

# How Many Products Can We Harvest Hemp for at One Time?

Maximizing or hemp harvest  
potential

Dr. Jennifer Gilbert Jenkins

Assistant Professor of Agricultural Science

SUNY Morrisville , Morrisville, NY



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# Considerations?

- ▶ What equipment is readily available?
  - ▶ What production practices do I want to use
  - ▶ Who is going to buy my harvest
- 
- ▶ But really, using the crop for multiple purposes just makes hemp a common agricultural crop !
  - ▶ Did we mention who is going to buy the harvested components?



# To Till or not to Till : Emergence and Cover





# Fiber as a stand alone crop

- ▶ Always grow dual purpose varieties: Felina 32, Anka, and a handful of others varieties
- ▶ Weather the past 3 growing seasons has been a significant factor in fiber yield
- ▶ Weather has not interrupted fiber harvest
- ▶ Harvest is a higher quality of bast fiber (textile grade) as opposed to harvesting later with grain/fiber dual crop

# Is hemp for fiber a profitable crop? (Based on 2019 economics)

► Compared to a hay crop:

	Hemp	Alfalfa
Seed Cost (\$/ac/) (per year assuming 3 years of alfalfa)	150	40
Average Yield (ton/ac)	1.4 - 1.9	2.4
Price Per Ton (\$)	700	170 - 200
Net (\$)	830 - 1180	368 - 440

# Assumptions

- ▶ Only keeping alfalfa for 3 years, otherwise seed cost per year is decreased
- ▶ Using a grain/fiber seed variety that will average 7-9 ft instead of a fiber only variety that will reach 11 ft as the seed for fiber varieties are significantly more expensive
- ▶ All equipment and fertility costs are the same







