

Management to Optimize Male Sterile BMR Sorghum Forage



Tom Kilcer

Advanced Ag Systems LLC

www.advancedagsys.com

tfk1@cornell.edu

Lodging is the Number 1 Issue

A photograph of a sorghum field under a clear blue sky. The plants are tall and green, with large, heavy panicles of grain. Some plants are leaning over, demonstrating the problem of lodging. The background shows a line of trees and a clear horizon.

Controlled by

Plant Population

(300,000 Seed/ha maximum at 20 cm row width)

Genetics

Brachytic Dwarf

Male Sterile



**Brachytic Dwarf
Forage Sorghum**



**Grain
Sorghum**

A field of sorghum plants under a clear blue sky. The plants are densely packed and many have fallen over, indicating lodging. The text is overlaid in yellow.

Brachytic Dwarf Lodging Because Harvest was Delayed 1 Week After Early Soft Dough

Brachytic Dwarf will lodge if planted too thick

Photoperiod Sensitive

Has no grain head to weight down

Did Not Help

Photoperiod Sensitive

does not head;

nor dry;

nor increase energy concentration



76 Cm

**Narrow row,
equidistant plant spacing
better the standability and yield**



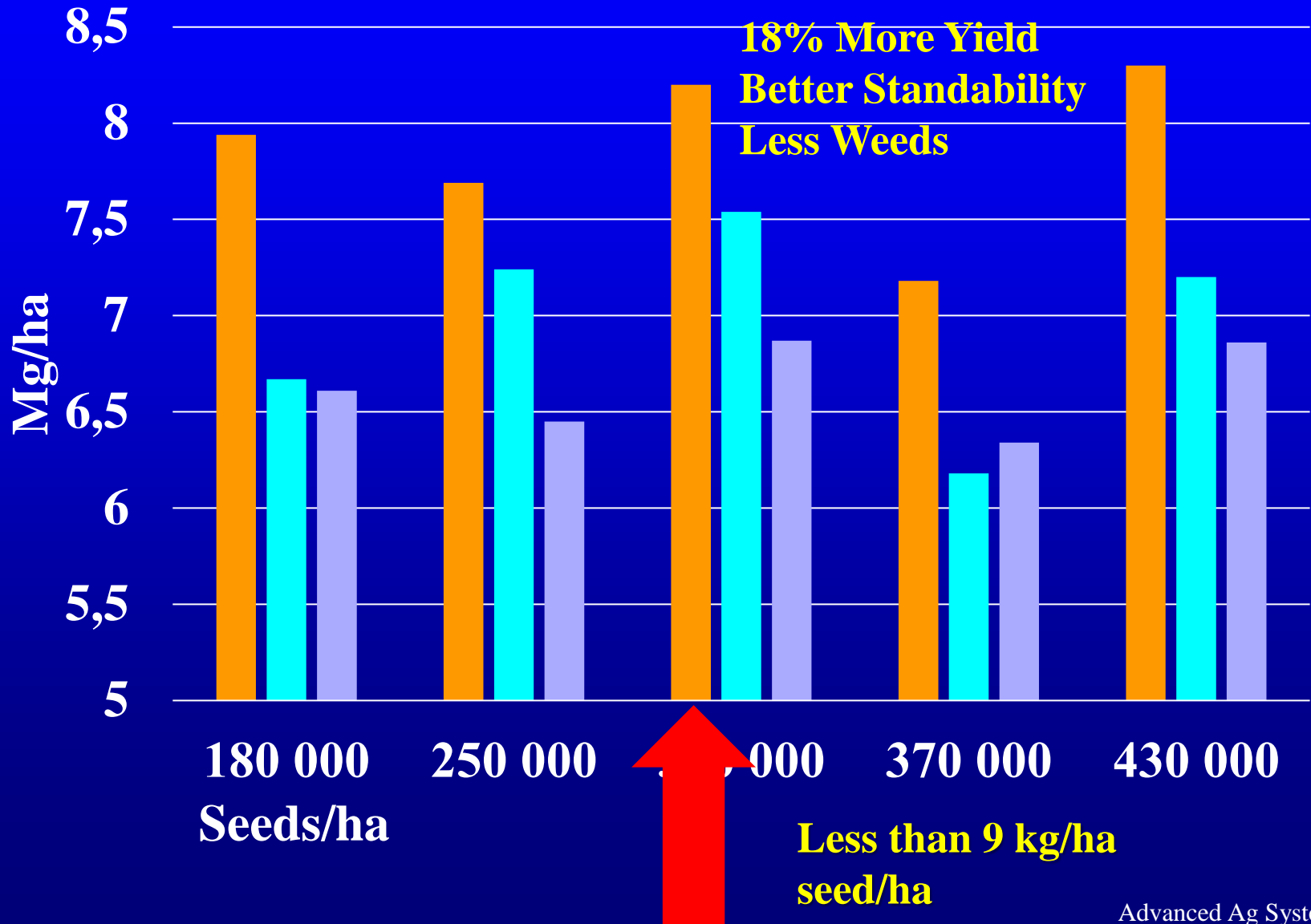
38 Cm



20 Cm

Mg/ha Silage Yield by cm Row Width & Seed/ha

■ 20 cm ■ 38 cm ■ 76 cm



Male Sterile BMR Forage Sorghum will lodge if planted to thick

To Much Seed/ha Correct Seed Rate



