Turning the Rust Belt and Brownfields Green

Ohio Hemp Chamber of Commerce
ER Beach, Hemptations & Planet EveryWear
Marc White, Rid-All Green Partnership
Gloria Castillo, BioRegional Strategies
Michel Jendretzky, Jendretzky Law, LLC
Ohio Hemp
Chamber of Commerce
Growing Ohio’s Future
Hemp Basics

• Industrial Hemp Defined
  • Industrial hemp varieties of Cannabis, also referred to as "fiber" or "non-drug" hemp, should not be confused with marijuana. Industrial hemp contains virtually no THC (delta-9-tetrahydrocannabinol), the active ingredient in marijuana. Industrial hemp has less than 0.3% THC, while marijuana typically has 5-25% THC. Additionally, industrial hemp contains a relatively high percentage of CBD (cannabidiol), which negates THC's psychoactive effects.
Doug Fine, *Hemp Bound*

Doug Fine, author of *Hemp Bound* endorses the Ohio Hemp Chamber of Commerce and the future of hemp in Ohio.

Follow Doug on Twitter:  
@organiccowboy  
www.dougfine.com
ER Beach, OHCC Co-Founder

- My History
  - Hemptations
  - Planet EveryWear
- Future of Hemp
History of Hemp
Why Industrial Hemp?

Source credit: Why Industrial Hemp?, www.VoteHemp.com
Examples of Hemp Products
National Status of Hemp

• Current Federal Legislation
  • Section 7606 of the 2013 Farm Bill
    • On February 7, 2014, President Obama signed the Farm Bill of 2013 into law. Section 7606 of the act, Legitimacy of Industrial Hemp Research, defines industrial hemp as distinct and authorizes institutions of higher education or State departments of agriculture in states where hemp is legal to grow hemp for research or agricultural pilot programs. Since hemp has not been grown in the United States since 1957, there is a strong need for research to develop new varieties of hemp that grow well in various states and meet the current market demands.
National Status of Hemp

Growing Support

- The Industrial Hemp Farming Act (H.R. 525 and S.359) has 49 bipartisan cosponsors in the U.S. House of Representatives, and leadership support in the U.S. Senate.

- Major organizations including the American Farm Bureau Federation, National Farmers Union (representing more than 250,000 farming families nationwide), the National Association of State Departments of Agriculture, and more than 50 others, currently endorse hemp farming.

- As of the beginning of the 2014 growing season, ten states are already authorized to license hemp farmers, 20 states have passed pro-hemp legislation, 32 states have introduced hemp legislation.
Future of Hemp

There is no official estimate of the value of U.S. sales of hemp-based products. The Hemp Industries Association (HIA) estimates that the total U.S. retail value of hemp products in 2012 was nearly $500 million, which includes food and body products, clothing, auto parts, building materials and other products.

Marc S. White, Rid-All Green Partnership

- Urban Farming & Market Garden
- Environmental Stewardship & Social Responsibility
- Sustainability
- Urban renewal, Manufacturing, and Retail opportunities
- The Rid All Experience
- As a Fashion Designer; Health and Beauty
- Superfood Nutrition; Community health benefits
- Clean and Green Urban Blight Prevention
- Urban Benefits
How Can Hemp Help?

Is your community concerned about:
Water Pollution?
Energy?
Food Safety?
Crime & Poverty?
Jobs?

How can hemp help?
Job creation
Urban renewal
Supports long term economic growth
Supports new agricultural and manufacturing jobs
Creates additional revenue for communities
Central Green Market Gardens for Growing Food & Pharmaceutical Grade Hemp

Hemp is a well-documented nutritious “superfood” that is easily digested, rich in Essential Fatty Acids, protein, minerals and vitamins, and provides antioxidant benefits from non-psychoactive cannabinoids (U.S. Patent 6630507). Hemp seeds, leaves, flowers and roots can all be processed into non-toxic consumables, safe for all ages. It also makes for a healthy feed for livestock.

Per Unit Cost Estimates

- Site demolition/grading $20 per cubic yard (50) $1,000
- Landscape materials
  - Planting mixture $45 per cubic yard (90) $4,000
  - Mulch $40 per cubic yard (25) $1,000
- Furnishings
  - Rainbarrels $250 ea. (6) $1,500
  - Irrigation $1.25 s.f. (4,000) $5,000
- Fencing
  - 6’ woodframe/wire $40 l.f. (340) $13,600
  - Entry gate $1,500 ea. (1) $1,500

Central Green/Market Garden Total Cost Estimate

- Subtotal cost $3.45 per square foot $27,600
- Total project cost $27,600

Cost Estimate......Parcel Area 8,000 square feet (0.18 acre)

Multiple adjacent parcels can be assembled to establish a market garden. A multi-acre site is preferred, but smaller sites can still yield a substantial amount of produce for sale for local consumption. Soil testing will be needed to ensure that food crops can be safely grown on a specific site.