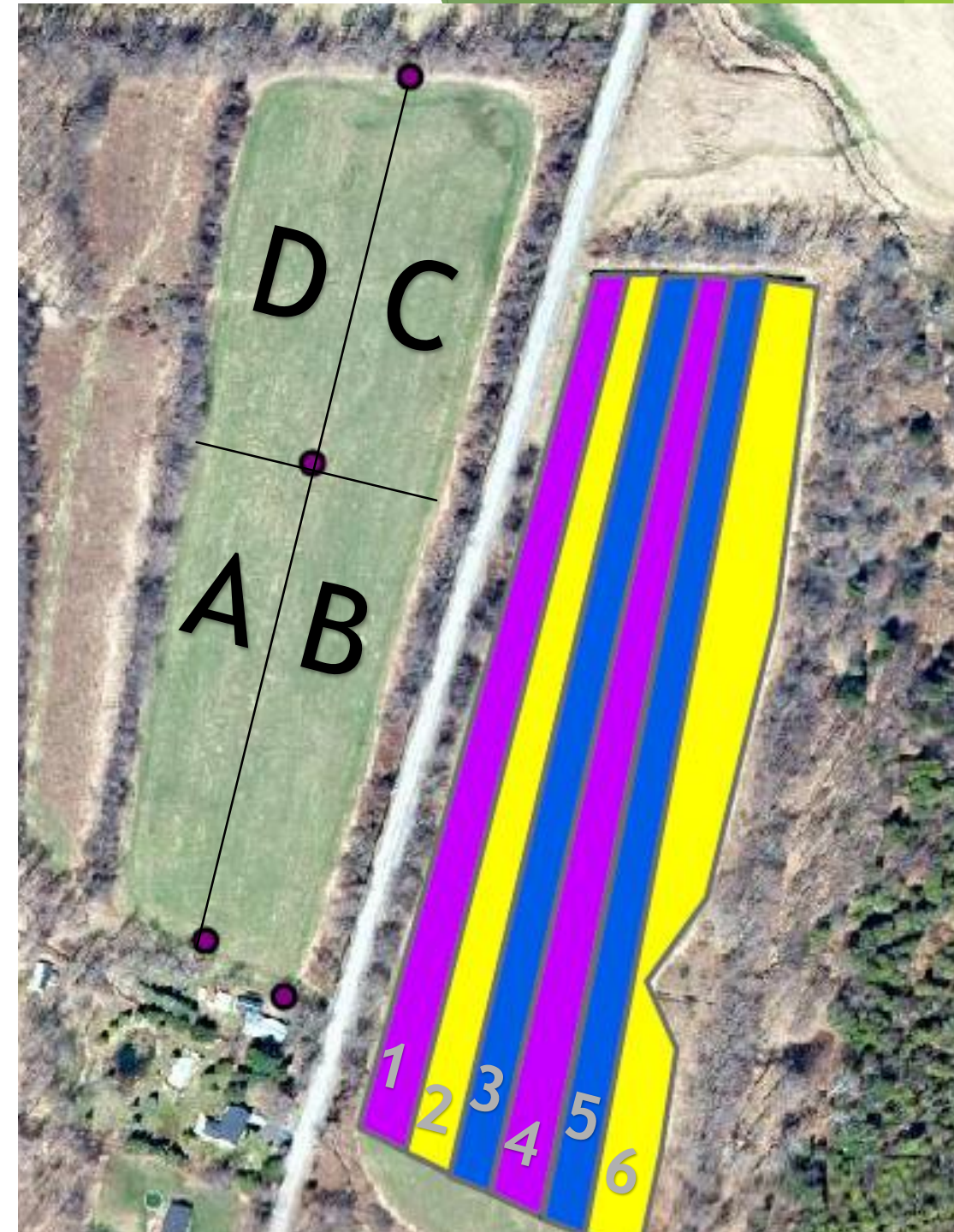
# Grain as a stand alone crop

- ▶ 3 years of nitrogen rate trials with varying successes
- ▶ Varieties have included CFX, Felina 32, Anka, Altair and Ferimon
- ▶ Planting dates were later than desired each year - not as critical for grain yield as it is for fiber yield.
- ▶ Equipment needs are substantial (harvest, cleaning, drying)