Growing and Harvesting Male Sterile BMR Sorghum

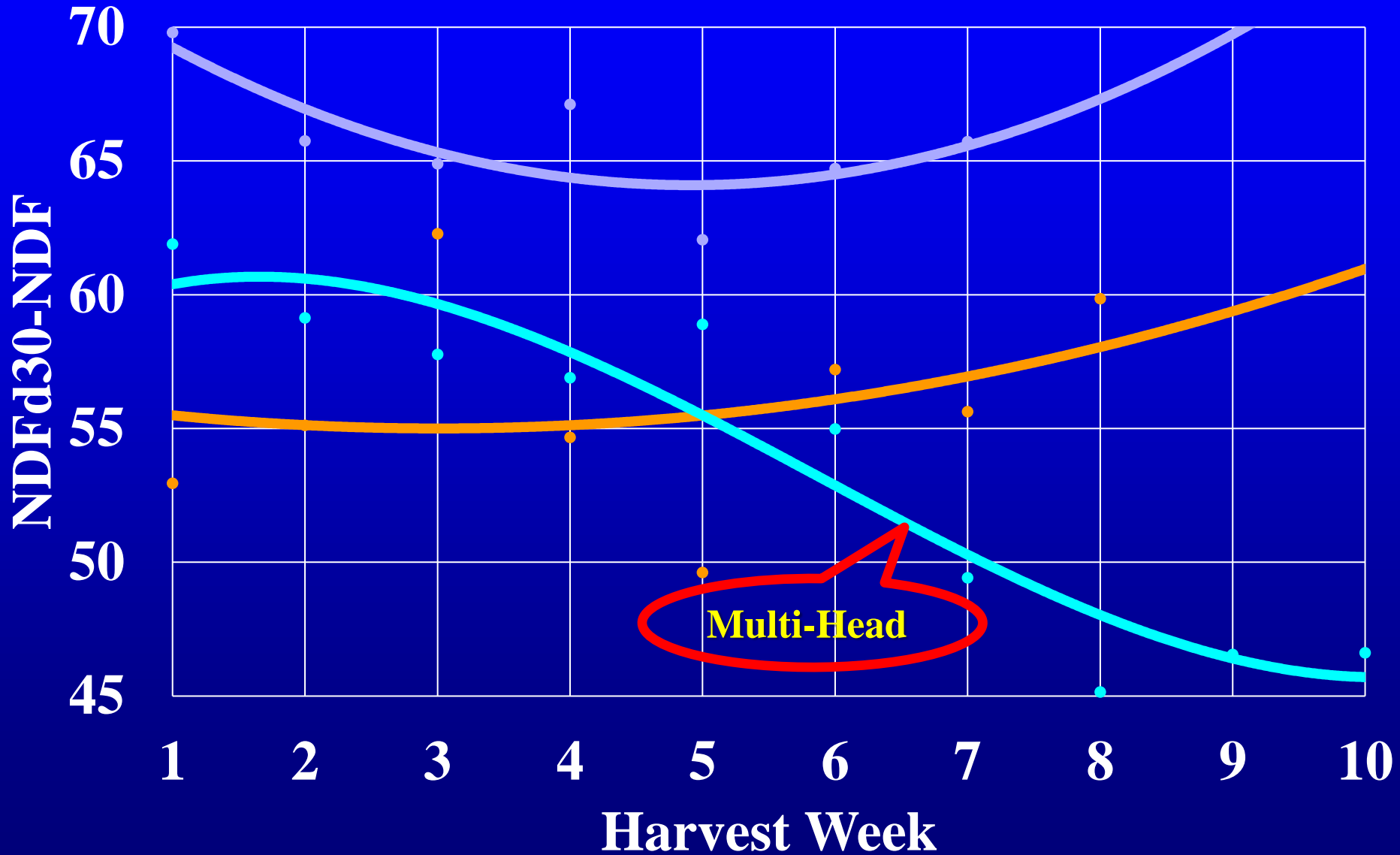


Multi-Head:
When lateral
shoots at each
leaf axis send
up a head



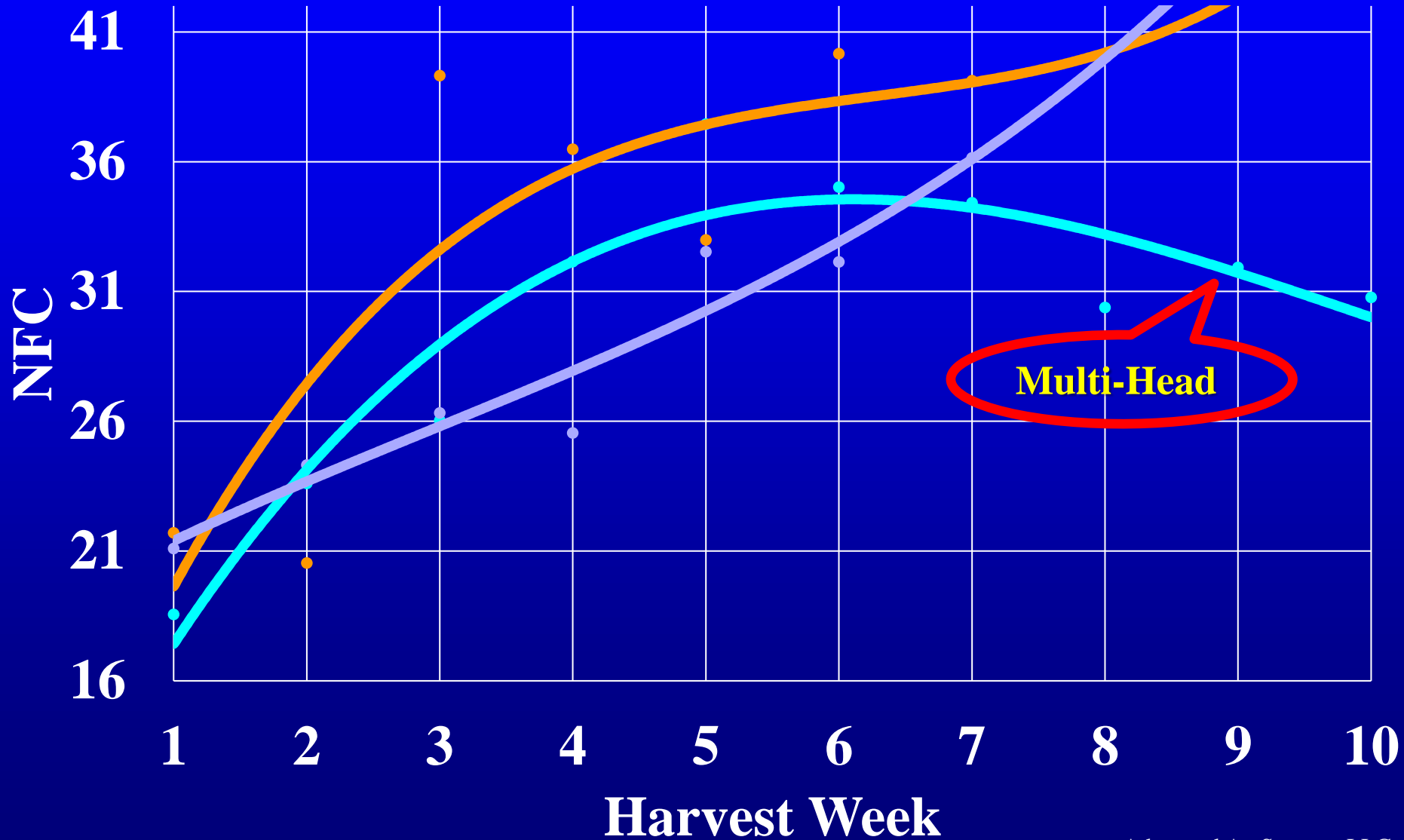
NDFd30-NDF

• Single Head • Multi-Head • 2020



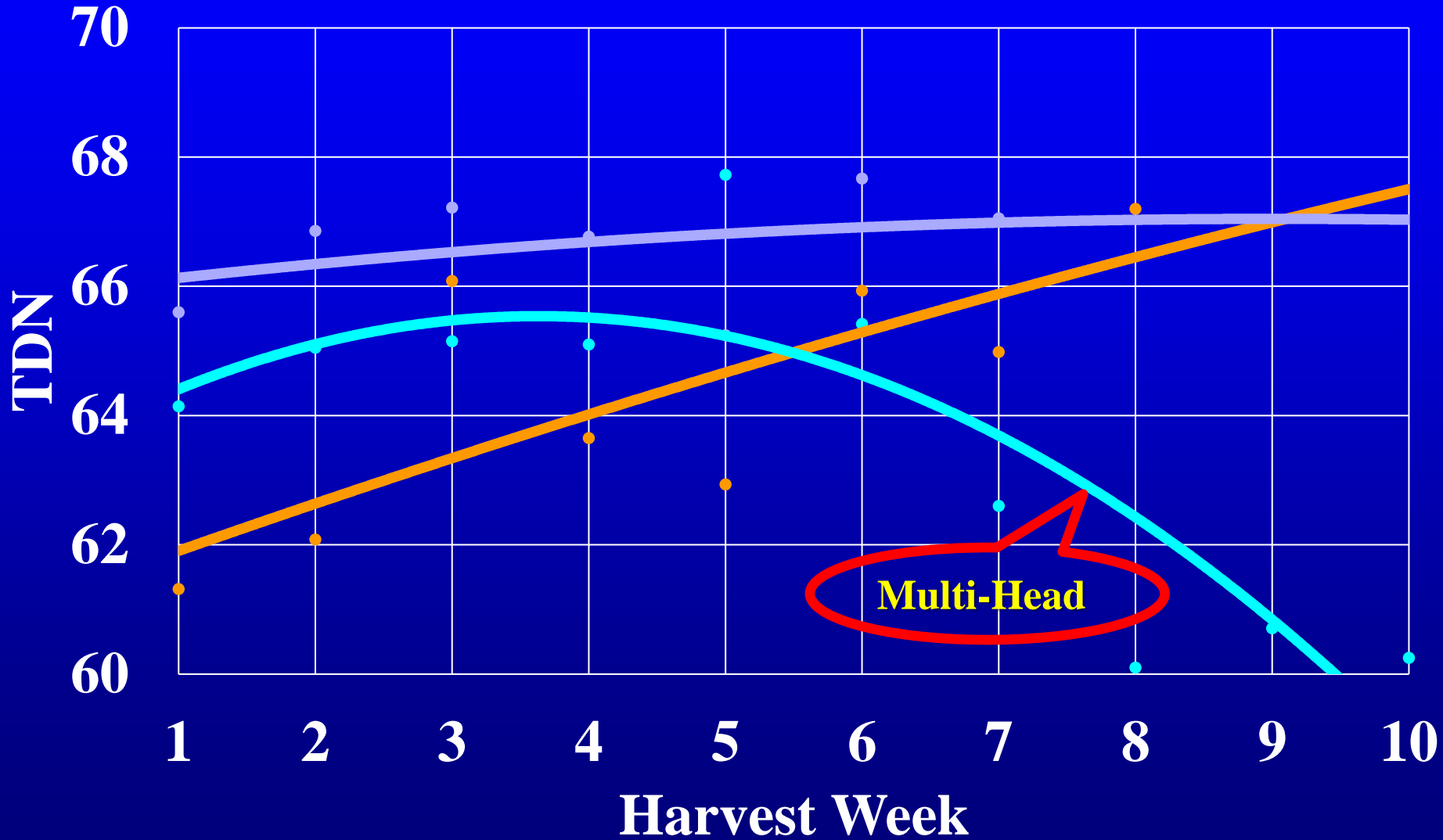
NFC Non Fiber Carbohydrate

• Single Head • Multi-Head • 2020 — Polinom. (2020)



TDN

• Single Head • Multi-Head • 2020



Select Correct Season Length for Your Climate Zone

- Start at harvest date (later is better – before freeze)
- 8 weeks before is when it should head
- Variety selected/planted to head at that date
- Avoid to early – Multi head ruins quality

