

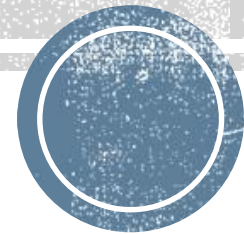
Irrigation 101

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2018-2019 State FFA Vice President

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Average age of farmer paired with a growing population

- 59.4 years old
- Every day we grow by ~250,000 people
- Every person on average eats 1500 pounds of corn
- It takes 3000 gallons of water for each bushel of yield

<http://fatknowledge.blogspot.com/2007/04/average-american-consumes-1500-pounds.html>

<https://articles.extension.org/pages/14080/corn-water-requirements>

https://thefern.org/ag_insider/on-average-u-s-farmers-are-aging-but-a-quarter-of-them-are-newcomers/





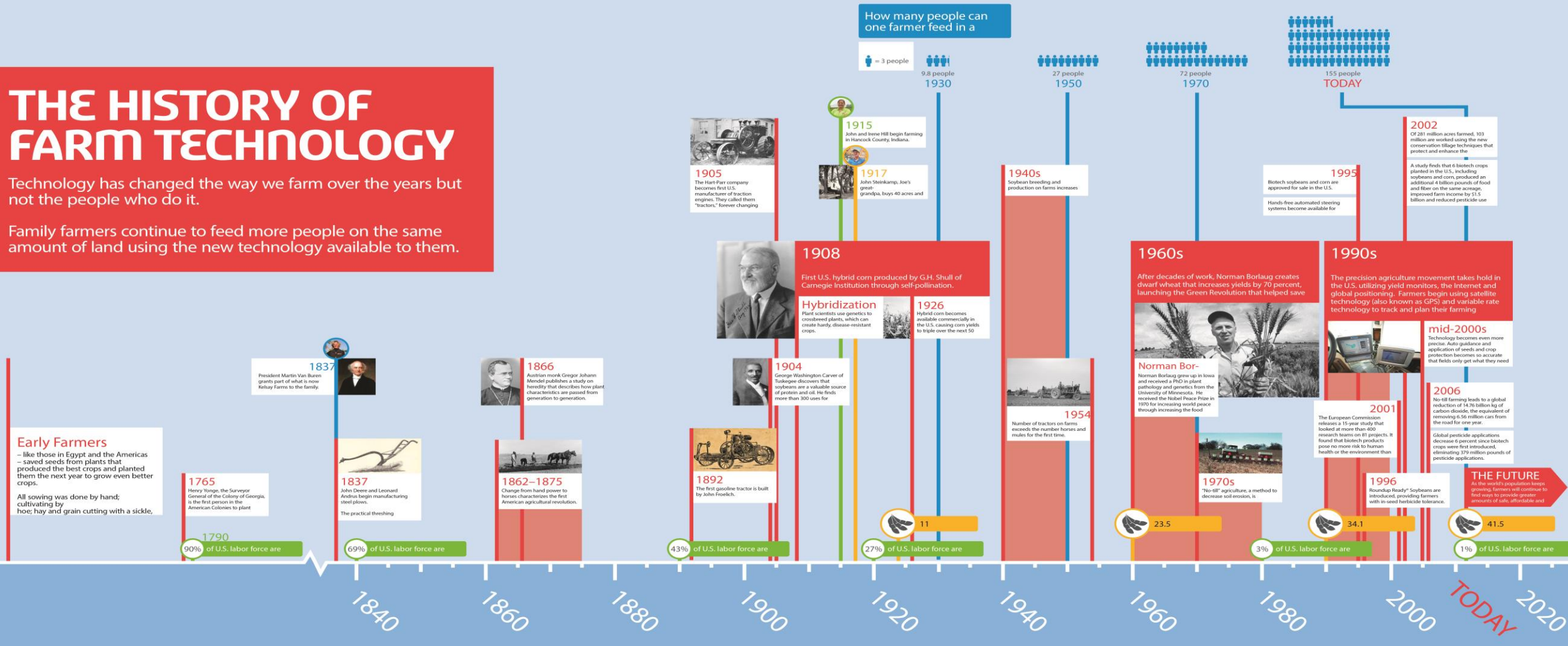
**The fear of what
could happen is far
greater than the risk
of innovation...**

