Biochar: A retailer’s perspective

North American Biochar Symposium

John Gaunt
Globally averaged concentrations of CO₂ in the atmosphere have reached their highest levels ever recorded (393 ppm CO₂)

Carbon Drawdown in the order 35 GT CO₂e per year is estimated as needed to stabilize atmospheric CO₂ at 350 ppm
• A destination retailer specializing in indoor gardening and hydroponics – i.e. a real store where staff who know stuff hang out, people visit and sometimes buy stuff.

• A manufacturer of soilless media and soil amendments for high value markets - from carnivorous plants to green roofs!

• Distributor of the products we make and stuff we like that other people make.

• Carbon Consulting LLC - Consults on carbon management in agriculture, with a core specialization in biochar – GreenTree’s product development arm.
All Biochar is not Created Equal

Carbon sequestering BioCore®

BioCharge® adds nutrients, micro-organisms and organic materials

Products are formulated and tested to meet market needs

GreenTree licenses rights to Full Circle IP and Trademarks for North American “retail” markets
# Retail Prices – indoor gardening store

<table>
<thead>
<tr>
<th></th>
<th>MSRP ($ / cu ft)</th>
<th>Retailer Pays ($)</th>
<th>Distributor Pays ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrated Coir</td>
<td>9.18</td>
<td>5.05</td>
<td>3.54</td>
</tr>
<tr>
<td>Coir/perlite media</td>
<td>9.36</td>
<td>5.15</td>
<td>3.60</td>
</tr>
<tr>
<td>High porosity blended media</td>
<td>9.55</td>
<td>5.25</td>
<td>3.68</td>
</tr>
<tr>
<td>Quality soils</td>
<td>8.04</td>
<td>4.42</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Average retail margin: 0.45 Actual
Distributor margin: 0.3 Assumption

Based on East Coast Pricing
What a farmer pays

• $1.50 – 2.50 cu ft. Volume user producing seedling transplants etc.

• $5.50 cu ft. Small scale boutique grower (farmers’ market, organic CSA)
What does it cost to make a soil? COGS

<table>
<thead>
<tr>
<th>Bulk Materials</th>
<th>$ per cu ft</th>
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<tbody>
<tr>
<td>Peat – straight no wetting agent, lime nutrient charge etc</td>
<td>$0.80 - $1.20</td>
</tr>
<tr>
<td>Compost</td>
<td>$1.00 - $3.00</td>
</tr>
<tr>
<td>Coco coir – expanded volume</td>
<td>~$1.00</td>
</tr>
</tbody>
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Total COGs $1.50 – 2.50 per cu ft before blending, packaging, labor etc.

So if biochar is to become a significant volume constituent in high volume sectors the pressure will be to match cost of existing bulk materials at $1-2 / ft.

If we see biochar as one of the non volume constituents less than <5% by volume then a higher price can be sustained.
So what can you sell biochar for John?

• Soilless media containing biochar at $10 / cu ft retail, perhaps more.

• As a “straight” biochar $40 a cu ft seems about right.

• Specialty formulations
  • EarthShine MSRP $119.95 for 15lb of soil booster. Package volume estimated 0.625 ft. Product Density 24 lb ft⁻¹
Opportunity

• There is a margin to be made on soilless media, it will be tough in the volume markets.
• Niche Ag is a great market – especially when delivery still in supersacks.
• Specialty products – insane this is where the “snake oil” hangs out.
How GreenTree fits in

• Manufacture and distribute premium soilless media
  – North East territory from our home in Ithaca
  – Expanding reach through partnerships.
• Manufacture and sell specialty biochar products using our own formulations.
• Support the biochar community by selling and / distributing quality biochar that is retail ready.
• We are “backed by science” and I will not compromise on this.
Nature does a great job of adapting to its environment