Sorghum is best with a Modern Drill



2.5 to 3 cm deep



Uniformity of Stand is Critical in Sorghum



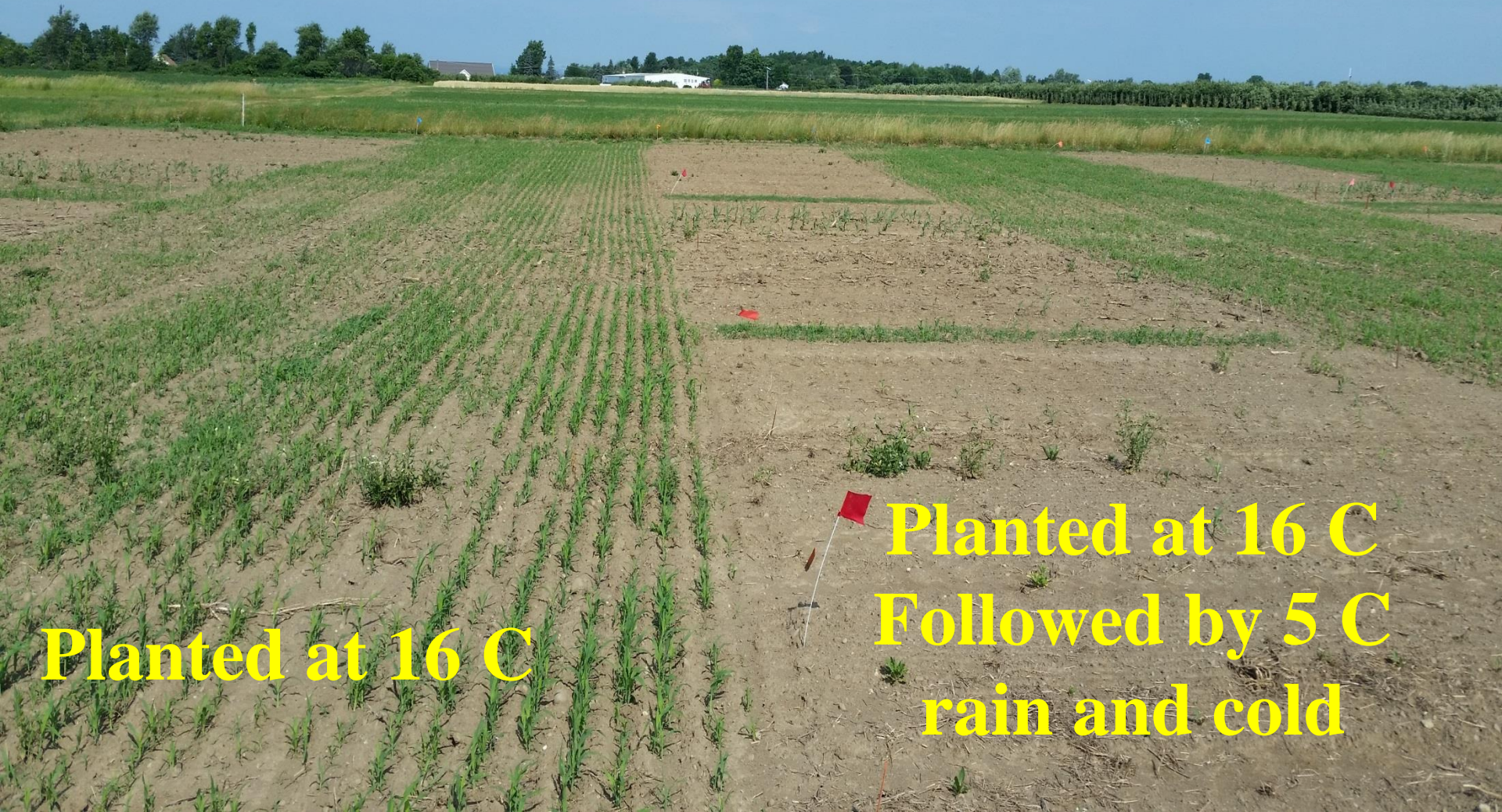
**Accordion type
drop tubes hold and
dump seed.**