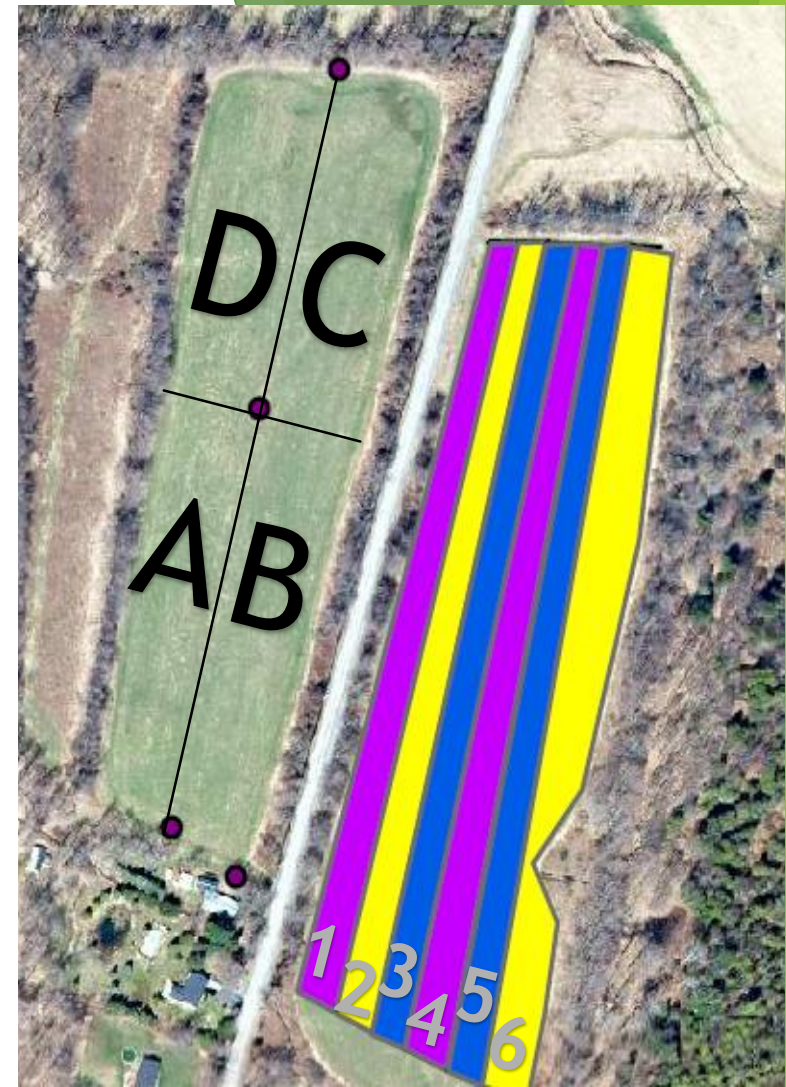
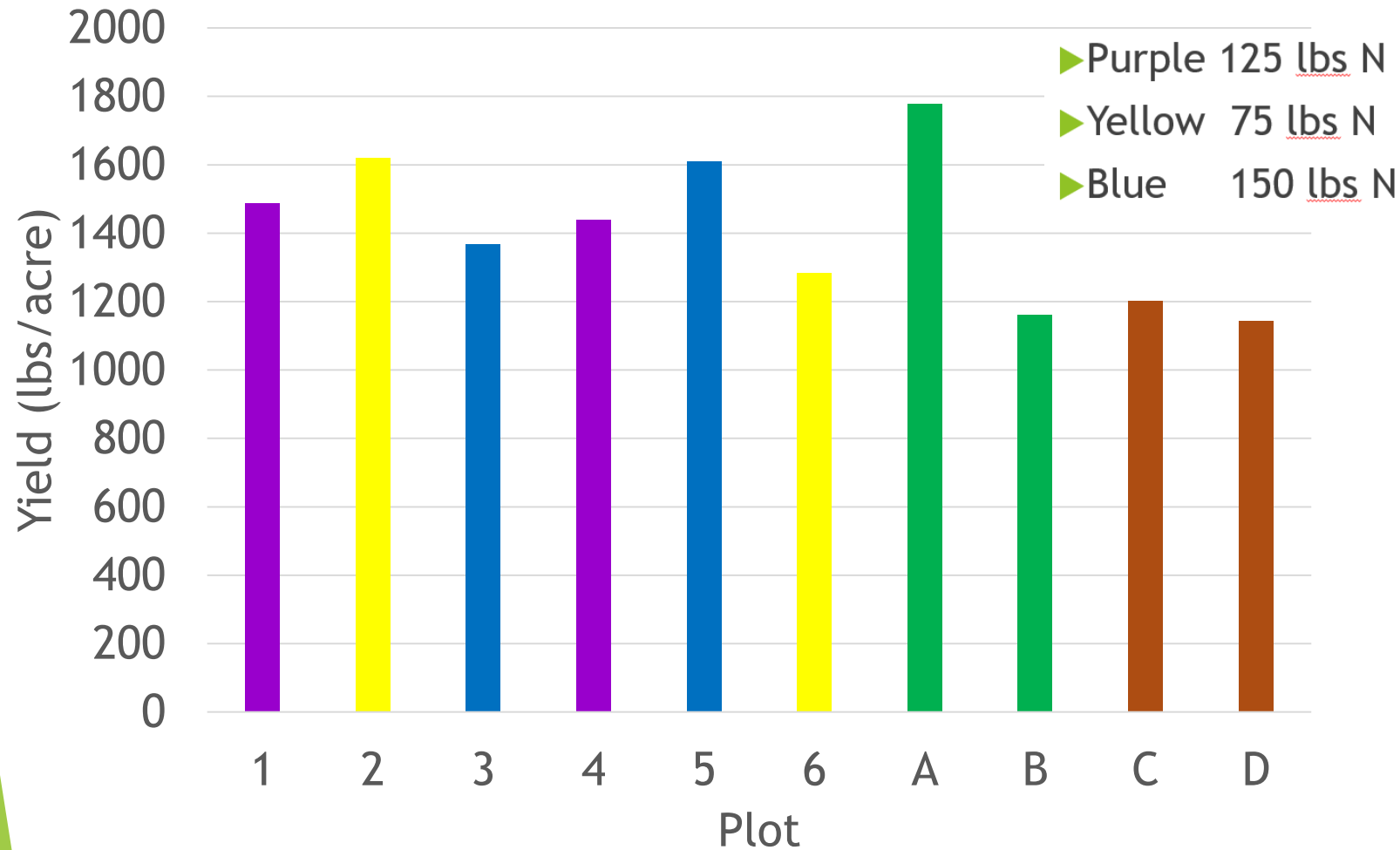
# Grain trials

- ▶ A Ferimon Manure + topdress
- ▶ B Altair Manure + topdress
- ▶ C Altair Manure only
- ▶ D Ferimon Manure only
- ▶ 1-6
  - ▶ Purple 125 lbs N
  - ▶ Yellow 75 lbs N
  - ▶ Blue 150 lbs N



# Grain Yield

Grain Yield in lbs/acre



**This is hand harvested not combine harvested therefore trends are accurate but values may not be**



# New Problems for 2019

- ▶ Vivipary
- ▶ Case-Bearing Beetle





# But What About Dual Purpose Grain and Fiber?





# Logistics of Dual Purpose Grain and Fiber

- ▶ When harvesting grain, combines work most effectively when taking in as little extra stalk material as possible
- ▶ Remaining stalk is left standing in the field
- ▶ Harvest at the same time un-ret?
- ▶ Potential for winter retting ? But What about cover crops?

