

# Industrial Hemp @ K-State

Trying To Fill The Research Void

Dr. Jason J. Griffin  
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**K-STATE**  
Research and Extension



# K-State's Role in Industrial Hemp



- Research, Extension, & Teaching
- Production
- Improvement
- BMPs
- Education
- We have just completed 2<sup>nd</sup> grow

Facebook: @kstateindustrialhemp



# 2019 Industrial Hemp Reports

<https://newprairiepress.org/kaesrr/vol6/iss1/>



2019 K-State Industrial Hemp Dual-Purpose & Fiber Trial

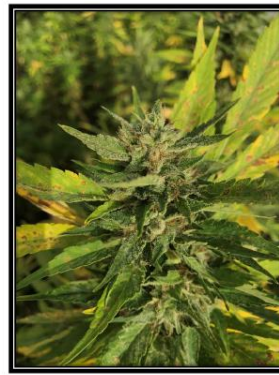
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With support from K-State Research & Extension and the USDA National Institute of Food and Agriculture, Hatch-Multistate project 1015339: Industrial Hemp Production, Processing and Marketing in the U.S.  
The authors wish to thank Colorado Hemp Genetics and Schiavi Seed for generous donation of seed, and the Kansas Department of Agriculture for collaborative support throughout the project.



2019 K-State Industrial Hemp CBD Variety Trial

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# Grain & Fiber (Dual-Purpose)

## Grain

- 30 #/A approx. ½" deep
- Harvest @ 75% mature
- Harvest w/ combine
- Dried to 8% for storage

## Fiber

- Cut and baled



# Fiber

- Fiber
- 60 #/A approx. ½" deep
- Harvest @ pollen shed or when male senesce
- Swather (or sickle) to cut & retting for 2-3 wks
- Bale @ 15% moisture



# K-State's Role in Industrial Hemp

- Grain & Fiber
- Variety Trials
- Strong Genotype x Environment
- Variety Choice matters



# Fiber & Grain at Wichita (JCPHC)

2019

- 14 Dual-purpose
- 3 Fiber varieties
- 4 x 22 ft plots
- 4 replications

2020

- 21 Dual-purpose
- 3 Fiber
- 4 x 22 ft plots
- 4 replications

# Fiber & Grain at Wichita (JCPHC)



- Drilled  $\frac{1}{2}$ " deep
- 100#/A N preplant
- Hand cultivated weed control, once
- Irrigation as needed to prevent drought stress