Agricultural Innovation

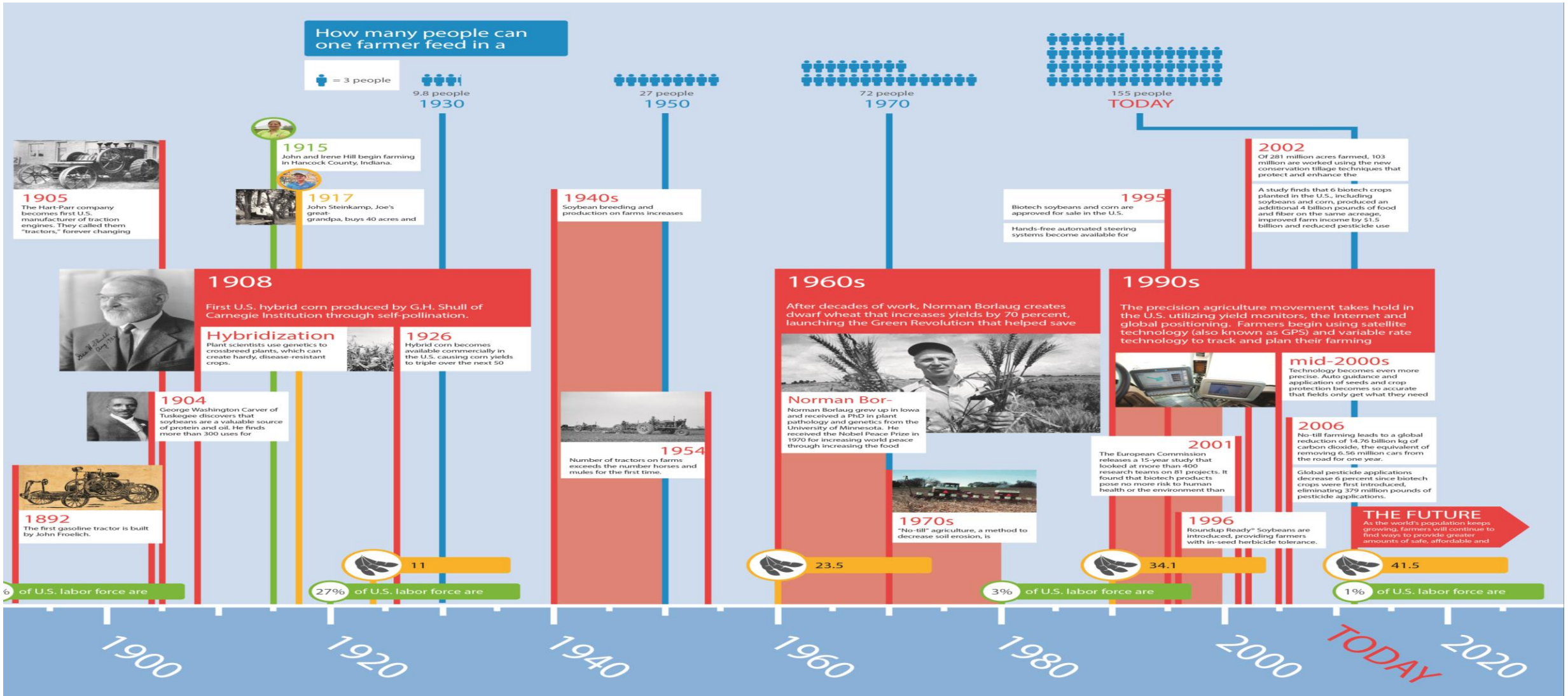
THE HISTORY OF FARM TECHNOLOGY

Technology has changed the way we farm over the years but not the people who do it.

Family farmers continue to feed more people on the same amount of land using the new technology available to them.



