

Can Cattail Replace Peat Moss as a Potting Medium?

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What if a product that degrades wetlands could be replaced by one that restores them?



Peat bog and mine, Canada

Millions of tons of peat are harvested annually for use in horticulture, destroying pristine bogs and releasing vast quantities of CO₂

Meanwhile, *Typha* is dominating wetlands worldwide, and is managed via herbicide. Upon decomposition, *Typha's* nutrients reenter the water, exacerbating eutrophication.

If a peat moss substitute could be made from *Typha*, both boreal bogs and eutrophic temperate wetlands would benefit.



Spraying of *Typha* in Minnesota, USA

Objective: Evaluate cattail bioproducts for suitability in potting media.

Processing



T. Domingensis was harvested in south Florida, the center of America's ornamental plant production & a region overrun with nuisance cattails

Suitability

3 *Typha* products & a blend were evaluated alongside 4 store-bought media for physical, chemical, & biological suitability.

Ash was included to determine pH & EC impacts.

	Ideal Range Problematic Extreme	Bulk Density (g/L)	Wettability (s)	pH	Conductivity (µS/cm)	Stability (NDI)
Milled Typha		38	60 to 600	5.27	7,940	0.1
Typha Compost		89	60 to 600	7.28	4,615	0.9
Typha Biochar		67	< 60	9.34	29,083	0.5
Typha Blend		58	< 60	7.43	13,345	0.1
Typha Ash				11.75	78,775	
Peat Moss		66	3,600 +	4.45	213	1
Coco Coir		69	< 60	5.78	1,605	0.9
Biochar		301	< 60	8.57	1,061	0.8
Compost		388	< 60	8.57	2,928	1.4

Conclusions



- *Typha* compost shows physical and chemical suitability
- The high pH and EC of pyrolyzed *Typha* likely resulted from ash contamination
- Milled *Typha* is not viable in any quantity due to its low stability (it decomposes upon addition of nitrogen).

Next Steps

- Repeat in ND focusing on compost & biochar
- Plant trials
- Economic analysis



★ If viable & profitable, *Typha* potting media would incentivize wetland construction & biomass harvest, while reducing peat mining & herbicide application. ★

Contact



Thank you!



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