# Fiber & Grain at Wichita (JCPHC)



- Germination in 7-10 days
- Heavy rain within 20 days is problematic



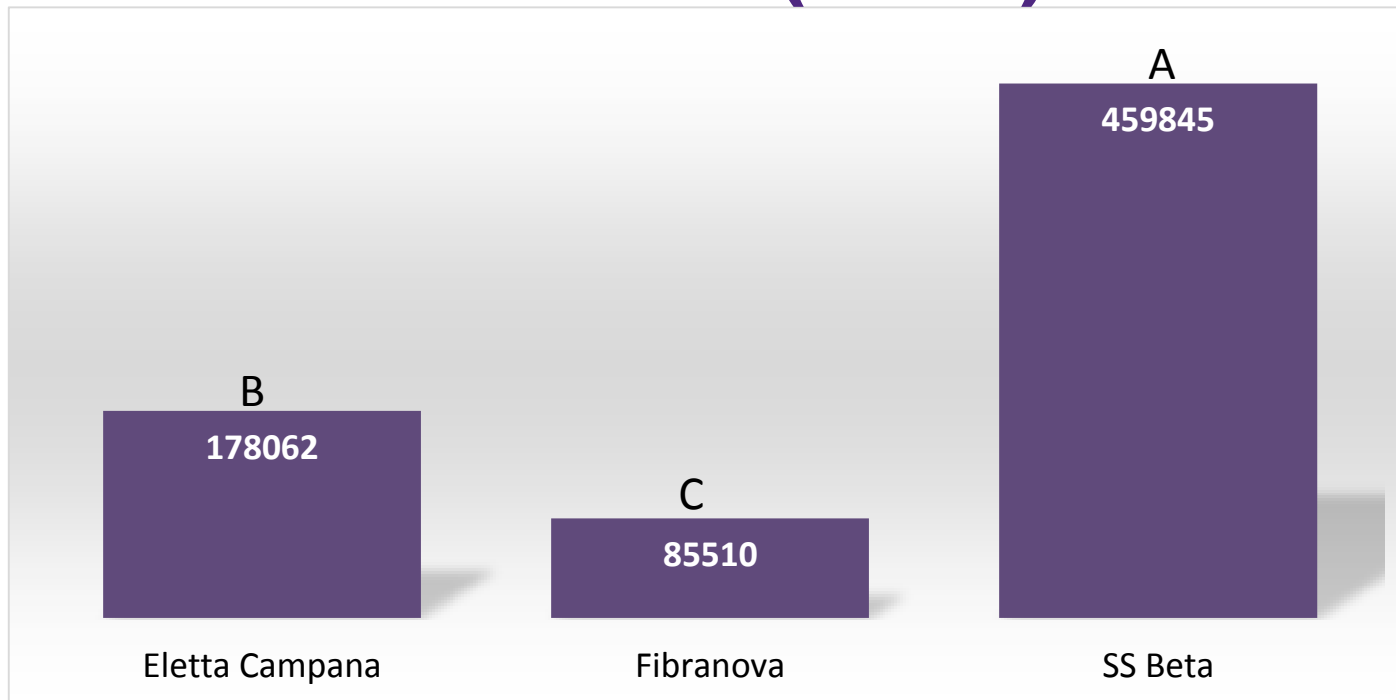


# • Fiber

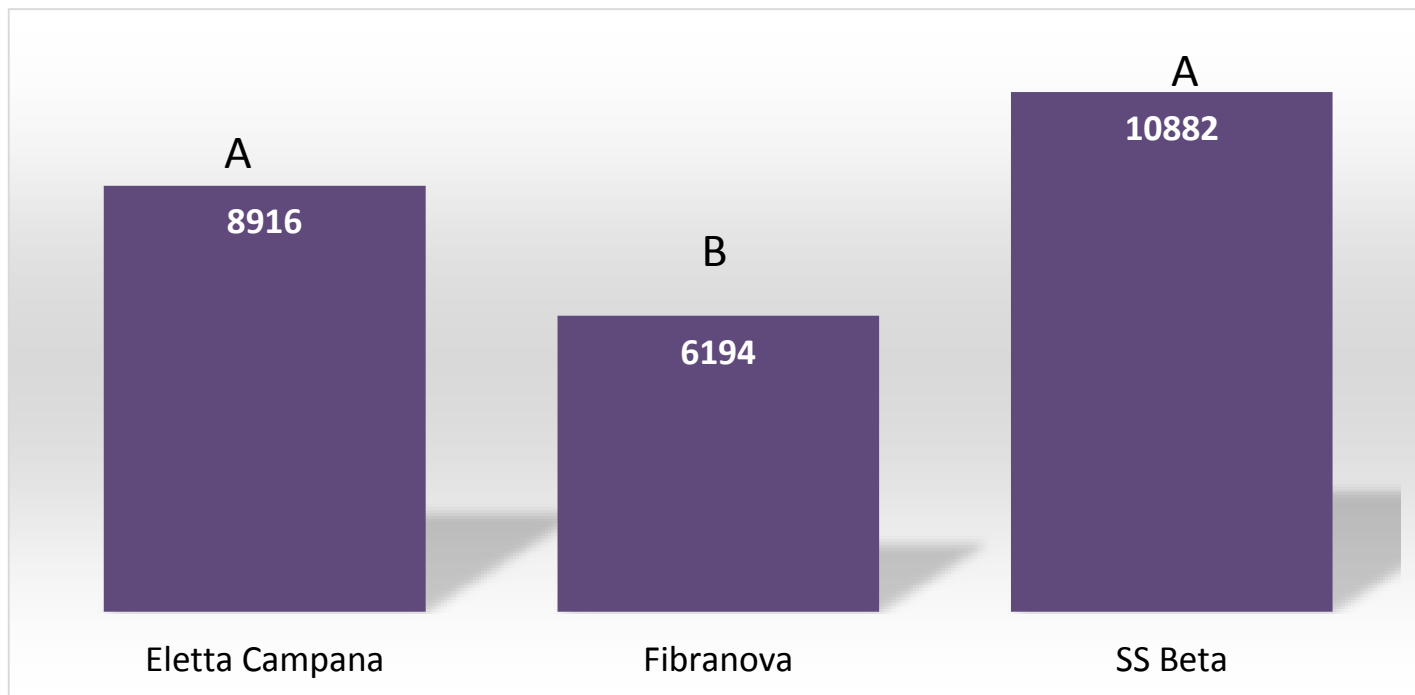
- Multiple uses from Textiles to Construction
- Product is baled and processed to separate different types of fiber