Agricultural Innovation





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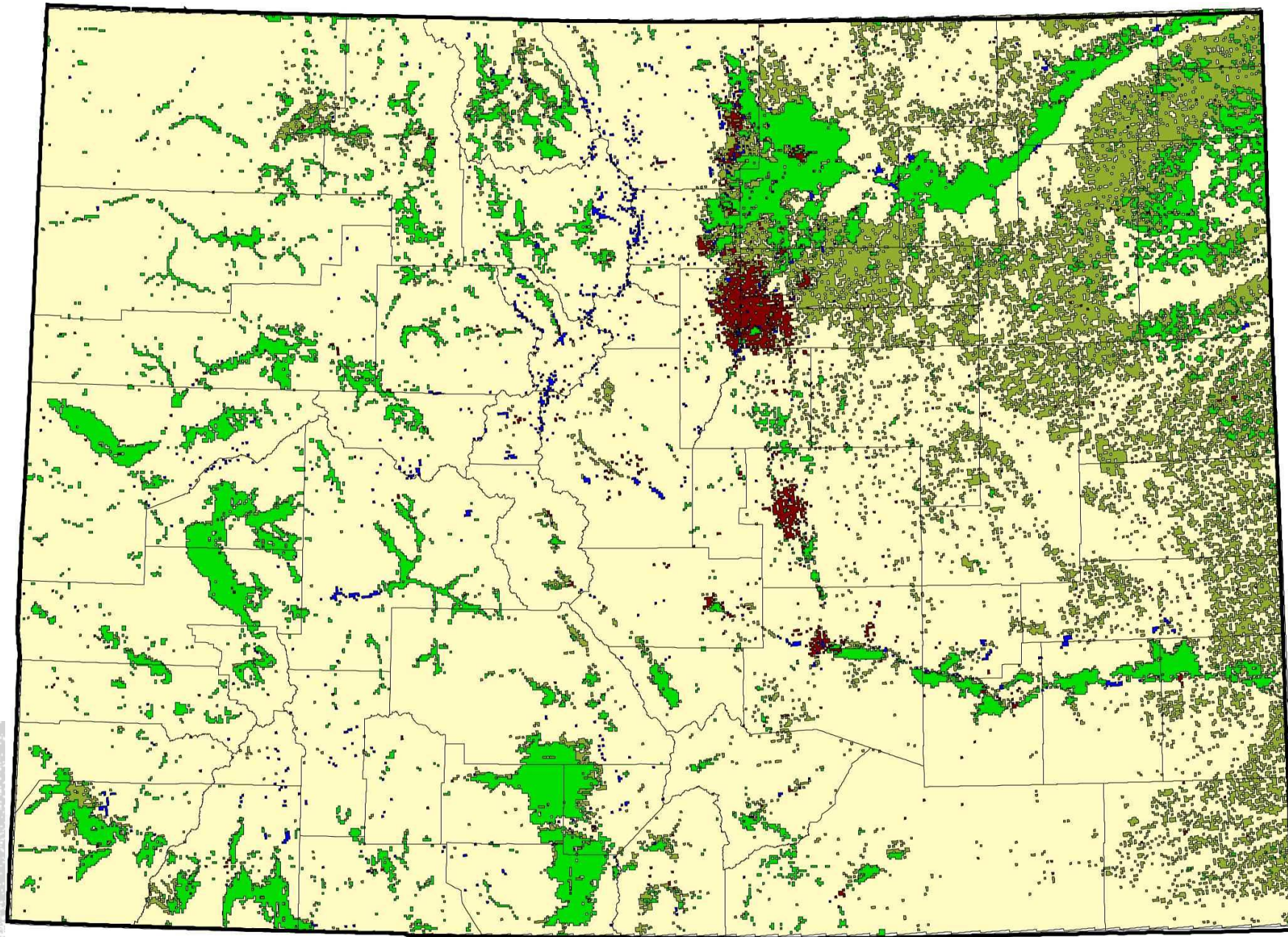


COLORADO HISTORIC AVERAGE ANNUAL STREAM FLOWS






(acre feet)



TOTAL LEAVING COLORADO 10,726,000 af



Reclassified NLCD Land Use with Irrigation

-  Water/Ice
-  Natural
-  Urban
-  Cultivated
-  Irrigated Crops



COLORADO AGRICULTURE

2010 Ag. Water Demand (CWCB, 2010)

Irrigation water requirement: 8,417 M m³/yr

Water supply-limited CU: 5,914 M m³/yr

Shortage: 2,503 M m³/yr

Total Land Area	27,000,000 ha.
Number of Farms & Ranches	30,500
Land in Farms & Ranches	12,400,000 ha.
Total Crop Land	4,600,000 ha. (17%)
Irrigated Crop Land	1,200,000 ha. (4%)
Avg. Size of Farm & Ranch	400 ha.

