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To: Elise Dagdick
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Subject: **Sun Gro Horticulture Evergreen-1 Public Comments**

Peat harvested from peatlands is used as a growing medium. Although homeowners and gardeners can purchase peat (and soils mixed with peat) from home and garden centers, the majority of harvested peat is used for professional growers. The horticulture peat industry supplies the peat that is used to grow flowers (roses, violets, orchids, &c.); fruits and vegetables in greenhouses (tomatoes, berries, peppers, &c.); mushrooms; cannabis, both medical and recreational; and supplies the peat used to germinate seedlings for forestry renewal activities (in this respect, Canada plants around 600 million trees each year; all of which require peat).

Peat is relatively nutrient neutral. Its benefits as a growing medium are primarily its water retention and aeration capacities. And because it is nutrient neutral, it allows for nutrients to be added, or customized, depending on the product to be grown. Peat is also relatively free of diseases and plant pathogens. All of this makes peat an ideal medium for the germinating and growing of a variety of horticultural, agricultural, and forestry products.

Although alternatives to peat (as a growing medium) do exist, they either have their own environmental consequences, or aren't available in the volumes required by professional growers or home gardeners. Coconut coir must be washed to remove salts, using large amounts of potable water in the process; and it must be transported from overseas (India, Sri Lanka, and Indonesia), and this, of course, contributes to greenhouse gas emissions. A 2012 lifecycle analysis of horticultural medias concluded that "Growing media containing a large share of coir pith has the highest impact on ecosystem quality" due to the impact on the local environment from processing coir. The same study showed that coir had a high impact on human health, and its impact to climate change was due mostly to shipping the product overseas. Although composting could replace peat for some home garden applications, the availability on the scale required by professional growers does not exist. Further, the nutrient customizability of peat (as well as the water/aeration benefits) is either lost or limited. Currently, there are no viable alternatives to peat in the horticultural industry.

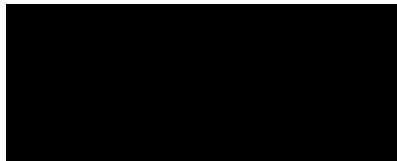
In 2015, the International Institute of Sustainable Development (IISD) released a report titled "Peatland Mining in Manitoba's Interlake: Cumulative impacts analysis focusing on potential nutrient loading and greenhouse gas emissions". It concluded that if all of Manitoba's Peat Harvest Licenses were developed, then 0.4 million tonnes of CO_{2e} (carbon dioxide equivalents) would be released every year. This would represent approximately 2% of all of Manitoba's annual greenhouse gas emissions; which, in 2010, was estimated at 19.8 million tonnes of CO_{2e}. But not all Peat Harvest Licenses are under development, and so these estimates can be revised to provide a more accurate picture of what is happening. This means that rather than 0.4 million tonnes, current Peat Harvest Licenses are emitting approximately 60,000 tonnes of CO_{2e} each year, or 0.3% of Manitoba's total greenhouse gas emissions in 2010.

Similarly, the report looked at the impacts of peat harvesting to the water quality of Lake Winnipeg. Nutrient loading occurs when phosphorus and nitrogen accumulate in water bodies. By removing peat, it is argued, peat harvesting is contributing to eutrophication processes (thereby contributing to the blue-green algae blooms and its effects). The report concluded that if all Peat Harvest Licenses in Manitoba were developed, peat harvesting would contribute 0.02% to 0.35% of phosphorus annually added to Lake Winnipeg. Likewise, it concluded peat harvesting would contribute 0.04% to 0.87% of nitrogen annually added to Lake Winnipeg. This made the authors write that “These potential nutrient loads to Lake Winnipeg from peat mining operations represent a small proportion of the yearly loads of phosphorus and nitrogen to Lake Winnipeg.” And because not every Peat Harvest License is developed (approximately 15% of the total licensed area is developed), these estimates of nutrient loading to Lake Winnipeg would be reduced accordingly.

Peat harvesting removes peat from Manitoba’s bogs and fens. However, the Peatlands Stewardship Act requires that companies restore these harvested areas; this means putting the peatland on a trajectory that will return ecosystem functions (like carbon sequestration). There has been a substantial amount of research in this regard, primarily from the Peatlands Ecological Research Group at Laval University, of which the peat harvesting industry is a partner toward improving and implementing the resulting best practices. These guidelines are available:

- Planning Restoration Projects ([link](#))
- Site Preparation and Rewetting ([link](#))
- Plant Material Collecting and Donor Site Management ([link](#))
- Spreading Plant Material, Mulch and Fertilizer ([link](#))

It is understood that restoring a harvested peatland to its pre-disturbed state will take time. But by implementing restoration best practices, carbon sequestration functions can be returned – this means that these areas can become carbon sinks again.



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