

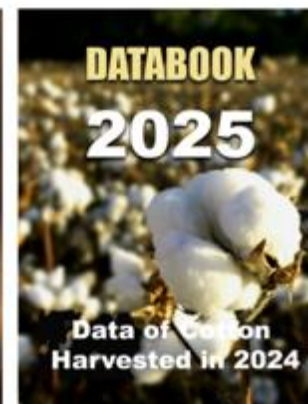
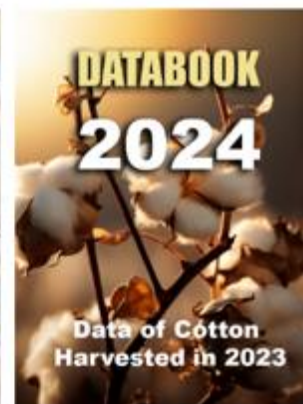
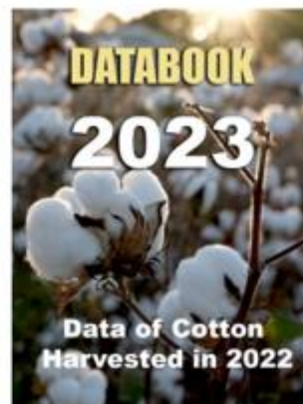
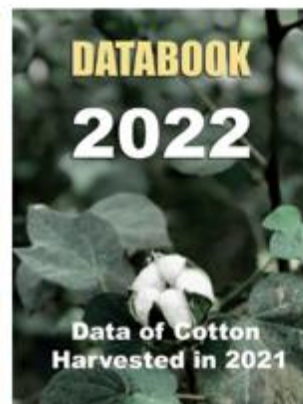
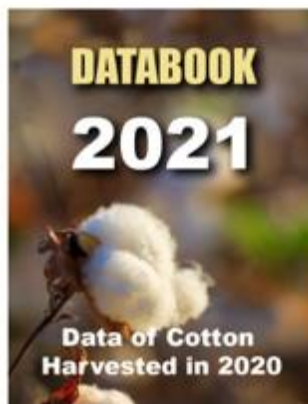
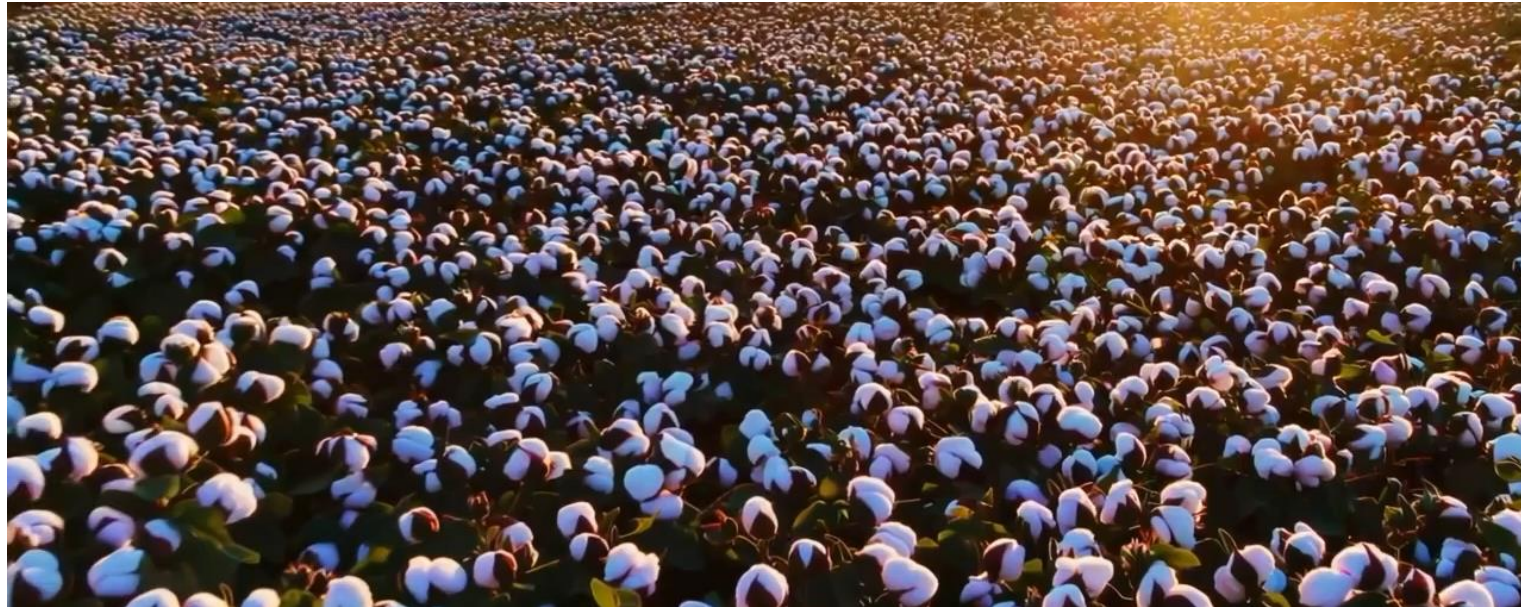