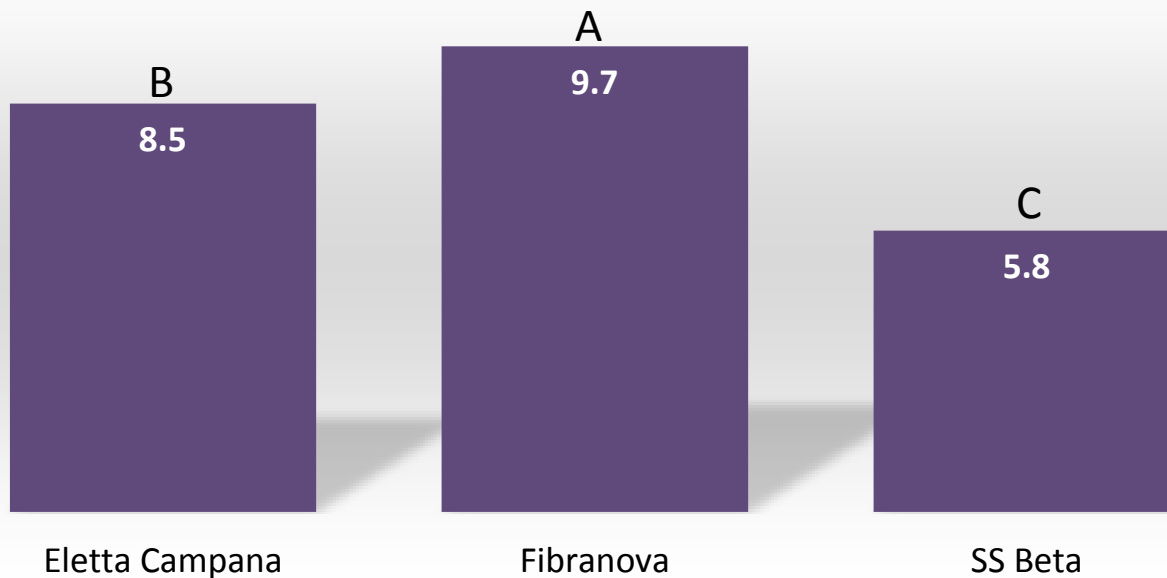
# Fiber – Plants/Acre (2019)