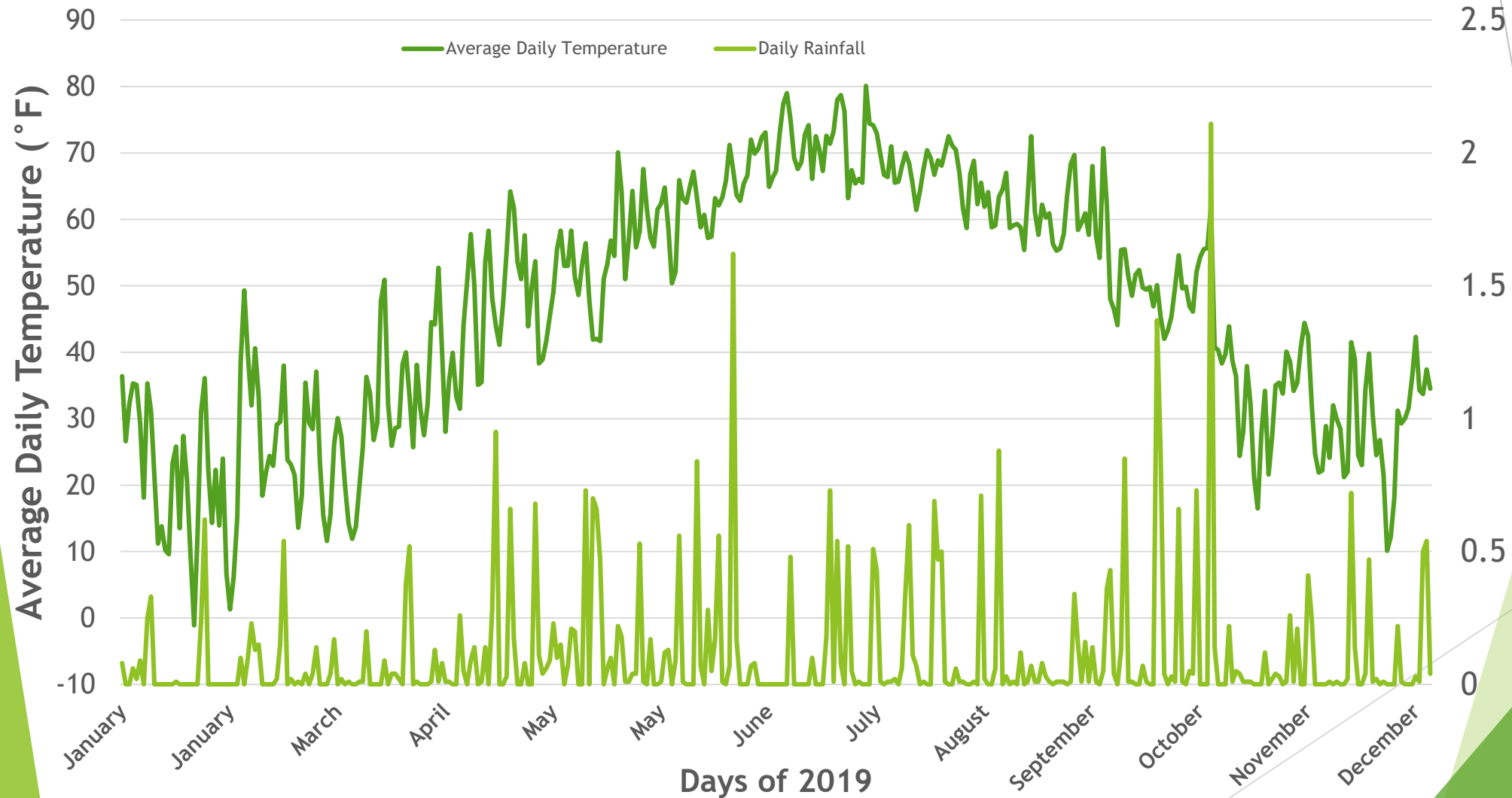
# After harvesting for grain

- ▶ Approximately 30 inches left standing in the field
- ▶ Thickest part of the stalk
- ▶ No leaves or other biomass to die back
- ▶ 2019 Data suggest on average, regardless of fertility unless weed competition was a problem, 0.5 ton/acre remaining
- ▶ Giving an additional \$350 per acre with minimal added labor and equipment costs



