

Bio & Compostable Plastics 101

February 2019

Colin Isaacs, C.Chem.
119 Concession 6 Road, Fisherville, Ontario N0A 1G0
Phone Toronto (416) 410 0432 Fax (416) 362 5231
Email: colin@cialgroup.com



First Canadian Summit
on
Compostable
Products & Packaging
Montreal 20th September 2018

Four major categories with respect to compostability

Conventional not compostable	Bio-based not compostable
Conventional compostable	Bio-based compostable



First Canadian Summit
on
Compostable
Products & Packaging
Montreal 20th September 2018

Certified Compostable plastics

- are rapidly consumed by micro-organisms during the composting process
- are certified to have passed stringent tests for performance under industrial/municipal composting conditions
- do not introduce regulated toxic substances to the soil
- have no observable effect on plant growth
- leave no detectable residue except for carbon dioxide, water, and biomass
- are a recognized part of the circular economy



Certifications for compostability



Bioplastics

- come in many forms with properties similar to, or sometimes different from, conventional plastics
- global production capacity for bioplastics is projected to reach 2.44 million tonnes by 2022
- with the right support from government and industry, bioplastics, many of which are compostable, are projected to be able to create at least 19,000 jobs in Canada and contribute \$1.8 billion to the economy in the next decade.



Issues are being addressed by the compostable plastics sector in consultation with composters

- certified compostable plastic products and packaging perform satisfactorily in most but not all composting facilities. Several studies are underway to better understand required composting conditions.
- it is difficult to visually differentiate compostable from non-compostable materials. Work on a fix is underway.
- it is sometimes claimed that allowing compostables in organics collection increases contamination by non-compostables. Studies indicate that this is fully resolvable.



Examples of major manufacturers and brandowners committing to compostable packaging and products

- Unilever
- Dell
- Tom's of Maine (Colgate-Palmolive)
- PepsiCo
- L'Oréal
- Procter & Gamble
- Loblaw
- A&W

and many more



First Canadian Summit
on
Compostable
Products & Packaging
Montreal 20th September 2018

Some examples already on the market



Afterword

- certified compostable packaging is appropriate when reuse or recycling present a significant environmental or economic burden, such as when packaging is very small (e.g. candy) or contaminated with food residue.
- some compostable plastics degrade in marine or aquatic environments. More research is needed.
- new compostable and bio-based resins are being introduced at a significant rate and can often be developed to required specifications.
- many compostable resins are readily interchangeable with conventional resins on packaging equipment.

