Water & Cotton Production

Global Water Usage

As the population continues to soar, worldwide water conservation and management in agriculture has become increasingly important. Agriculture accounts for 73% of global water usage, cotton is only responsible for 3% of that[1].

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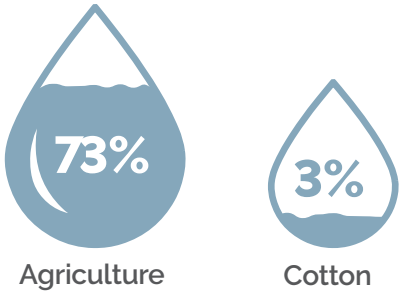

In fact, **cotton's natural drought tolerance, minimal irrigation needs and ability to thrive in arid climates make it one of the most versatile crops on the planet**. And over the next 10 years, improvements in irrigation technology and new cotton varieties will likely result in further decreases in cotton's water demand.

Make Every Drop Count

Cotton is drought tolerant, requiring little to no extra water other than natural rainfall in most regions of the world[3,4,5]. When it comes to irrigation water needs in cotton production, in the U.S. it breaks down like this:

64%
Requires no irrigation at all[4,5]

31%
Receives supplemental irrigation[4,5]

5%
Fully irrigated[4,5]

Irrigation, where required, is critical. In some cases, irrigation can provide a 400% increase in overall yield[6], which makes precise usage crucial. Advanced technologies such as moisture sensors, weather modeling, and low-energy precision application (LEPA) irrigation are helping to acheive water reduction targets.

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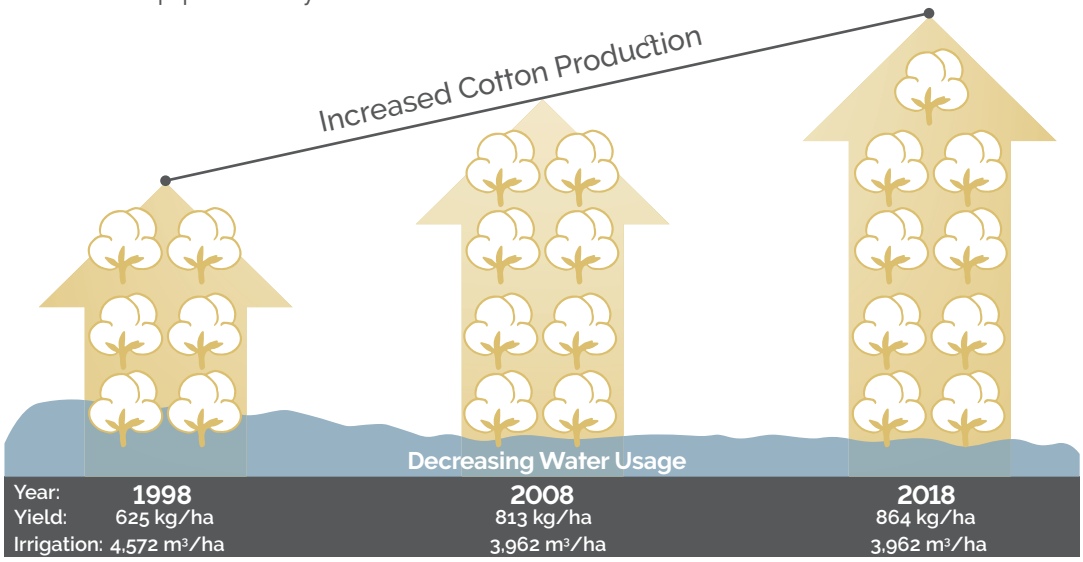
6: Jalota, S. K., Sood, A., Vitale, J. D., & Srinivasan, R. (2007). Simulated crop yields response to irrigation water and economic analysis: Increasing irrigated water use efficiency in the Indian Punjab. Agronomy Journal, 99(4), 1073–1084. https://doi.org/10.2134/agronj2006.0054

Water Usage Improvement

Compared to 20 years ago, we produce much more cotton per acre of land, with virtually no increase in water usage[4]. In fact, some areas are using even less water than before. This is thanks to improvements in irrigation technologies and the emergence of insect-resistant varieties that help preserve yield.



Source: Adapted from USDA Farm and Ranch Irrigation Surveys and National Agricultural Statistics Service Data [4,5]

Cotton Water Facts

- 177 gallons of **water consumption** are required to make one t-shirt, which includes growing the cotton, manufacturing the t-shirt, and consumer use[5].
- 157 gallons of **water consumption** are required to grow the cotton used in one t-shirt[5].
- The water consumption of cotton is less than 3% of the global average of a person's total water footprint[5,6,7,8] .
- Nearly all of the water applied to the plant is evaporated and returns to other fields as rainfall. This is part of the earth's natural water cycle[5].
- Cotton grown by conventional and organic methods can both benefit from soil health building practices (regenerative agriculture, use of cover crops, crop rotations, etc.) to increase soil organic matter and water holding capacity[9]. All plants require water to grow, therefore it is important to implement best management practices to increase water use efficiency in any agricultural system.
- Cotton is drought tolerant and can grow in a variety of climatic conditions[3,4,5], meaning cotton can grow where other crops cannot making it an important source of global food and fiber[10].

For more information about water usage in cotton visit ***cottontoday.cottoninc.com***

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5: Cotton Incorporated (2016). LCA Update Of Cotton Fiber And Fabric Life Cycle Inventory. https://cottontoday.cottoninc.com/wp-content/uploads/2019/11/2016-LCA-Full-Report-Update.pdf
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