GLOBAL DATA ON COTTON SUSTAINABILITY

Keshav R Kranthi
Chief Scientist

THE NEW COTTON PRODUCTION DATA PORTAL

<https://icacdatobook.de.r.appspot.com/>



THE NEW COTTON PRODUCTION DATA PORTAL



<https://icacdatobook.de.r.appspot.com/>



ICAC COTTON DATABOOK 2025

872 Pages 38 Countries and Global Comparisons



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	Country-38 Zimbabwe	477



SUSTAINABILITY OF COTTON PRODUCTION

Data from 38 countries (2024-2025)

FERTILIZER USE

WATER FOOTPRINT

PESTICIDE USE

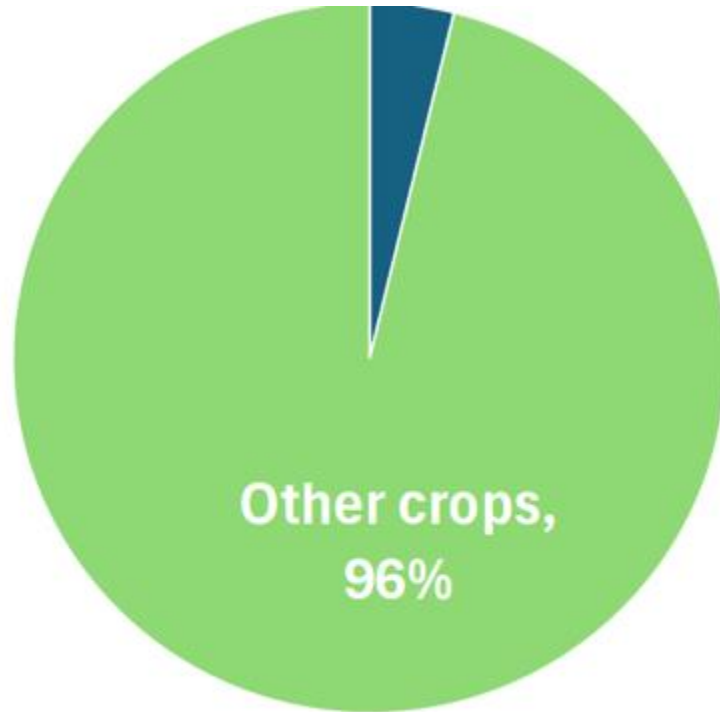
INSECTICIDE USE

HIGHLY HAZARDOUS PESTICIDE USE

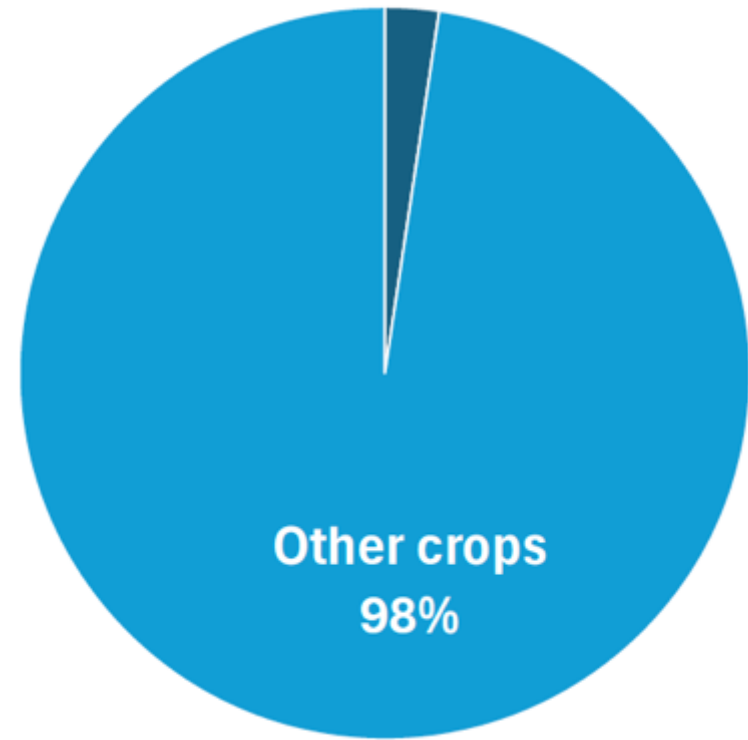
GREENHOUSE GAS EMISSIONS

FERTILIZERS

FERTILIZERS
Cotton, 3.8%



AREA
Cotton, 2.21%



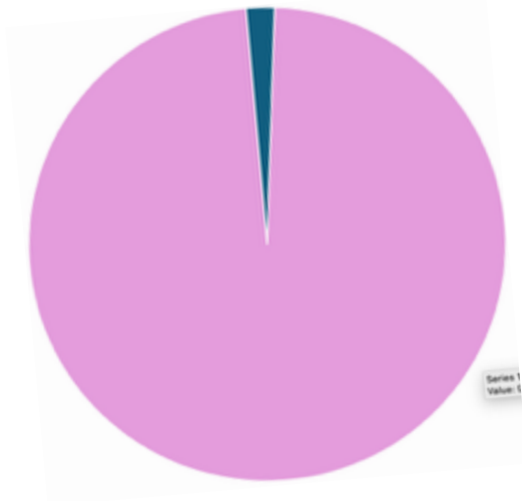
Source: ICAC Cotton
Databook: 2025

Headline

COTTON IS A ~~X~~ THIRSTY CROP