(Source credit: Re-Imagining Cleveland Vacant Land Re-Use Pattern Book, Kent State University’s Cleveland Urban Design Collaborative, Neighborhood Progress, Inc.)
Hemp as a “Mop Crop” for Bioretention Buffers, Bioswales & Rain Gardens

Hemp has shown to be at least 95 percent effective in absorbing nutrient dense runoff. By using hemp as a buffer near waterways that are vulnerable to nonpoint source pollution, it has the potential to protect against watershed issues that result downstream from combined sewer overflow and industrial scale agricultural operations i.e. algal blooms.

Vacant sites near parking lots and other paved surfaces can be used to provide bio-retention areas for managing stormwater. Bioswales and rain gardens must be designed and engineered in response to the soil conditions and water volumes at a specific site.

(Source credit: Re-Imagining Cleveland Vacant Land Re-Use Pattern Book, Kent State University’s Cleveland Urban Design Collaborative, Neighborhood Progress, Inc.)

<table>
<thead>
<tr>
<th>Per Unit Cost Estimates for Stormwater Bioswale</th>
</tr>
</thead>
<tbody>
<tr>
<td>site demolition/grading $20 per cubic yard (50)</td>
</tr>
<tr>
<td>walkway/paving materials</td>
</tr>
<tr>
<td>compacted crushed gravel $1.50 s.f. (1,800)</td>
</tr>
<tr>
<td>landscape materials</td>
</tr>
<tr>
<td>topsoil $25 per cubic yard (20)</td>
</tr>
<tr>
<td>mulch $40 per cubic yard (80)</td>
</tr>
<tr>
<td>plant materials</td>
</tr>
<tr>
<td>low mow seeding $0.12 s.f. (3,700)</td>
</tr>
<tr>
<td>grasses-perennials $5 s.f. (2,500)</td>
</tr>
</tbody>
</table>

**Bioretention Total Cost Estimate**

- subtotal cost $2.54 per square foot ................ $20,844
- contingency 10% ......................................... $2,084
- design/engineering 15% ................................ $3,120
- total project cost .................................... $26,044

Cost Estimate......Parcel Area 8,000 square feet (0.18 acre)
Post-Industrial Hemp Applications: Phytoremediation for Toxic Metals

Phytoremediation is a technique that uses plants to extract lead, arsenic, and other heavy metals, petroleum substances, and pesticides from the soil. Phytoremediation has primarily been used on large-scale industrial sites and former military bases. However, phytoremediation is also a potentially useful strategy for reducing lead concentrations in residential neighborhoods.

Hemp is effective as a hyper-accumulator, capable of extracting lead and other heavy metals, even radioactive cadmium and cesium. Because the contamination bio-accumulates in the leaves and the seeds of the plant, it should not be used for animal or human consumption. However, this plant material can be composted to further remediate the contamination. Because the fibers of the plant are not effected by the contamination, the stalks can be harvested to make a carbon-dense, cement-like product known as “hempcrete” which can be used for infrastructure projects i.e. filling potholes, repairing sidewalks, etc. or used as a revenue generator for public works by selling the fibers to industry.

Cost estimates for phytoremediation process are dependent on many factors including levels and type of toxicity and the depth of the pollutants. Phytoremediation strategies are site-specific, so a cost can only be derived on a case by case basis once the unique conditions of a given parcel are assessed.
Gloria Castillo, BioRegional Strategies

- BioRegional Strategies
  - Wholistic Visioning and Regenerational Planning
  - Collaborative Partnerships
- New Mexico Industrial Hemp Coalition, Volunteer Chair
- BRS founders have a total of 40+ years knowledge in agriculture, horticulture, land tenure, and scientific knowledge to assist in the regenerational planning of areas that require soil remediation, urban and rural gardens, commercial agriculture, and improving food and nutrition networks
How can OHCC help?

- Proposed Pilot Projects in various Ohio counties
- Collaboration between non-profit agencies, for-profit companies, governmental agencies, private and public sector groups and individuals
- Connect, develop, and nurture the hemp market in Ohio
- Provide you with the resources and knowledge to bring hemp back to the Heartland
Michel Jendretzky, OHCC Co-Founder

Legislative Updates From OHCC

Ohio **will lose** out if we don’t act **now**!
Don’t delay, contact your reps TODAY!
The OHCC would like to thank the following sponsors and founding members:
Questions?

Ohio Hemp Chamber of Commerce
P.O. Box 427 | Ravenna, OH 44266
Phone: 614-816-0637
E-mail: info@ohiohempchamber.org
Website: www.ohiohempchamber.org