Regenerative Agriculture – Implications for the Textile Industry

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The Regenerative Cotton Collection

Coming into Fall, we now have over 150 acres of farmland now under our stewardship in Erode, India, we have sequestered 900 tons of carbon from the atmosphere since our Farm-to-Closet initiative began.

We are able to steward this land because of your support for Christy Dawn. Every time you purchase a piece, you’re supporting reciprocal, intentional relationships with farmers, ginners, spinners, weavers, Mother Earth and ourselves. It’s an exchange that benefits all of us.
Regenerative Agriculture in pictures

cotton following sorghum near Corpus Christi, Texas

No-till cotton near Coffeeville, Mississippi
Regenerative Agriculture in pictures

no-till cotton in mixed species cover crop near Parma Missouri

dryland cotton & sorghum near Lubbock Texas
Regenerative Agriculture issues of 13 textile companies

- soil-health
- carbon
- biodiversity
- natural
Regenerative Agriculture issues of 13 textile companies
Regenerative Agriculture by Field to Market

Field To Market is a U.S. based coalition of:
26 grower organizations,
17 Brands and Retailers,
12 members from Civil Society, and
53 companies that support farmers

“Using a systems-based perspective, Regenerative Agriculture sequesters carbon in the soil and intentionally improves soil health, biodiversity, water quality and air quality while ensuring the viability of farm production.”

Regenerative Agriculture by Field to Market

Principles of Regenerative Agriculture

“The principles of a regenerative agriculture system are based in Indigenous ways of land management and are adaptive to local physical conditions and culture. These principles include:

• Minimizing soil disturbance
• Maintaining living roots in soil
• Continuously covering bare soil
• Maximizing diversity with emphasis on crops, soil microbes, & pollinators
• Integrating livestock where it is feasible

This Regenerative Agriculture definition focuses on soil and differs from Field to Market’s approach to Sustainable Agriculture which more broadly encompasses human health, social, and economic impacts.”

https://fieldtomarket.org/defining-sustainability
No consensus in definition of Regenerative Agriculture

• 2 of the 13 Textile Companies listed “Organic” as a requirement for Regenerative Agriculture
• Another 2 listed “no or reduced Synthetic Fertilizers” as part of Regenerative Agriculture
• 13 of 13 mentioned “Climate” (or Carbon)
• 11 of 13 mentioned “Soil Health”
Is Regenerative Agriculture just another organic?

NO

• Pesticide concerns regarding food safety drove consumer interest in organic

• Food safety from nutritional density was less prominent and food safety from microbial contamination was not prominent
Is Regenerative Agriculture just another organic?

NO

Organic tries to connect with consumers around environmental and social benefits while Regenerative Agriculture:

• is central to consumers top environmental concern (climate change)

• facilitates mechanization by small farm holders because expensive tillage tractors are not required
Is Regenerative Agriculture just another organic?

NO

Restrictions versus Principles

• No pesticides (unless approved)
• No synthetic fertilizers
• No GMOs

• minimizing soil disturbance
• maintaining living roots in soil
• continuously covering bare soil
• maximizing diversity with emphasis on crops, soil microbes and pollinators
• integrating livestock where it is feasible
Conventional Agriculture Practices

Conventional

- Pesticides, GMO, Fertilizers
- Weed cultivation
- Manure
- Compost
- Cover crops
- Crop rotation
- No-till, Zero-till
- Strip-till
Organic Agriculture Practices

Conventional

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Organic

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- Crop rotation
- Weed cultivation
No-till and Cover Crop weed control

- Weed seed “eradication”
- No-till & cover crops
- Preemergence herbicides
- Foliar herbicides for escapes

Palmer amaranth seed viability starting with 90% viability

![Seed viability graph](image)

Agronomy Journal, 113(6), 5373-538 photo by Stanley Culpepper

Weed Science 2018 66:446-456
Organic Agriculture Practices

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Organic

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Regenerative Agriculture Practices

Conventional

Pesticides, GMO, Fertilizers

Weed cultivation

Organic

Manure
Compost
Cover crops
Crop rotation

RA principles

No-till, Zero-till, Strip-till
Regenerative Agriculture Practices

Conventional

- No-till, Zero-till
- Strip-till
- Pesticides, GMO, Fertilizers

RA practices

- Manure
- Compost
- Cover crops
- Crop rotation

Weed cultivation

Organic
How does this comparison relate to cotton

Organic Agriculture
• Driven by concerns of pesticide residues. Cotton textiles are a non-food, washed in processing.

Regenerative Agriculture
• Driven by concerns of climate change
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<th>Regenerative Agriculture</th>
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How does this comparison relate to cotton

**Organic Agriculture**
- Driven by concerns of pesticide residues. Cotton textiles are a non-food, washed in processing.
- Difficult to adopt where rainy
- Certification and verification is difficult since no measurable difference in the fiber and diverse bales are blended in spinning

**Regenerative Agriculture**
- Driven by concerns of climate change
- Is locally relevant so can be adopted globally
- Certification and verification relies on relationships/trust with growers and their organizations
Opportunity for Textile Brands & Retailers

• Consensus on the objective of Regenerative Agriculture to address climate change with soil health (*a global concern that is expanding*)

• Regional certifications/verifications that include soil health exist and can expand with textile needs

• We should build consensus regarding what **IS** Regenerative Agriculture, so there is no confusion about what **IS NOT** - polyester

• Utilize the expanding consumer concerns about microplastics and climate change to strengthen cotton’s role (production and processing) in our environment
Thank you