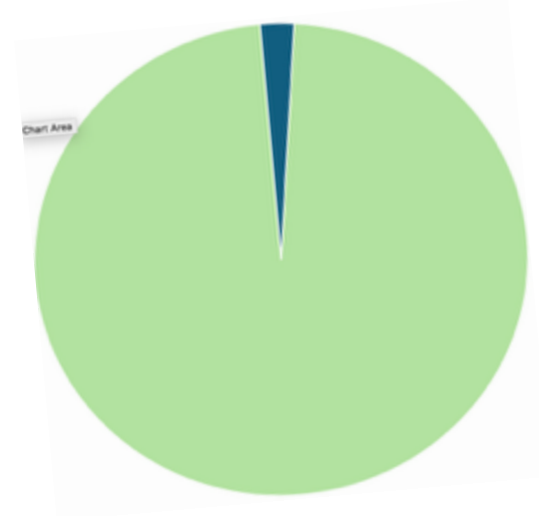


Cotton Uses 1.91%
OF IRRIGATION WATER



Cotton used 52.8 Trillion Litres out of 2,757 TL used for arable land irrigation

Cotton, 2.21%
ARABLE LAND

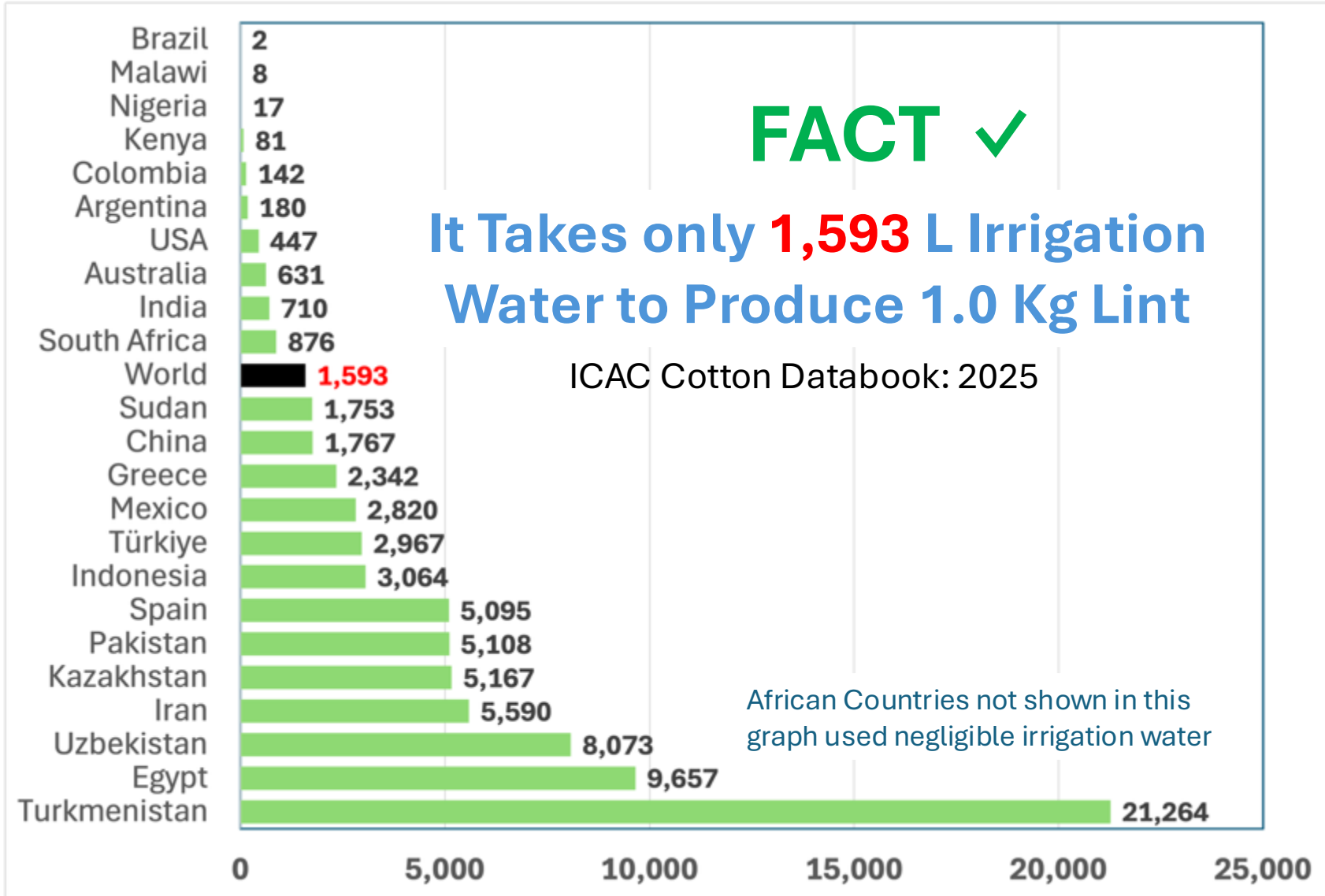


WATER FOOTPRINT IN COTTON 2020-2024 A GLOBAL ANALYSIS
271 PROVINCES OF 38 COUNTRIES

Headline

It Takes ~~20,000~~ L Water to Produce 1 Kg Lint

- <https://www.isp.cuhk.edu.hk/>



Headline

Cotton ~~uses~~ 16-25% ~~of~~ world's Pesticides

