, please contact the Council directly by emailing: info@compost.org.

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About the Compost Council of Canada:

The Compost Council of Canada is a national non-profit organization dedicated to promoting responsible management and recycling of unavoidable organic residuals. Established in 1991, the CCC has over 30 years of experience and expertise in organics recycling, working with municipalities, the IC&I sector, academic institutions, and community organizations to develop and implement sustainable organics recycling programs across the country.

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The Importance of Organics Recycling in Combatting Climate Change

As the effects of climate change become increasingly evident, it is crucial that societies around the world adopt sustainable practices to put the brakes on climate change as well as mitigate its impacts. One such practice is organics recycling, a process that transforms organic residual materials into valuable compost. By diverting organic residuals from landfills and promoting the use of compost, organics recycling plays a vital role in reducing greenhouse gas emissions and enhancing the health of our environment.

Greenhouse Gas Emissions and Landfills

A significant portion of the global greenhouse gas emissions comes from the decomposition of organic waste in landfills. According to Environment and Climate Change Canada, municipal solid waste landfills are responsible for about 23% of Canada's methane emissions, a potent greenhouse gas with 86 times more global warming potential than carbon dioxide over a 20-year period. By diverting organic waste from landfills through organics recycling programs, the production of methane can be significantly reduced, thus mitigating its contribution to climate change.

Carbon Sequestration, Soil Health and Food Security

Organics recycling has a positive impact on soil health and carbon sequestration. The compost produced through the recycling process is rich in organic matter and nutrients, which can improve soil structure, fertility, and water-holding capacity. When compost is applied to soil, it can increase the soil's capacity to store carbon, effectively removing carbon dioxide from the atmosphere and reducing its impact on climate change. Additionally, healthy soils with a high organic matter content are more resilient to erosion,

drought, and flooding, all of which are exacerbated by climate change. A recent Manitoba study also shows that the addition of compost to food-growing soils produced higher yields with better nutritional values, energized through improved plant metabolism – the process by which plants live and grow.

Additional Benefits of Organics Recycling

Organics recycling not only helps combat climate change but also generates additional environmental and economic benefits. By diverting organic waste from landfills, the need for new landfill space is reduced, preserving natural habitats and ecosystems.

From an economic standpoint, organics recycling creates jobs in the collection and processing of organics residuals as well as creates new markets within the energy and soil management sector. Additionally, compost improves crop yields and water quality, optimizing inputs and the potential for greater productivity and reduced costs.

Conclusion

Organics recycling is a powerful tool in the fight against climate change. By diverting organic residuals from landfills, reducing greenhouse gas emissions, promoting carbon sequestration, and improving soil health, organics recycling plays a crucial role in building a more sustainable future. The Compost Council of Canada's "Advancing Organics Recycling Throughout Canada" initiative aims to harness the potential of organics recycling by supporting the adoption of such programs across the country, benefiting the environment, the economy and local food production.

A universal call to action: "Your thoughtful act of recycling organics does so much. Recycling organics means less greenhouse gas in the atmosphere. And using compost feeds the soil. Our soils then return this kindness with healthier food, cleaner water, richer biodiversity and a calmer climate. Thank you for doing your best."

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Organics Recycling Processes and Techniques

The recycling of organic residuals is an essential practice for sustainable waste management, transforming organic "waste" into a valuable resource for soil enrichment and, at times, renewable energy. This backgrounder explores the different approaches to composting, as well as anaerobic digestion, explaining key factors and techniques involved in each process.

Composting Techniques

1. *On-site Composting*: On-site composting is generally carried out at the location where the organic residuals are generated. This method reduces the need for transportation, providing both environmental and oftentimes economic benefits for the host site.
2. *Vermicomposting*: Worms, generally "red wigglers", are employed to consume specific organic residuals, creating castings for soil use. Vermicomposting can be done at home or on a large scale, depending on the amount of organic residuals and the space available.
3. *Aerated (Turned) Windrow Composting*: This method is suited for large volumes of waste generated by entire communities or high-volume businesses. Organic residuals are prepared according to a defined recipe and then formed into long piles called "windrows". Ongoing aeration and moisture control monitoring are required prior to full compost maturation and market readiness.
4. *Aerated Static Pile Composting*: Organic waste is mixed and then formed in a large pile, with bulking agents such as wood chips being added for aeration. Piles are often placed over a network of pipes for airflow.
5. *In-Vessel Composting*: Suitable for virtually any type of organic residuals, in-vessel composting involves feeding materials into a drum, silo, concrete-lined trench, or similar equipment. This allows for enhanced control of environmental conditions, with the material being mechanically turned or mixed to ensure aeration and moisture control.
6. *Backyard Composting*: Home composting is an easy and resourceful way to recycle food scraps and yard trimmings at home to produce a high-quality soil amendment. The scientific processes involved in large-scale composting remain the same: namely, proper ingredients and recipe, aeration, moisture control and time.