**Sleeved tubes drop
seed uniformly**



- Plant after soil is 16 degrees Celsius & warming

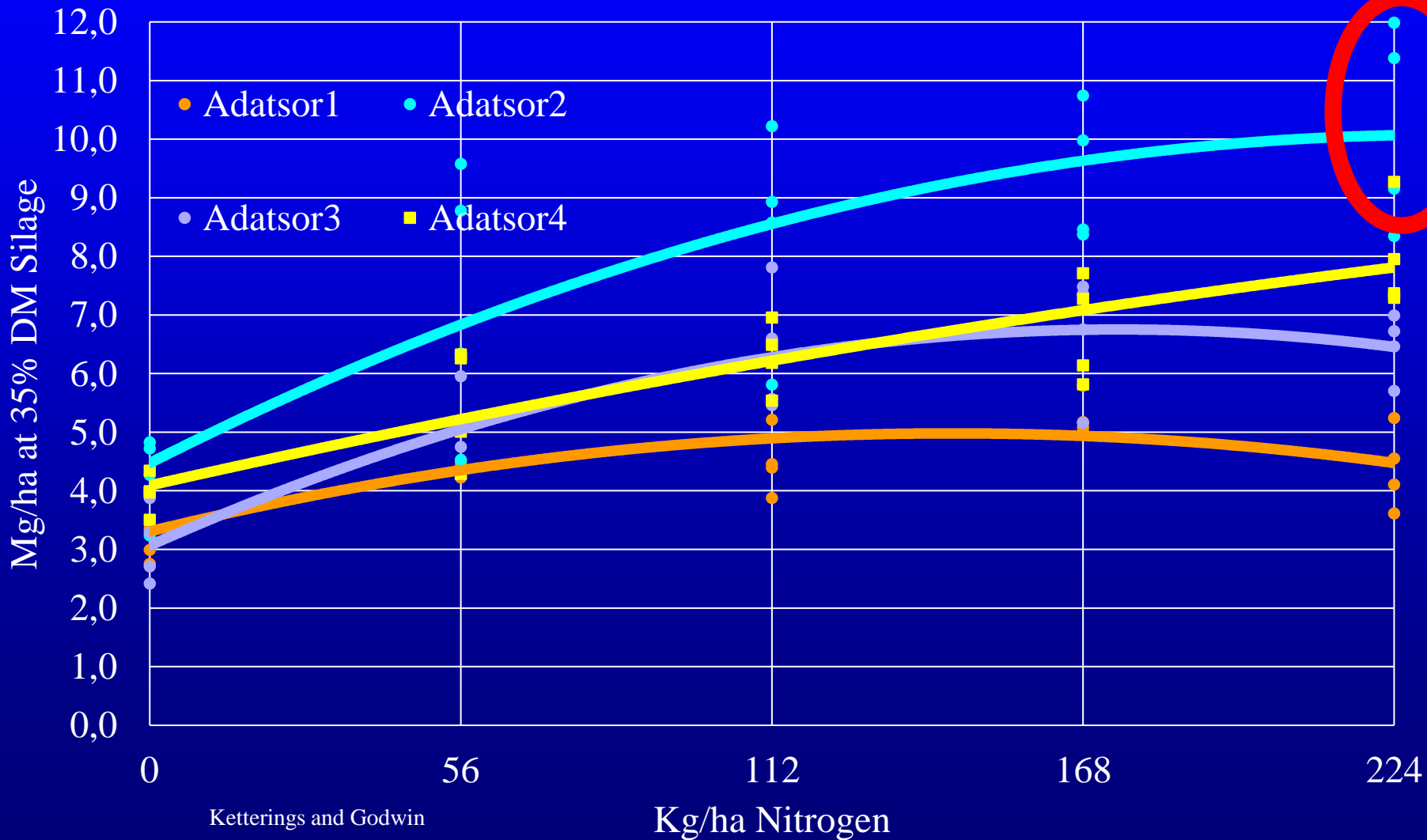


Planted at 16 C

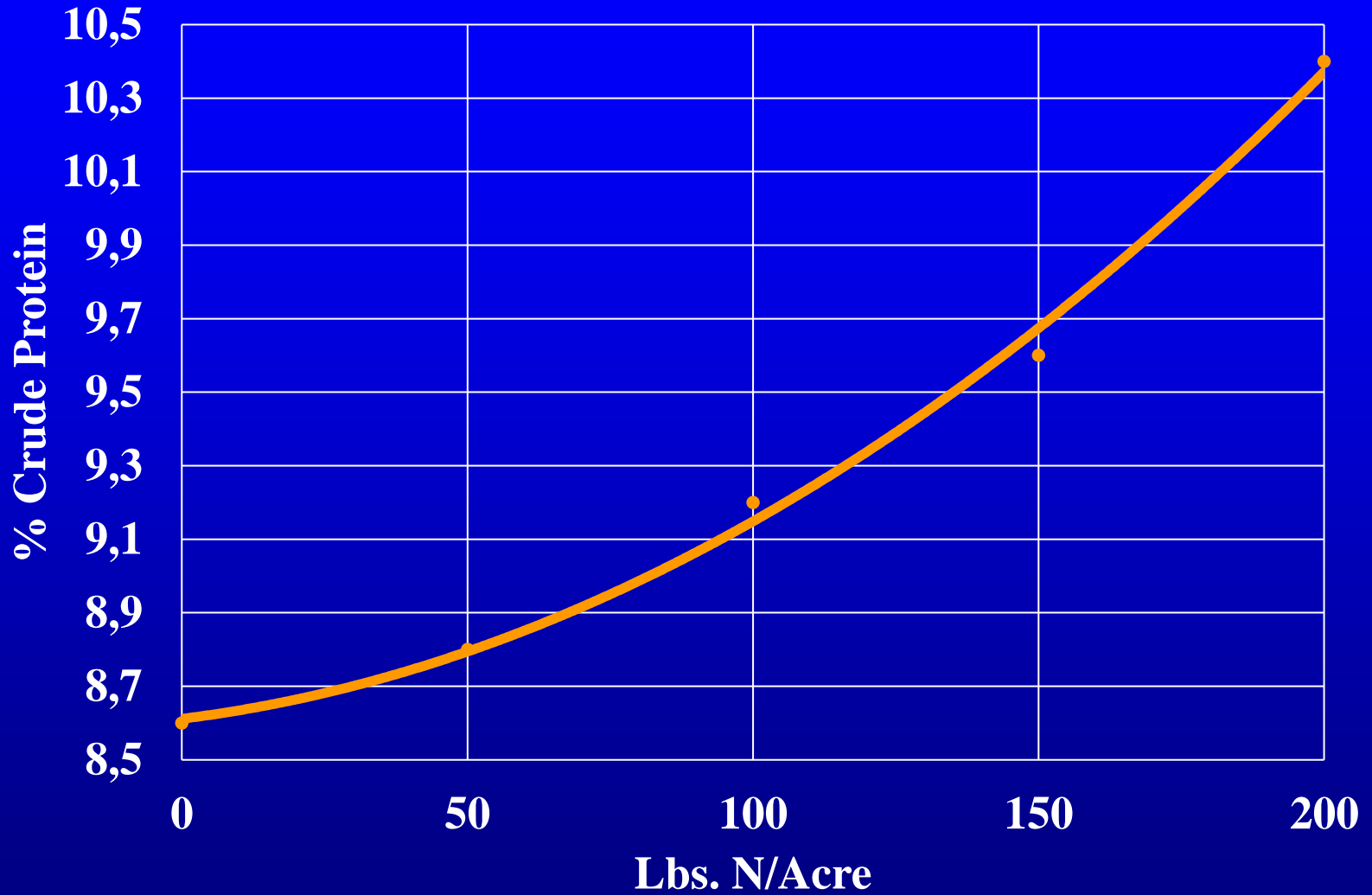
**Planted at 16 C
Followed by 5 C
rain and cold**