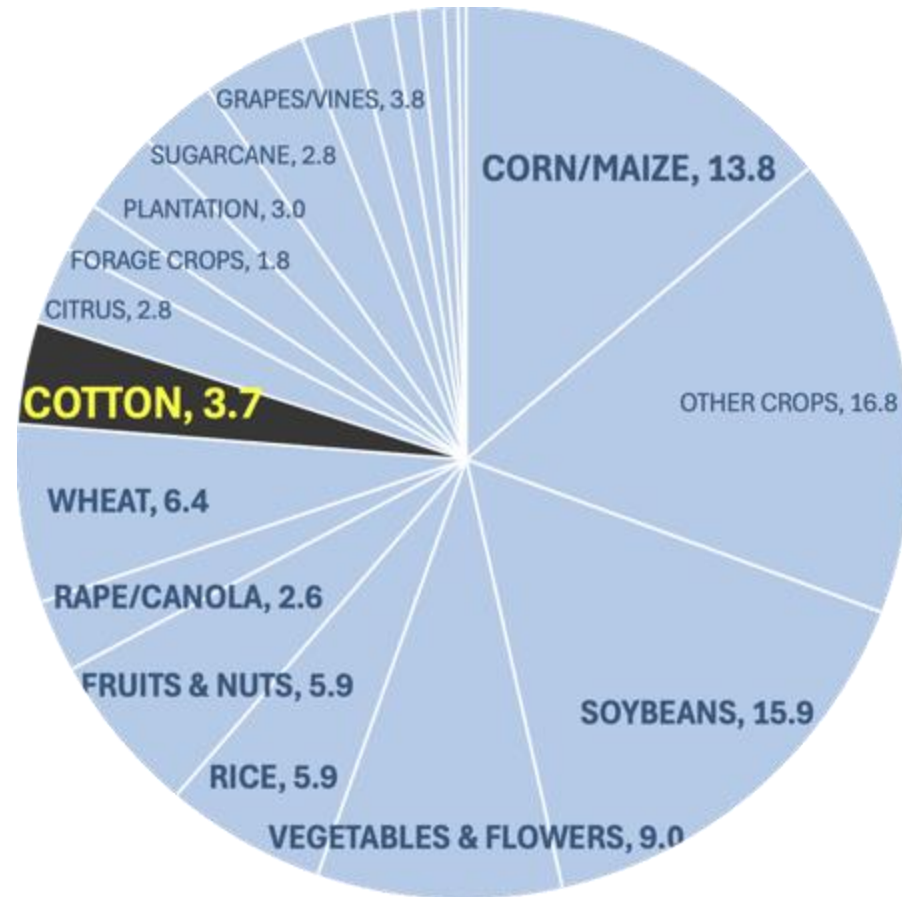
~~-<https://www.bohempia.eu/>.~~

~~<https://www.naturepedic.com/>~~



FACT ✓

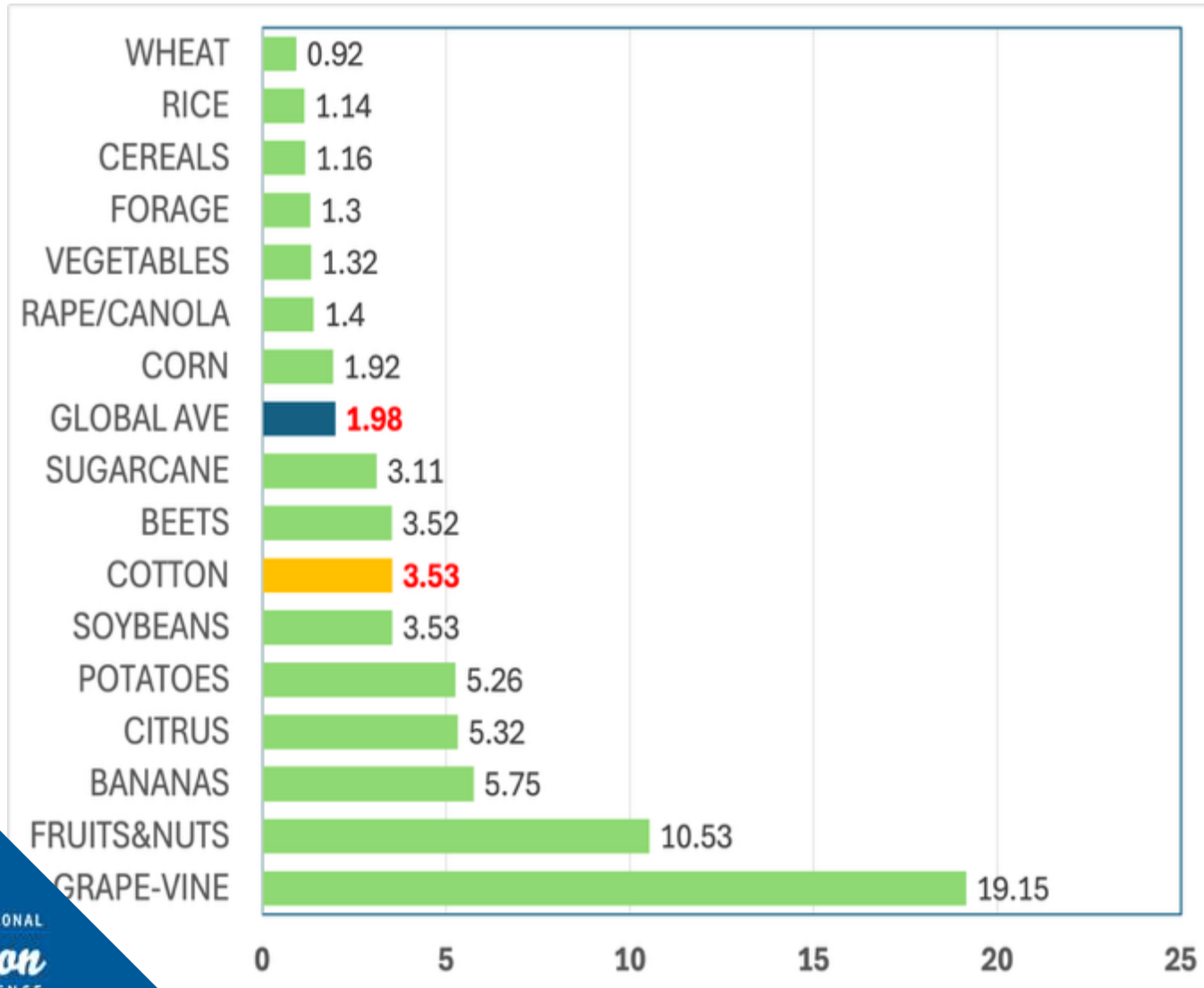
Cotton's Pesticide Share is only 3.7%



Kranthi, 2025 ICAC RECORDER



PESTICIDE USE (Kg/Ha) IN CROPS: 2024



Pesticide use (Kg/Ha) of cotton (**3.6**) is far less than potatoes & citrus (5.3), bananas (5.7), fruits & nuts (10.5) and grape vines (19.2)