# Dual Purpose Concerns

## ► Harvest Time / Retting time



# Dual Purpose Fiber or Grain + CBD

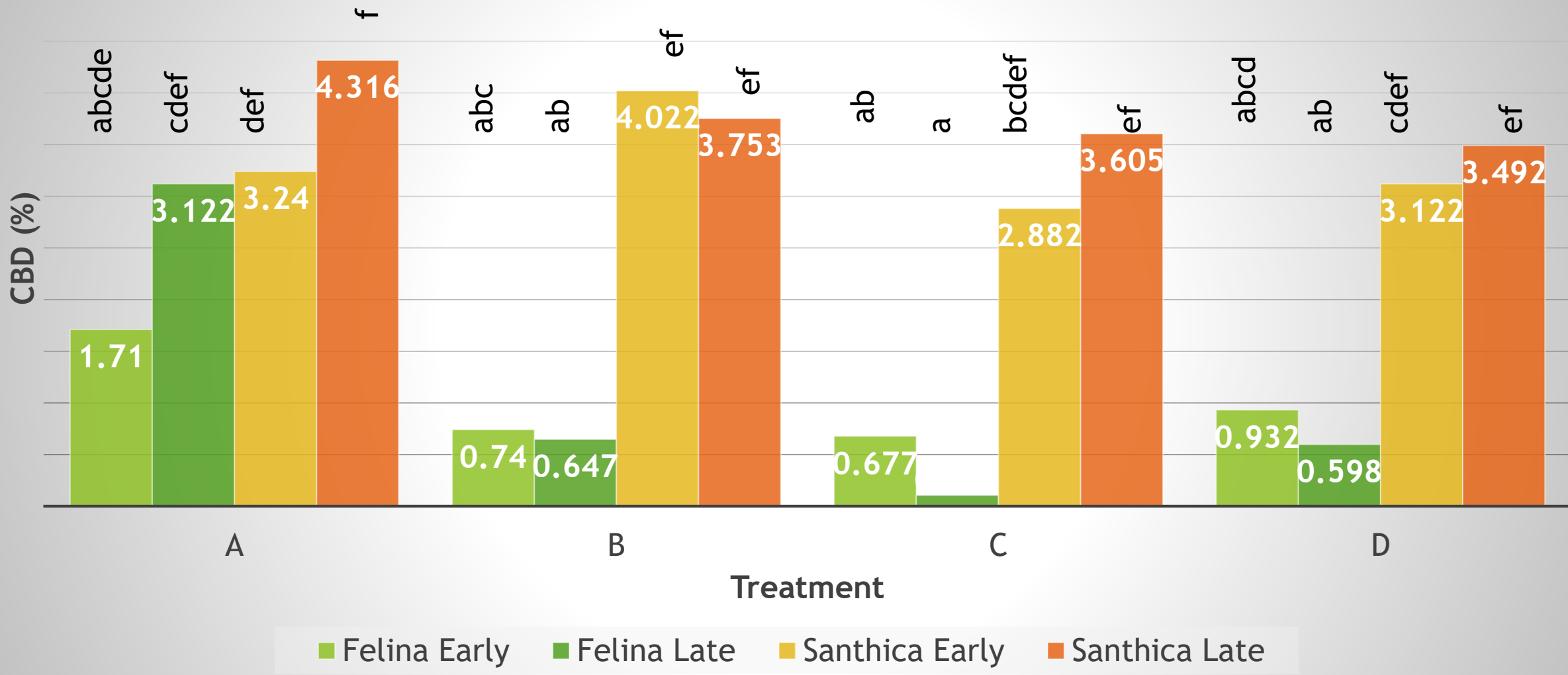
- ▶ Is there a “best time” for CBD harvest?
- ▶ Is one method easier machinery wise?
- ▶ What about the high CBD neighbors? Is one method more friendly to them or not?