Sorghum N Trial Cornell

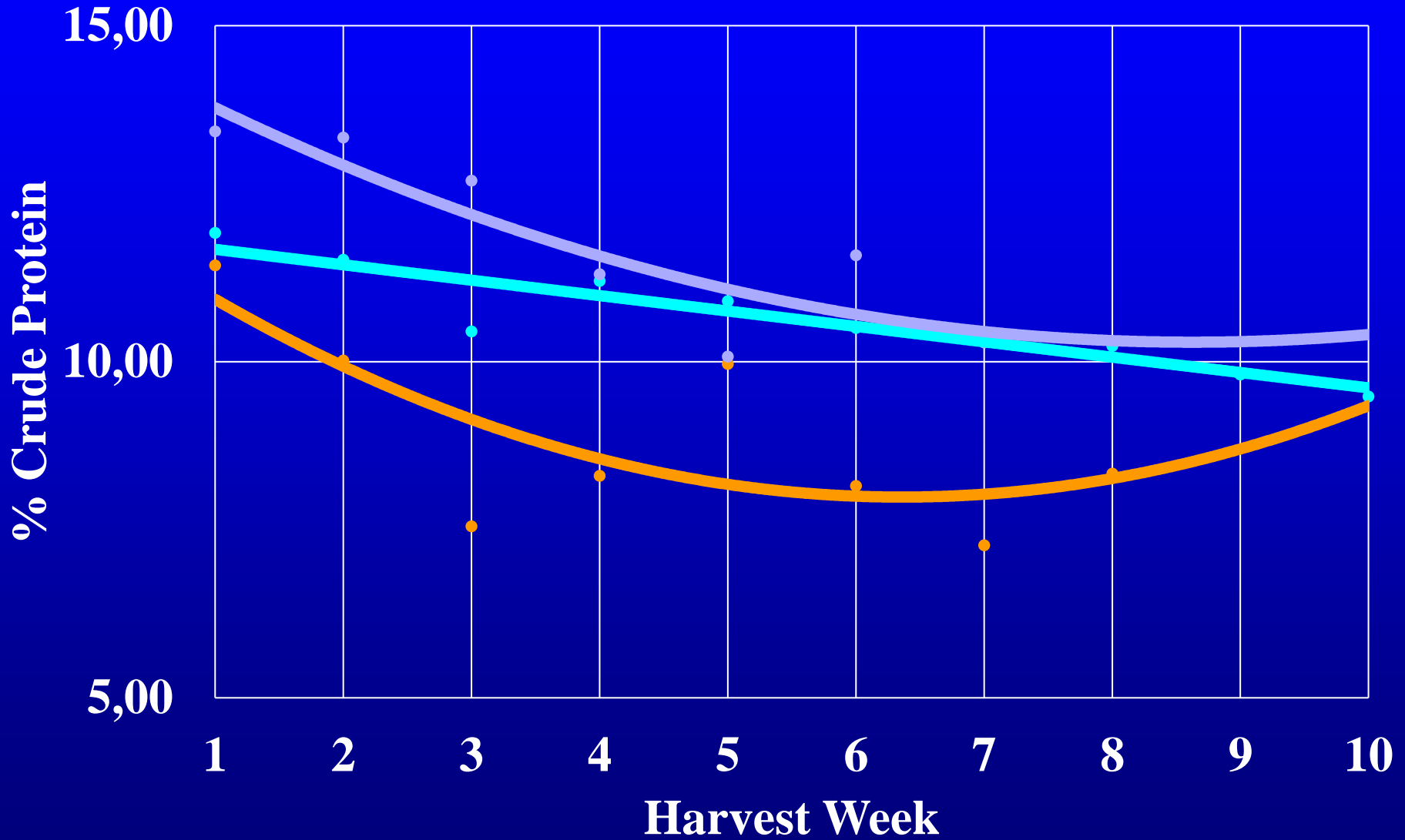


Crude Protein



Crude Protein

• Single Head • Multi-Head • 2020





One Cut Sorghum Sp.

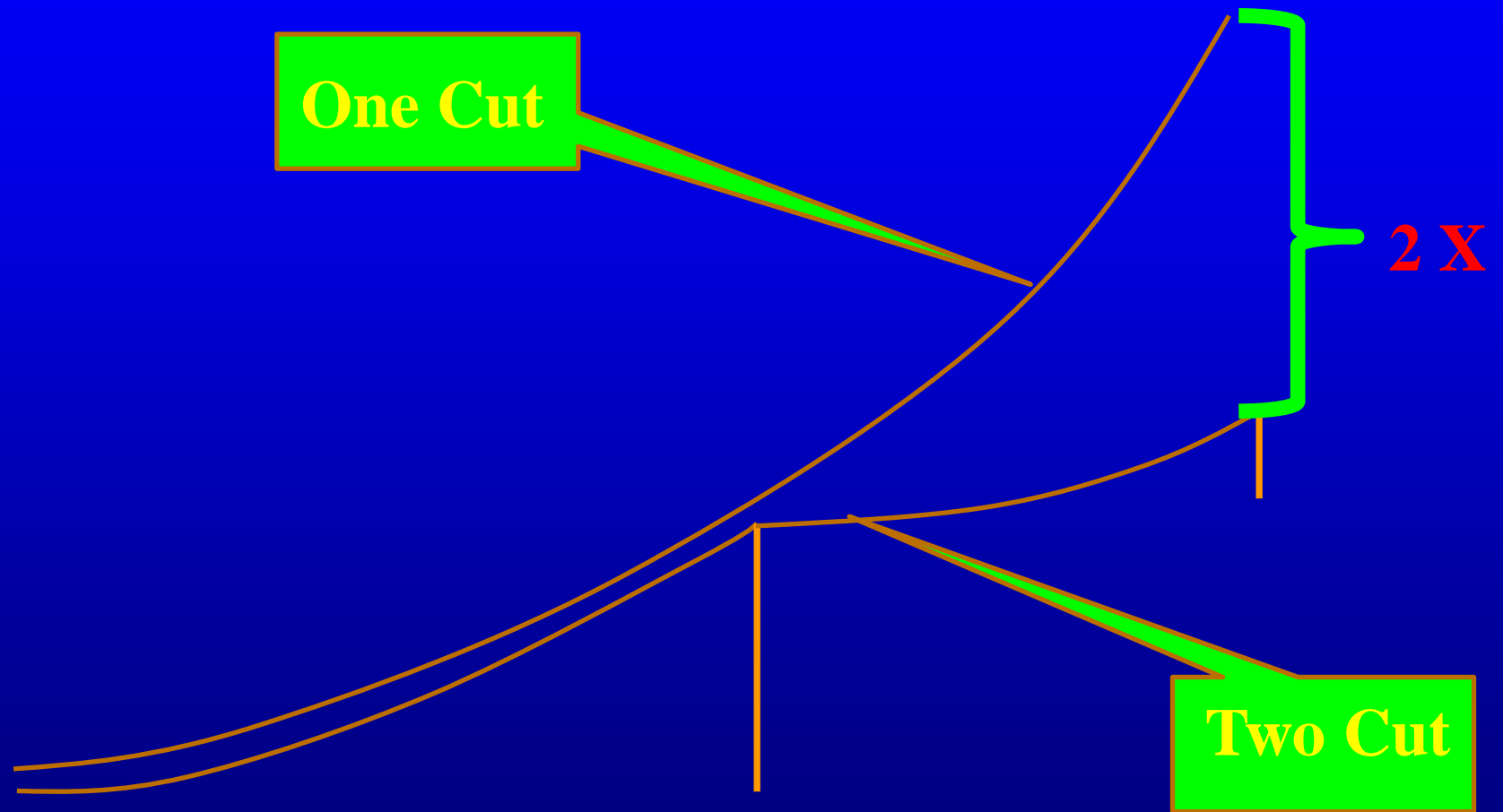
Less time invested in harvest.