Kranthi, 2025 ICAC RECORDER

Headline

Cotton Uses ~~16.0%~~ of World's Insecticides

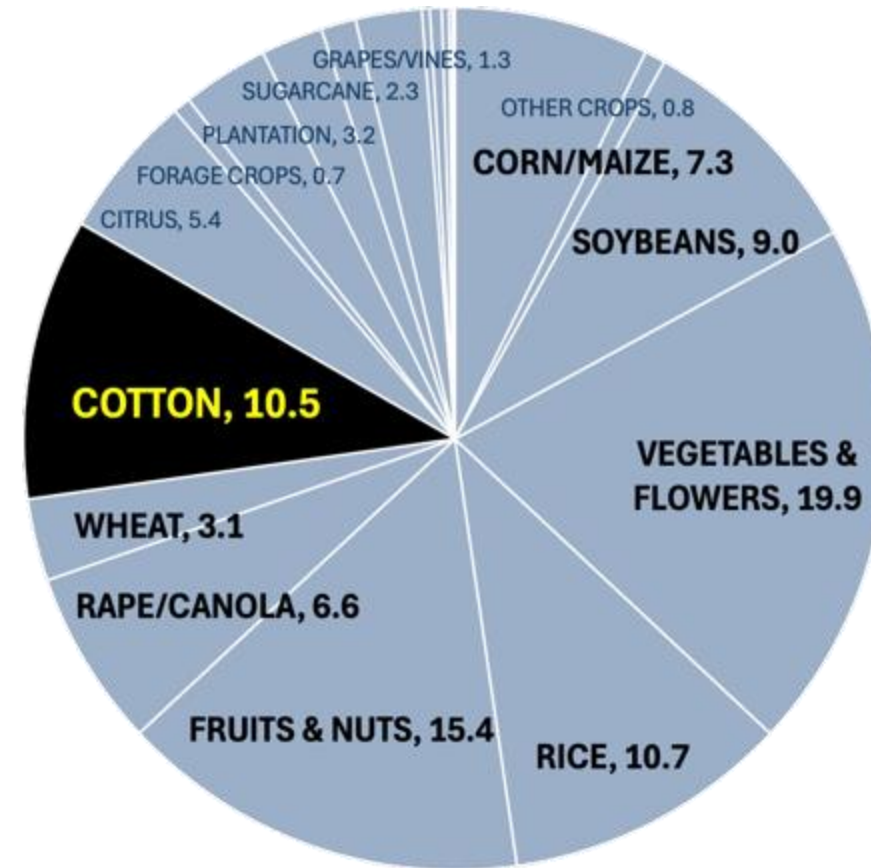
-ENVIRONMENTAL JUSTICE FOUNDATION

<https://environmentaljustice.org/>



FACT ✓

**Cotton's Insecticide
Share is 10.5%**



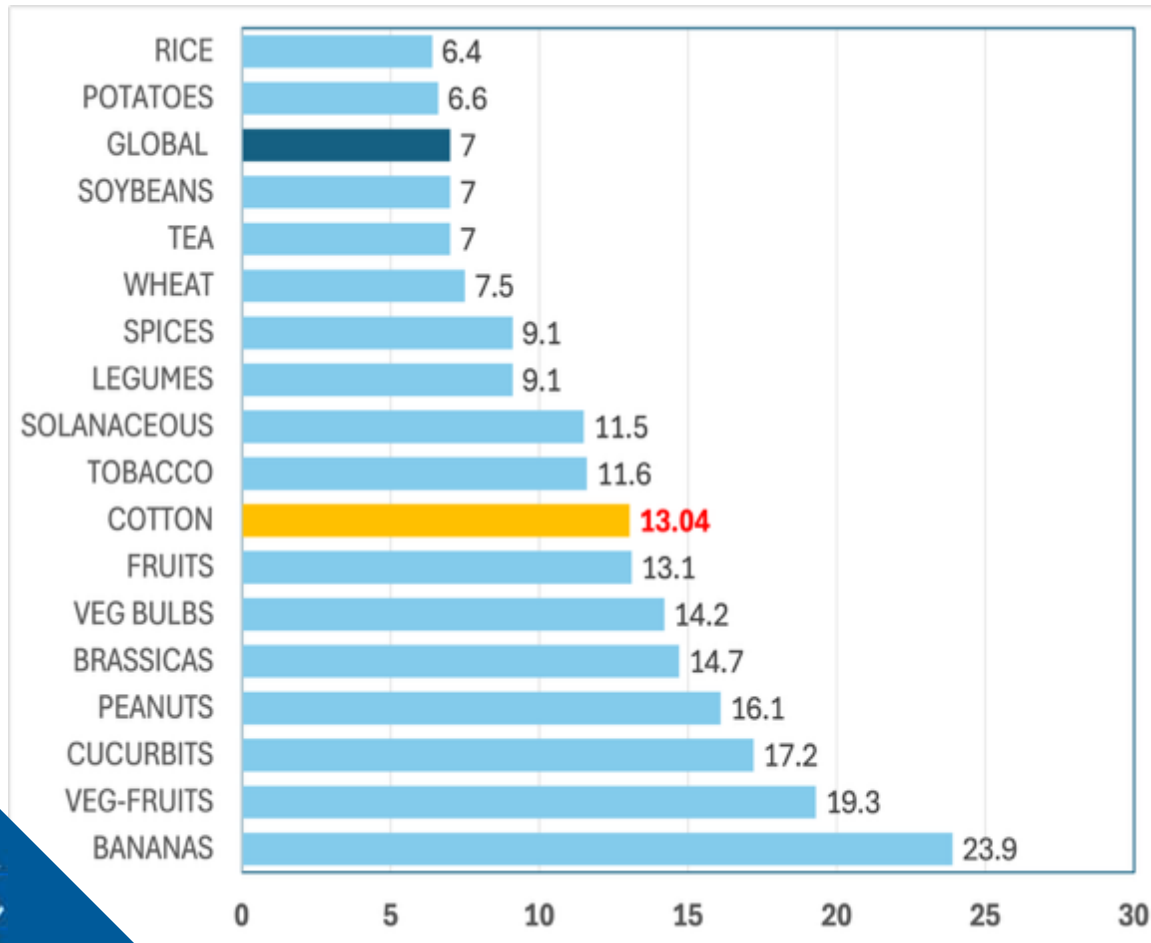