# Fiber – Stem Dry Wt. #/Acre (2019)



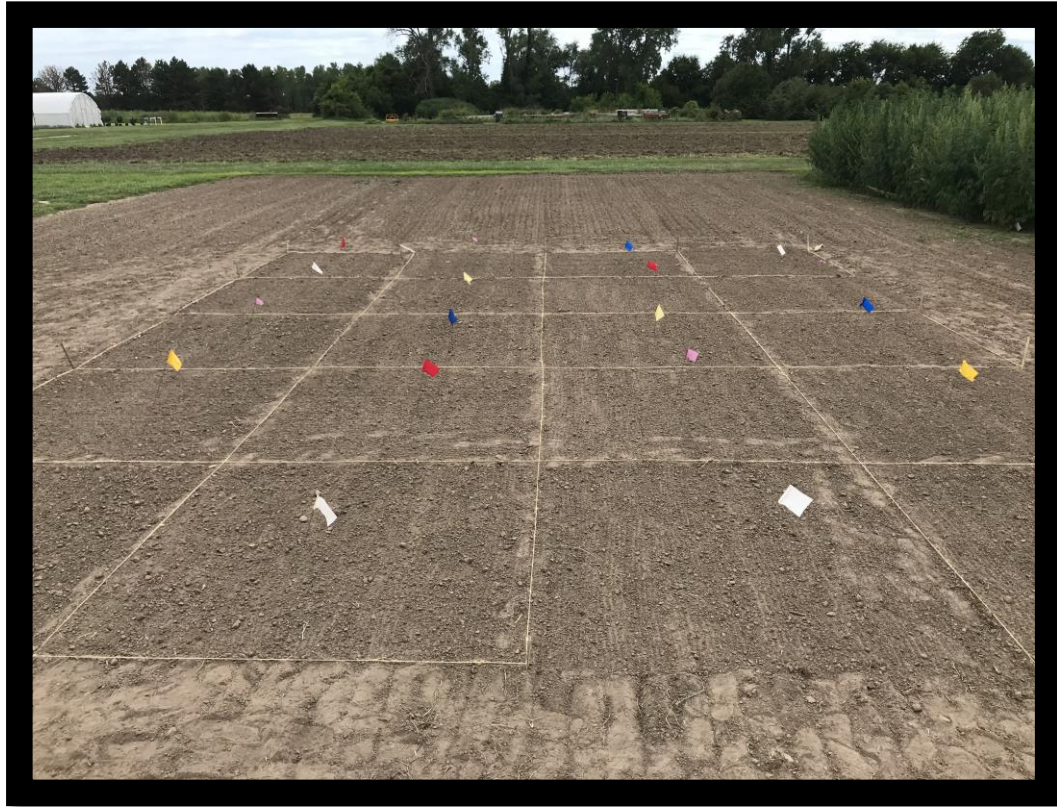
# Fiber – Stem Caliper (mm) - 2019

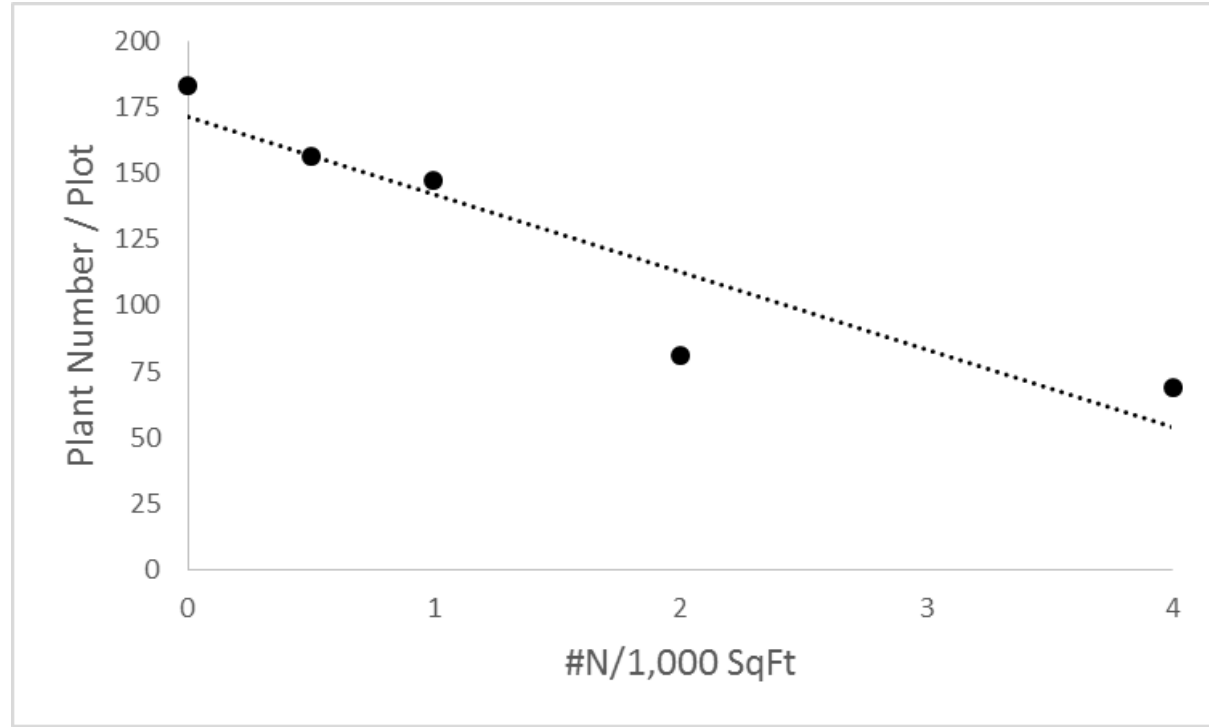






- Nitrogen (46-0-0)
  - Preplant incorporated
  - 0, ½, 1.0, 2.0, 4.0 #/1000 ft<sup>2</sup>
  - Planted Altair @ 30#/A
  - Irrigated daily
  - Plant counts @ 3 weeks.





\*Germination decreased with increasing Nitrogen

# Industrial Hemp

- Future Work

- Plan to continue this line of work
  - Water utilization
  - Production practices
  - Variety evaluations
  - Human Health
  - Animal Nutrition
  - Helping KS farmers be more successful
- Partnerships
  - Industry
  - K-State Vet School
  - KU Dept. Geology
  - KU Med School
  - USDA Multi-State working group



CRAIGER Enterprises



Multistate project 1019339:  
Industrial Hemp Production,  
Processing and Marketing in the  
U.S.