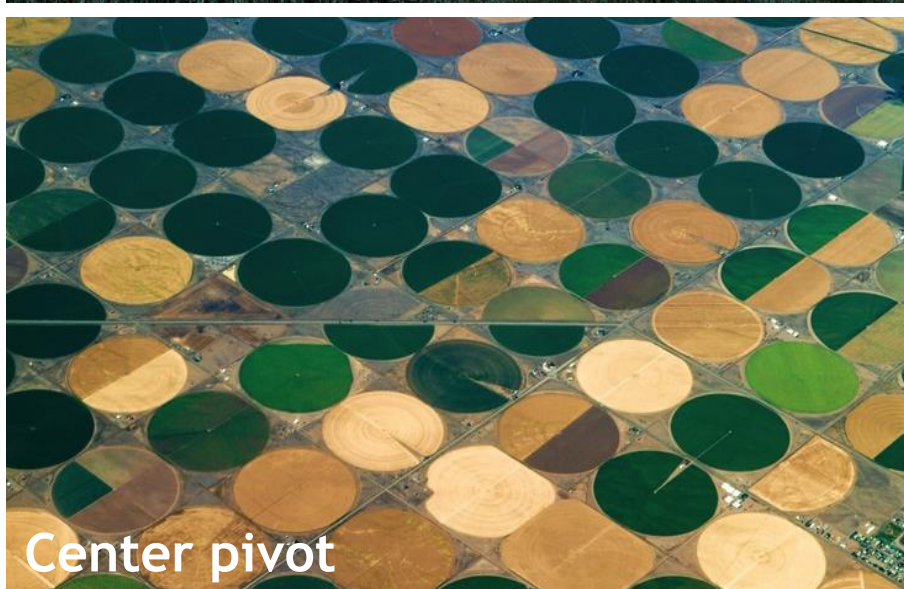


Top Types of Irrigation

1. Furrow Irrigation (Siphon Tubes)
2. Furrow Irrigation (Gated Pipe)
3. Sprinkler Irrigation
4. Drip Irrigation



Sprinkler Irrigation



Abundant in Colorado areas for the most innovation.

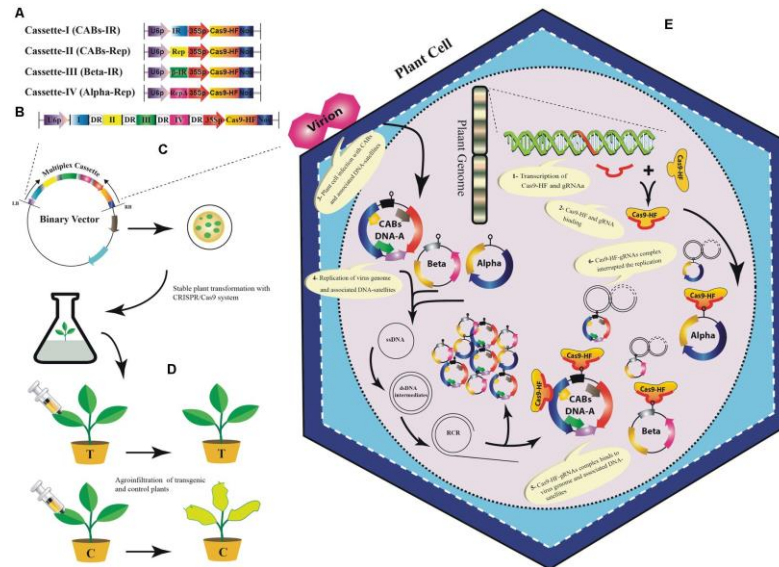
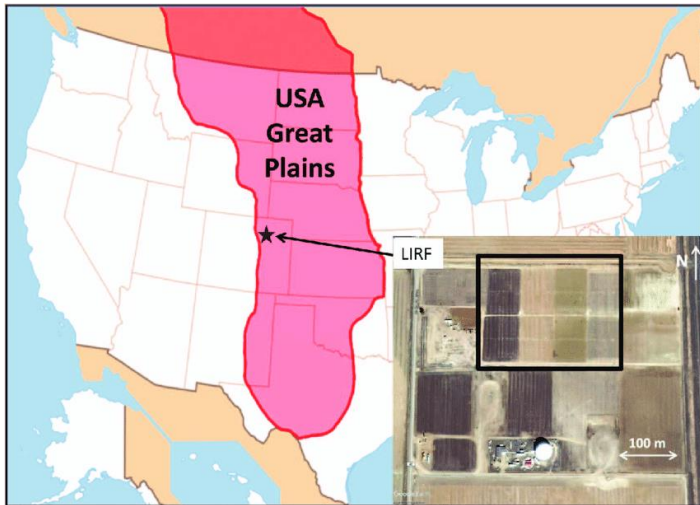


Innovation in the works...



image: <https://inc42.com>

- Genetic Breeding
- Mechanization
- Data Spotting
- Plant Knowledge
- Genetic Engineering





What holds technology and implementation back?

- Policy
- Incentives
- Understanding



Resources from Soil and Crop Sciences Department at CSU

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[Adapted Slides Above](#)

<https://irrigationinnovation.org/>

<https://www.ars.usda.gov/plain-s-area/fort-collins-co/center-for-agricultural-resources-research/water-management-and-systems-research/>

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[Adapted Slides Above](#)

<http://ogallalawater.org/>

<https://taps.unl.edu>

<https://irrigationinnovation.org>