Kranthi, 2025 ICAC RECORDER

Headline

Cotton Share of HHPs is 69.1%

-ENVIRONMENTAL JUSTICE FOUNDATION

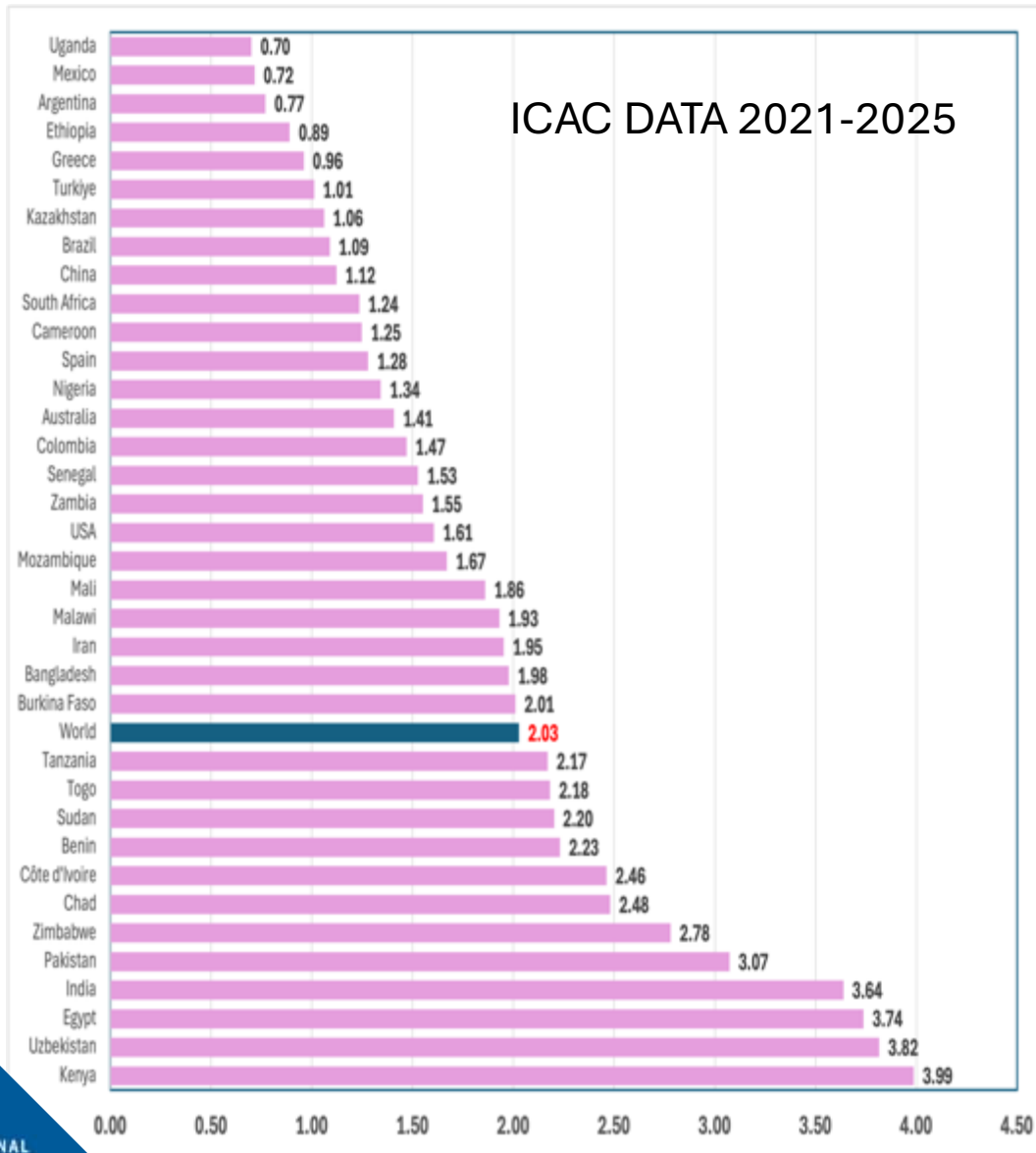
<https://ejfouadation.org/>



FACT ✓

HHP Share in cotton is 13.0%

But is lesser than fruits and vegetables (13.1 to 23.9%)