# Fiber Harvest

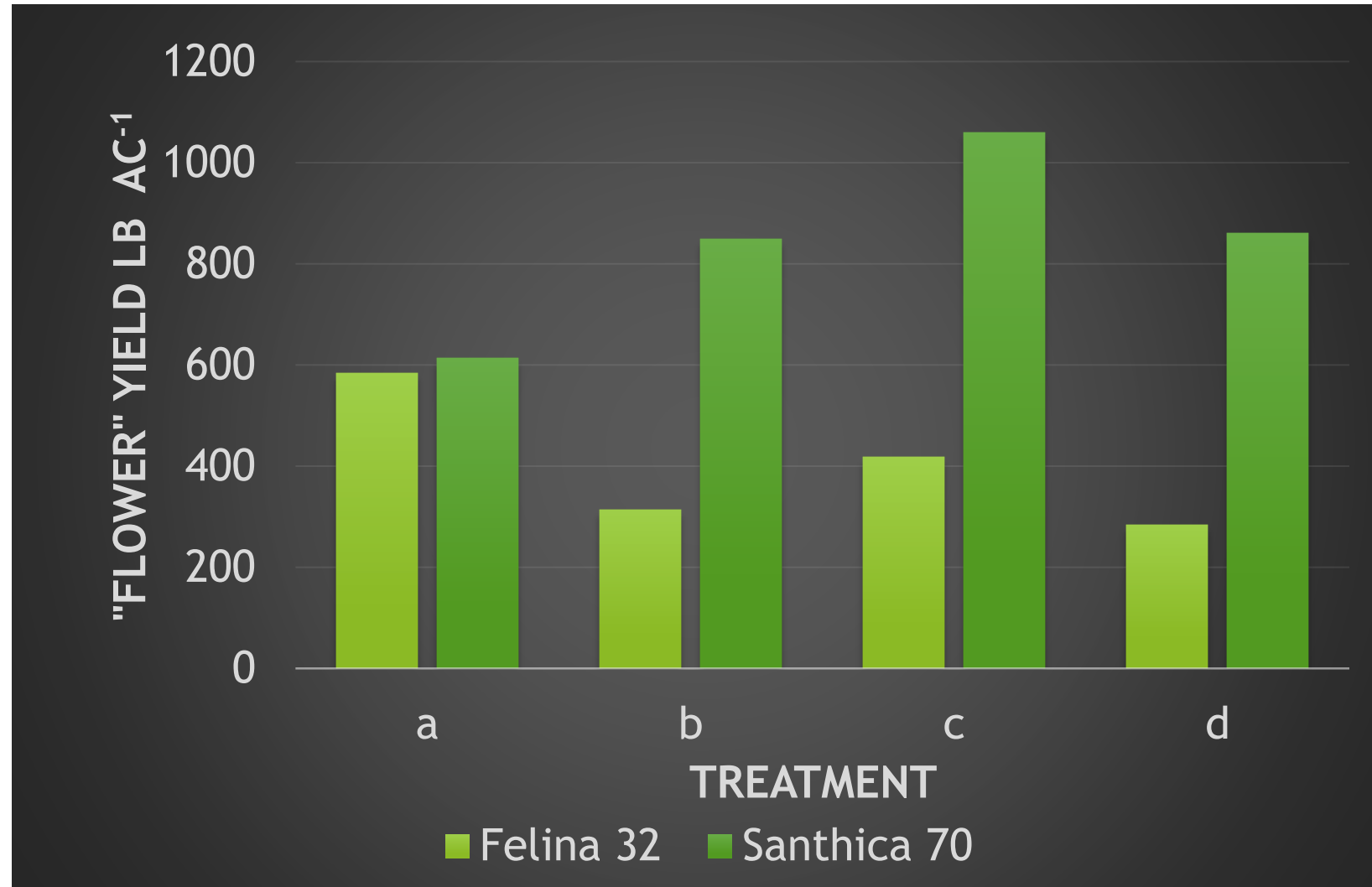


# Dual Purpose Grain/CBD





# Dual Purpose Grain/CBD



# A quick economic “what if”

- ▶ So say you can get \$0.20 per pound / per %CBD
- ▶ If the crop averages 5% CBD
- ▶ And the collected biomass is 600 lbs / acre
- ▶ That is an extra \$600 an acre to add to grain yield
- ▶ Nobody is retiring on that but the goal should be farm stability not diamonds and rubies



# Thank you

- This research is made possible by the blood sweat and tears of the summer student hemp interns and by funding from the New York Farm Viability Institute and Empire State Development

