What Is the difference between organic and conventional cotton?

The distinction between organic and conventional cotton can often be misunderstood or misconstrued in sustainability conversations. In reality, the two production systems are not that different with respect to growing practices.

One of the major differences between organic and conventional cotton is the origin of the seeds and the chemical technologies used to grow and protect the crops.

**Organic cotton** growers cannot use biotech (GMO) seeds and, in most cases, cannot apply synthetic pest deterrents unless other more preferred methods are insufficient to prevent or control the target pest. Technically, organic cotton must be grown on land that has been free of prohibited substances for three years. In the U.S., organic cotton is subject to third party verification and is certified by the United States Department of Agriculture.

**Conventional cotton** growers have more latitude. They may plant biotech seeds or seeds from traditional breeding. They may use synthetic or natural nutrients and crop protectors, or a combination of natural and synthetic inputs.

Beyond the criteria mentioned above, U.S. growers of conventional and organic cotton are both subject to federal regulations and able to utilize the full range of farming best management practices.

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<thead>
<tr>
<th>Use GMO technology</th>
<th>Use Soil Health Building Practices</th>
<th>Use Integrated Pest Management</th>
<th>Use Practices to Increase Water Use Efficiency</th>
<th>Use Crop Rotation &amp; Cover Crops</th>
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<tbody>
<tr>
<td><strong>ORGANIC</strong></td>
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<td>✅</td>
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<tr>
<td><strong>CONVENTIONAL</strong></td>
<td>✓</td>
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2. Electronic Code of Federal Regulations (eCFR). (2020). National Organic Program, 205.670. Inspection and testing of agricultural products to be sold or labeled as "100 percent organic", "organic", or "made with organic (specified ingredients or food groups)". https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=q87%50%2b6f1%2b5%b0e667cad%5d3b40&rgn=div6&view-text&node=7:3.119.32.7&idno=7
Typically, no. A crop’s production system (organic or conventional) has no impact on its water requirements. Water requirements are dictated by the farming region and by the specific variety of cotton planted. Further, both production systems can benefit from soil health building practices (regenerative agriculture, use of cover crops, diverse crop rotations, etc.) which have shown to dramatically increase soil organic matter and water holding capacity4.

Do organic and conventional cotton have comparable fiber yields?
In general, no. Organic cotton typically yields less fiber per acre5. This is largely due to the difficulty of controlling insects and weeds at scale while adhering to organic guidelines6.

Is organically-grown cotton more sustainable than conventionally-grown cotton?
It depends on how sustainability is defined and measured. Both organic and conventional cotton when produced responsibly have the ability to reduce certain environmental impacts. However, depending on the criteria, neither is inherently more sustainable than the other.

Does organic cotton allow for pesticide use?
In short, yes. As an example in the U.S., there is an approved list of pesticides for organic production that are derived from both synthetic non-synthetic sources3. However, they are only allowed to be used provided that other more preferred methods are insufficient to prevent or control the target pest7. When following product labels, both non-synthetic and synthetic pesticides can be used responsibly to minimize both human health and environmental impacts. By preserving yield, these products are critical for minimizing other impacts such as greenhouse gas emissions and water consumption while providing enough food and fiber to meet a growing global demand.

For more information on cotton production methods and sustainability visit cottontoday.cottoninc.com