Headline

**Cotton Cultivation Emits
220 Mt of CO₂ per annum**

-Carbon Trust, 2011

<https://tempfoundation.net/>

FACT ✓

Cotton Cultivation Emits

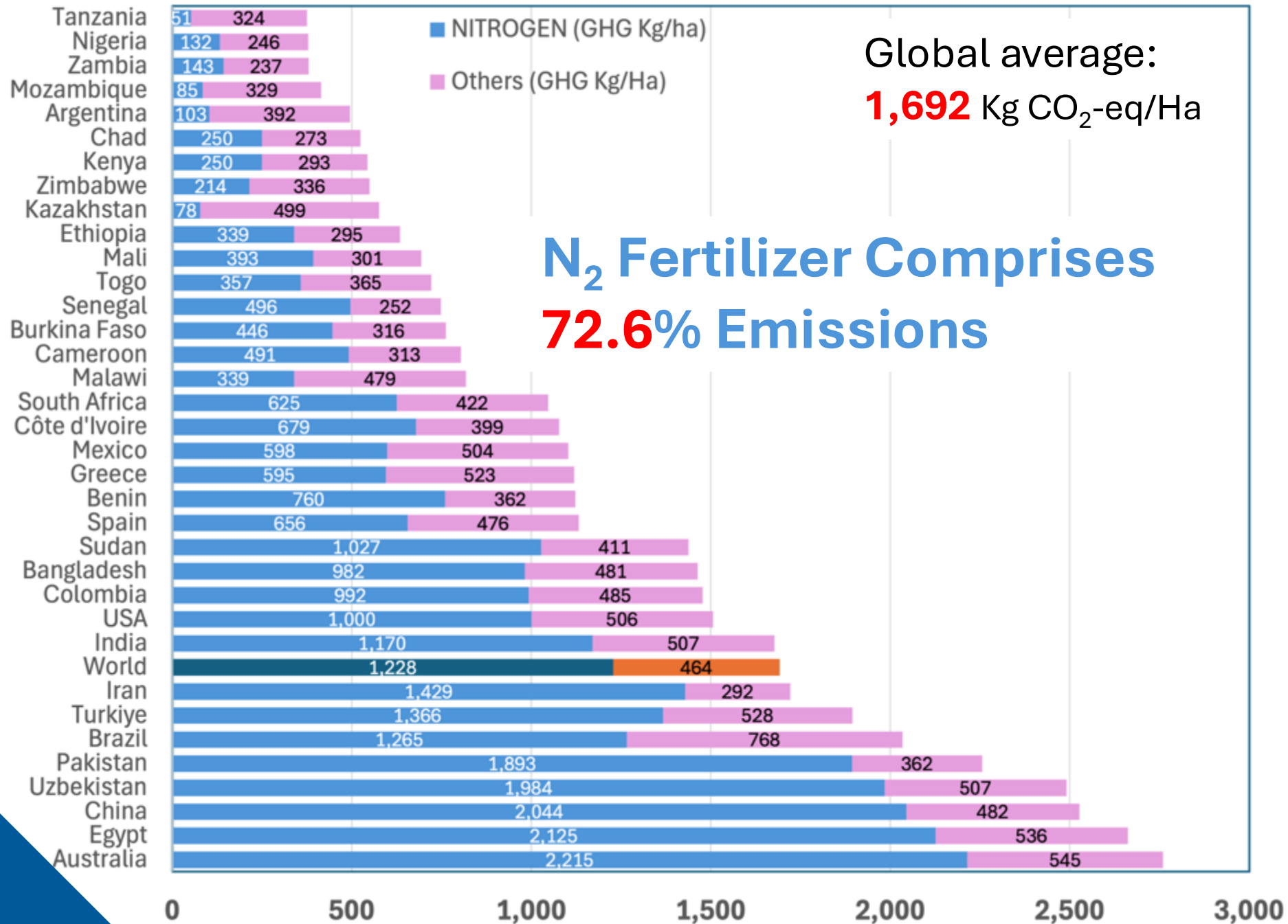
2.03 Kg CO₂-eq/Kg Lint

= 50 Million Tonnes



Global average:
1,692 Kg CO₂-eq/Ha

N₂ Fertilizer Comprises **72.6%** Emissions



Cotton crop emits **1.7** Tonnes GHG/Ha
But the Crop Captures **13.63** Tonnes CO₂ for Photosynthesis



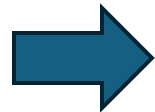
Fibers: **1.52**

Seeds: 2.59

Stalks: 6.49

Roots: 3.03

Total: 13.63



However, except in fibres, 97% of this carbon decomposes and is lost back

Converting cotton stalks to biochar prevents the carbon loss and can make cotton farms **NET CARBON NEGATIVE**



Improves soil health, increases yields and adds carbon payments **\$200-250/ha**





SUMMARY

- **GHG emissions:** ~50 Mt (**not 220 Mt**)
- **Mitigation:** Up to 50% reduction via N management
- **Fertilizers:** 3.8% vs 2.21% area
- **Water share:** 1.91% vs 2.21% arable land
- **Water use:** 1,593 L/kg lint (**not 20,000 L**)
- **Pesticides:** 3.7% (**not 16–25%**)
- **Per hectare use:** Lower than fruits, vegetables, potatoes
- **Insecticides:** 10.5% (**not 16–%**)
- **HHPs:** 13% (**not 69%**)

CONCLUSION: Cotton is not a dirty crop or a thirsty crop. It is grown like any other crop, but has been unfairly vilified



Thank You



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