Harvesting cost is 50% less

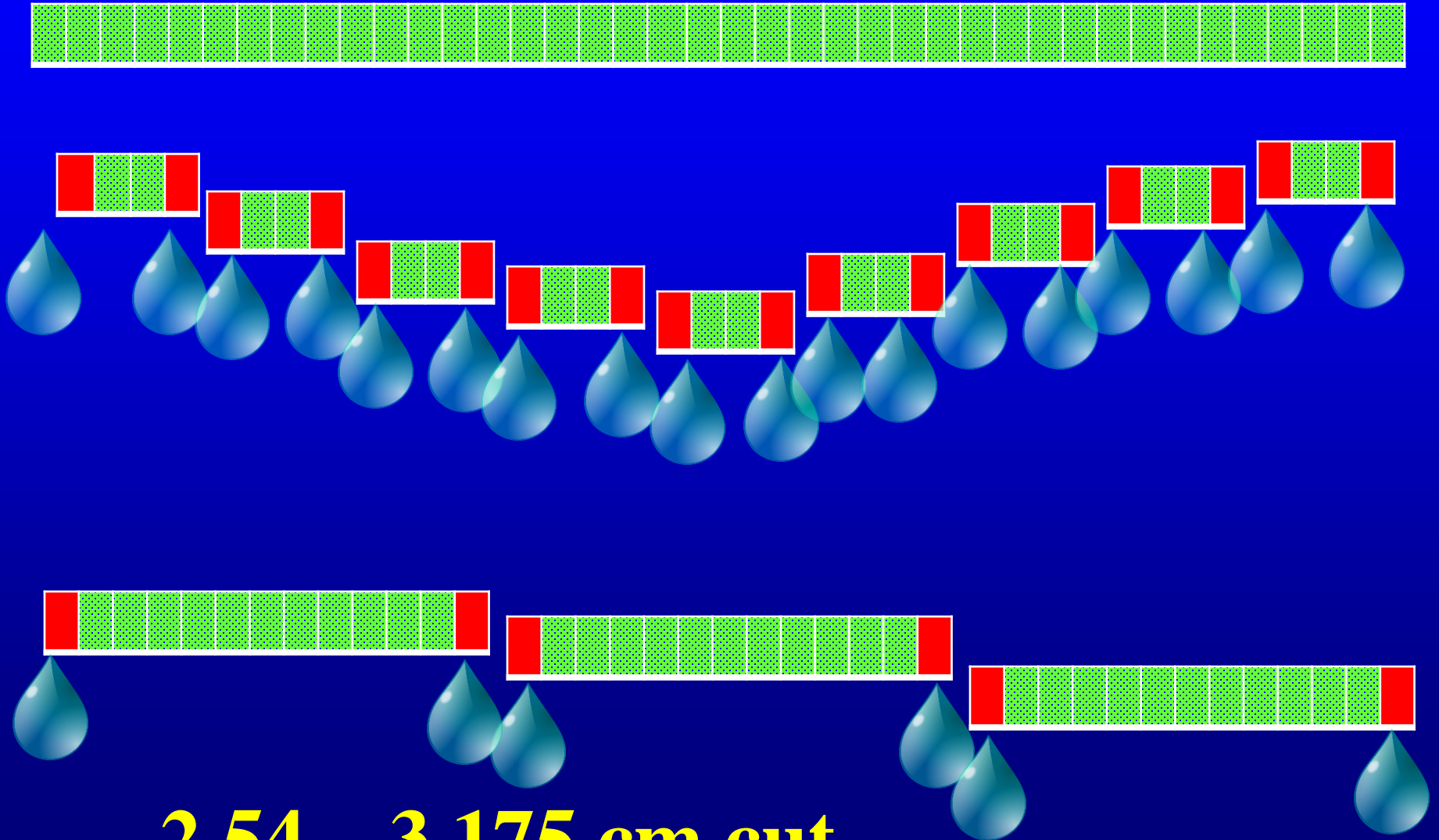
No dirt mixed in the forage

Easy to chop

Dry Matter Additions



Twice the Yield @ ½ the Cost

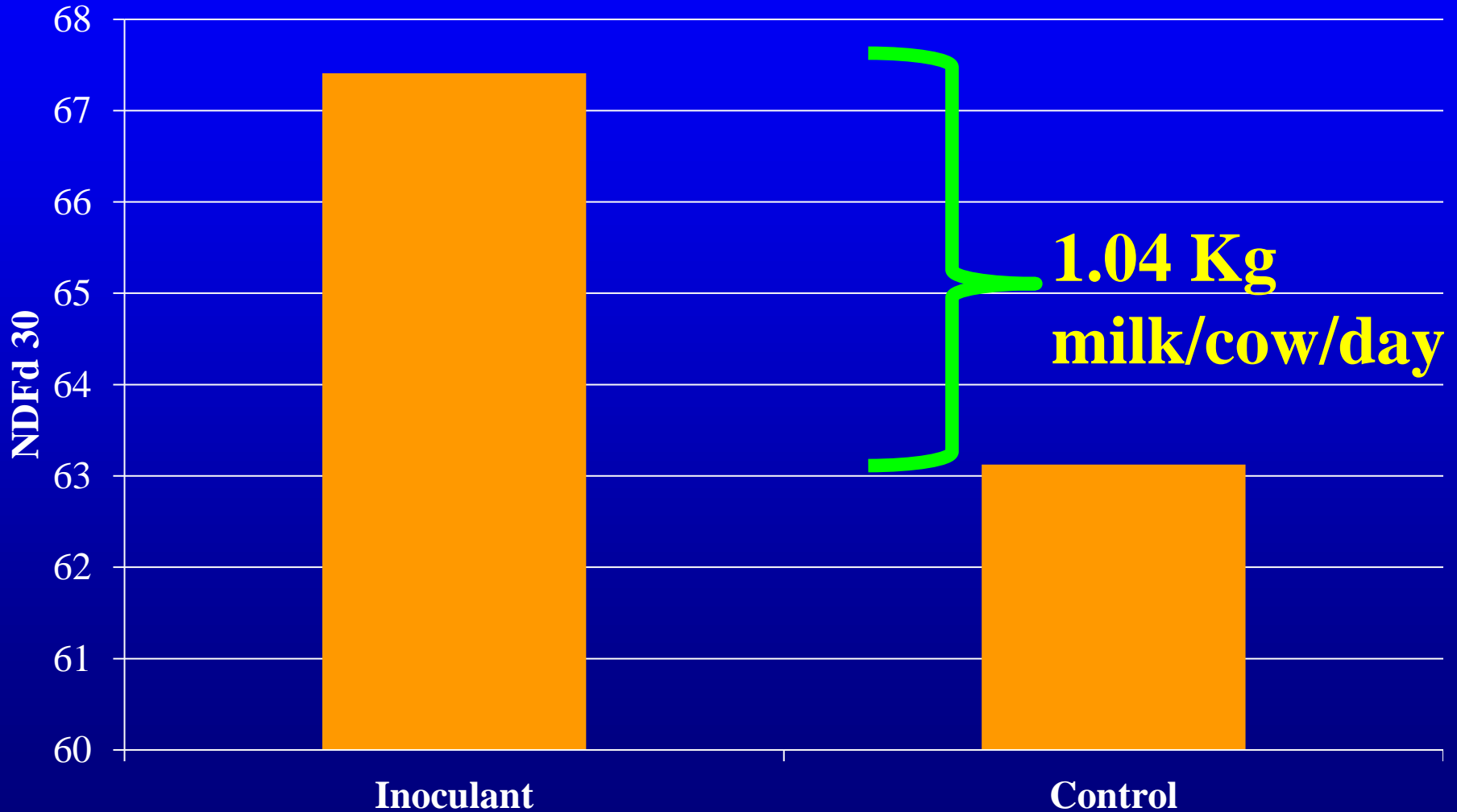


2.54 – 3.175 cm cut



2.5 cm cut length
preferred

BMR Sorghum NDFd 30 With/without Homolactic Inoculant

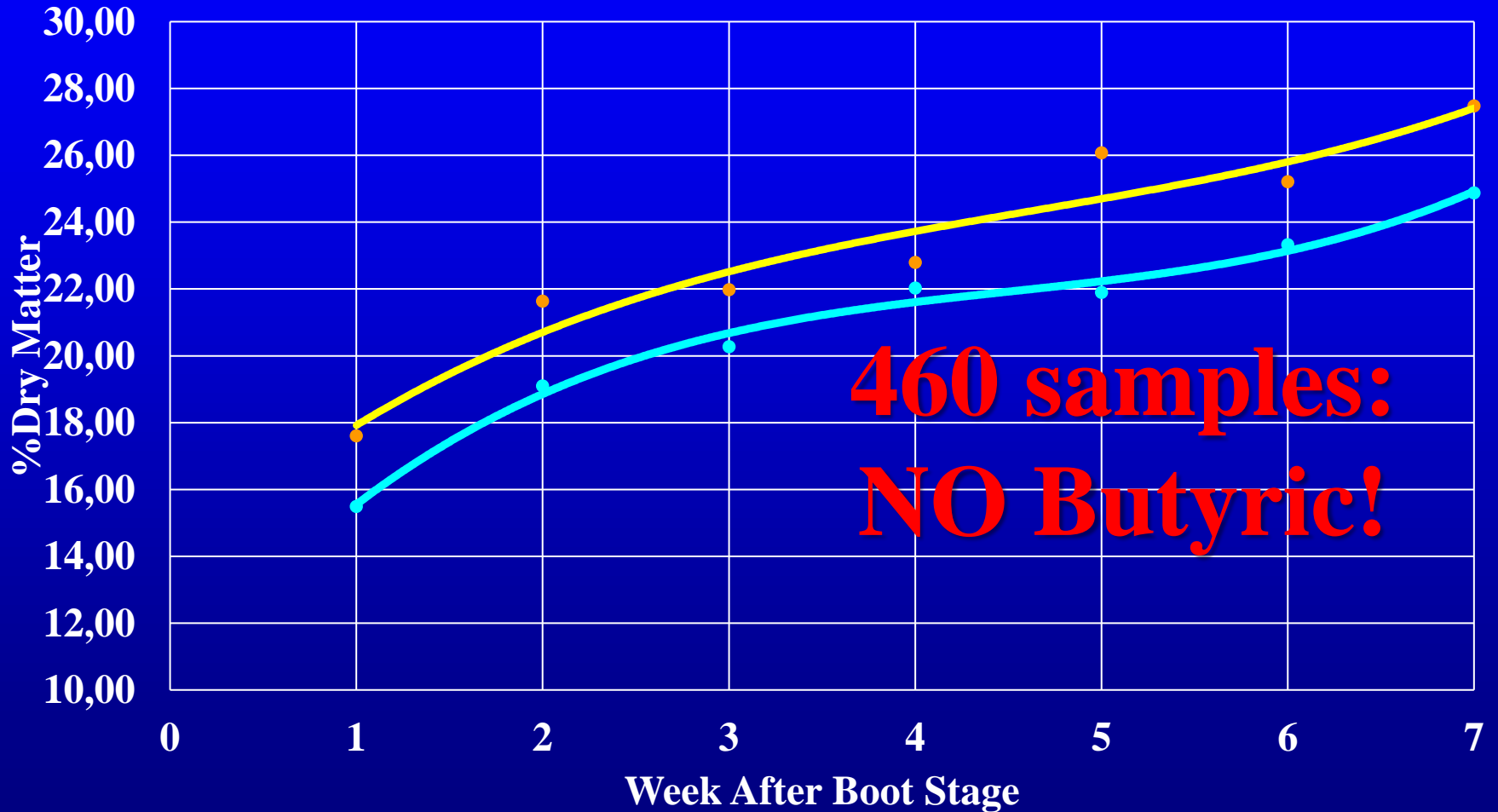


Average of 2 American Farm Products

Advanced Ag Systems LLC

Dry Matter by Harvest Date

● 2020 Male Sterile ● 2021 Seeded



**460 samples:
NO Butyric!**

High Sugar Male Sterile Sorghum Fermentation

- Longer cut less sugar lost in fermentation
- Longer cut less leachate
- Homolactic **NOT** buchneri bacteria
- Perfect fermentation @ 16 – 18% DM
- More water/weight to haul
- Male Sterile with delayed harvest has higher dry matter

There is **NO** Perfect Crop

Management can Make
or Break the Profitability
of Any Crop



Questions??

**Advanced Ag Systems LLC.
<http://www.advancedagsys.com>**