Anaerobic Digestion

Anaerobic digestion is a process where bacteria break down organic matter, such as animal manure, wastewater biosolids, and food waste, in the absence of oxygen. It occurs in a sealed vessel called a reactor and produces two valuable outputs: biogas and digestate. Anaerobic digestion can process multiple organic materials through co-digestion, increasing biogas production from low-yielding or difficult-to-digest organic residuals.

Key Factors in Processing Organic Residuals

Included among the main factors that must be controlled during composting and anaerobic digestion are:

1. *Feedstock and Nutrient Balance*: A proper balance of organic residual inputs is essential. For example, "green" organic materials (high in nitrogen) and "brown" organic materials (high in carbon) are fundamental for successful composting. Equally so, organics recycling can be compromised by contamination, which occurs when non-compostable materials are mixed with organic waste. Contamination can reduce the quality and marketability of compost and digestate, damage the equipment and facilities within organics recycling operations, and increase the costs and environmental impacts of organics recycling.
2. *Particle Size*: Smaller particles increase the surface area for microorganisms to feed on and produce a more homogeneous mixture. However, if particles are too small, they can restrict airflow.
3. *Moisture Content*: Moisture is an essential factor for both composting and anaerobic digestion, as it affects the activity and diversity of microorganisms that decompose organic matter.
4. *Oxygen Flow*: Aerating the compost pile promotes faster decomposition. Techniques for aeration include turning the pile, placing it on a series of pipes, or adding bulking agents like wood chips and shredded cardboard. Conversely, anaerobic digestion utilizes microbes which function in the absence of oxygen.
5. *Temperature*: Maintaining an optimal temperature range is crucial for both composting and anaerobic digestion to enable the appropriate suite of microbes to function effectively. This range varies between the two approaches.

In Summary

Composting and anaerobic digestion are essential components of sustainable waste management, helping to reduce the volume of organic waste in landfills and create valuable resources for soil improvement and renewable energy. By understanding the different types of composting processes and techniques, individuals, businesses, and communities can choose the most appropriate method for their needs and contribute to a more sustainable and environmentally friendly waste management system.

This strategy empowers individuals and communities to take control of their waste management and reduce their environmental impact. By actively participating in composting and anaerobic digestion programs, we can work together to minimize waste, improve soil health, and combat climate change.

With the various techniques available, there is a suitable option for everyone, regardless of location, available space, or waste volume.

The CCC initiative, *Advancing Organics Recycling Throughout Canada*, aims to work with motivated organizations to help assess the appropriate organics recycling option specific to their situation. For more information, please contact The Compost Council of Canada: info@compost.org.

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The Compost Council of Canada: A Trusted Leader in Advancing Organics Recycling

The Compost Council of Canada (CCC) is a national non-profit organization dedicated to promoting the responsible management and recycling of organic residuals. Since its establishment in 1991, the CCC has been a driving force in supporting the development and implementation of organics recycling programs across the country, with a focus on improving soil health, reducing methane emissions, and conserving natural resources.

Key Achievements and Initiatives

Comprehensive Programs and Training: The CCC has developed various programs to serve the training, information, and advocacy needs of communities and organizations involved in organics recycling. Some of these programs include: Compost Facility Operator Training & Certification, Compost Quality Alliance (CQA), Digestate Quality Alliance (DQA), and national and regional conferences, workshops, and webinars.

Soil Health Education and Outreach: Recognizing the critical importance of healthy soils in supporting sustainable agriculture and ecosystems, the CCC has created initiatives such as: The Biology of the Soil, Soil Safari, and Plant-Grow-Share a Row to educate the public on the benefits of compost use and organics recycling. Most recently, the CCC partnered with the Soil Conservation Council of Canada, with support from the Metcalf Foundation, to research and develop the pivotal document: *Recruiting Soil to Tackle Climate Change: A Roadmap for Canada*.

Standards and Quality Assurance: The CCC has been instrumental in establishing standards for compost and digestate quality, as well as compostability. This ensures that the end products of organics recycling are safe and beneficial for the environment and the communities that use them.

Extensive Network, Partnerships & Access: Over its 30+year history, the CCC has built strong relationships with industry professionals, academic institutions, governments, and community organizations. This extensive network allows the CCC to effectively collaborate and share resources, knowledge, and best practices to advance organics recycling and soil health practices across Canada. Accessibility to this information has always been a fundamental priority for the CCC.

The Compost Council of Canada's experience, credibility, and comprehensive approach make it the ideal organization to lead the *Advancing Organics Recycling Throughout Canada* initiative. By leveraging its extensive network, knowledge, resources and accessibility, the CCC is well-positioned to help communities and the IC&I sector overcome barriers and successfully implement organics recycling programs that are tailored to their unique needs and circumstances.

For more information on the Compost Council of Canada and its various initiatives, please visit www.compost.org.