



BMR MALE-STERILE: Sorghum

A Major Forage Quality Advance

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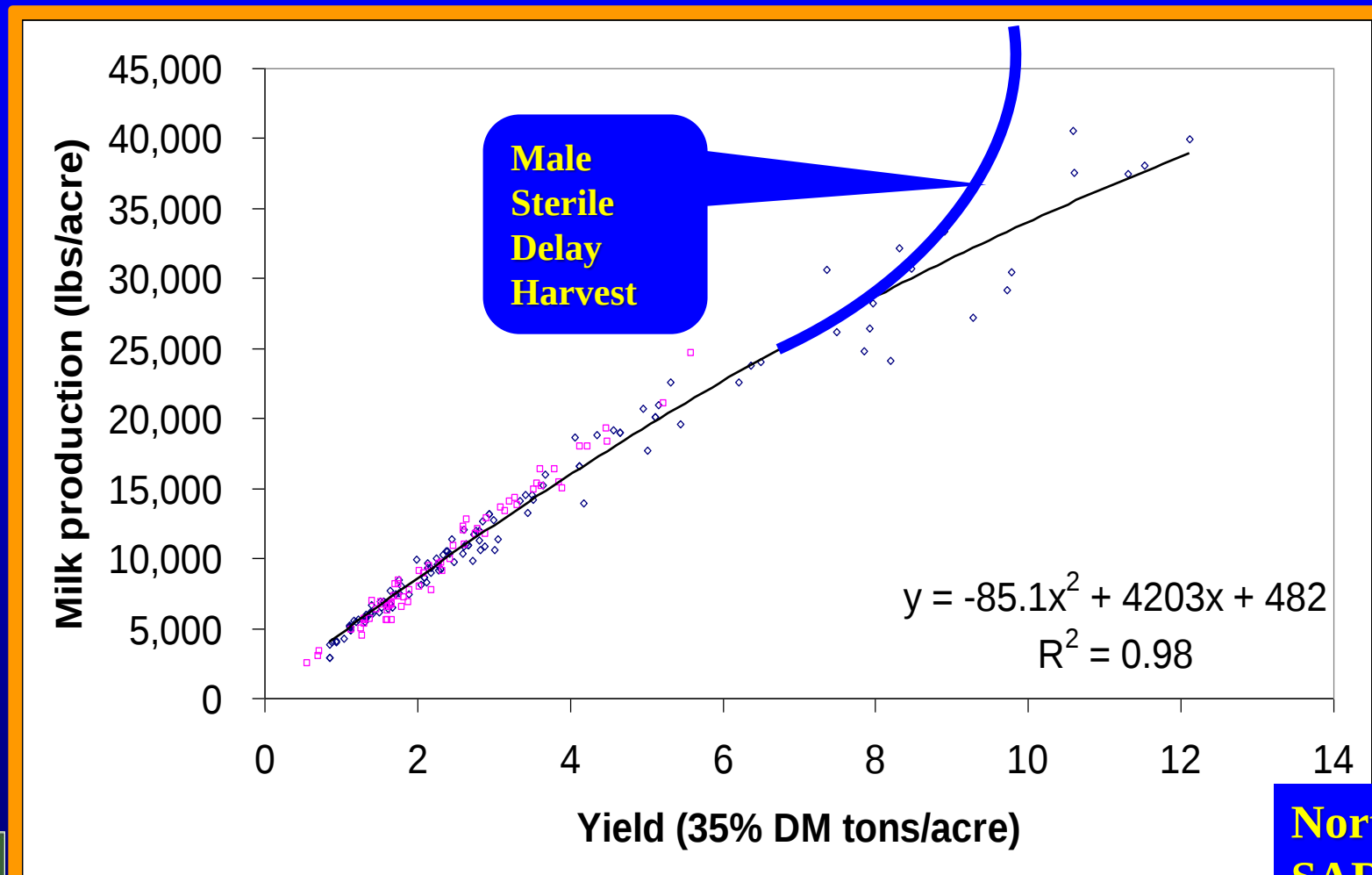
SUCCESSFUL LIVESTOCK PRODUCTION

- **GROWING**
 - **ENERGY**
 - **PROTEIN**
 - **DIGESTIBLE FIBER**
 - **SUFFICIENT AMOUNTS & LOW COST**

Not Just Corn and Alfalfa

Interim Research Results

All sites and years



Kilcer et al. 2003. What's Cropping Up? 13(4): 4-6.

**Northeast
SARE
Research**



Impact of Nutrient Make-up

Corn Silage energy partition

**Plant Fiber
& Sugars**

**Grain
Starch**

Impact of Nutrient Make-up: Male Sterile BMR Sorghum

Same Total Energy – Different Source

Plant Fibers & Plant Cell

Sugar and Starch

A close-up photograph of several sorghum seed heads. The seed heads are composed of many small, round seeds. Some are green, some are tan, and some are dark brown. A green arrow points from the text 'Green Seed Head: tip like cooked oatmeal' to the green seed head. A red arrow points from the text 'Tan Seed Head: soft dough half way down seed head' to the tan seed head. The background is blurred, showing more sorghum plants.

**Green Seed Head: tip like
cooked oatmeal**

**Tan Seed Head: soft dough
half way down seed head**



Forage Sorghum Seed
18,500 seeds/Lb.



#3 Steel Shot
BlackCloud FS Steel

**BMR
SORGHUM
MALE
STERILE
- NO SEED**

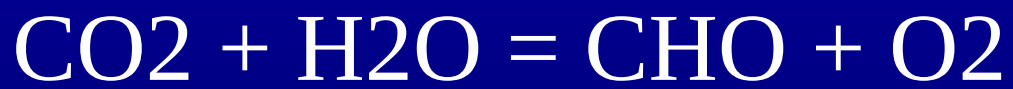
**10.6
Mg/ha21
@35% DM**



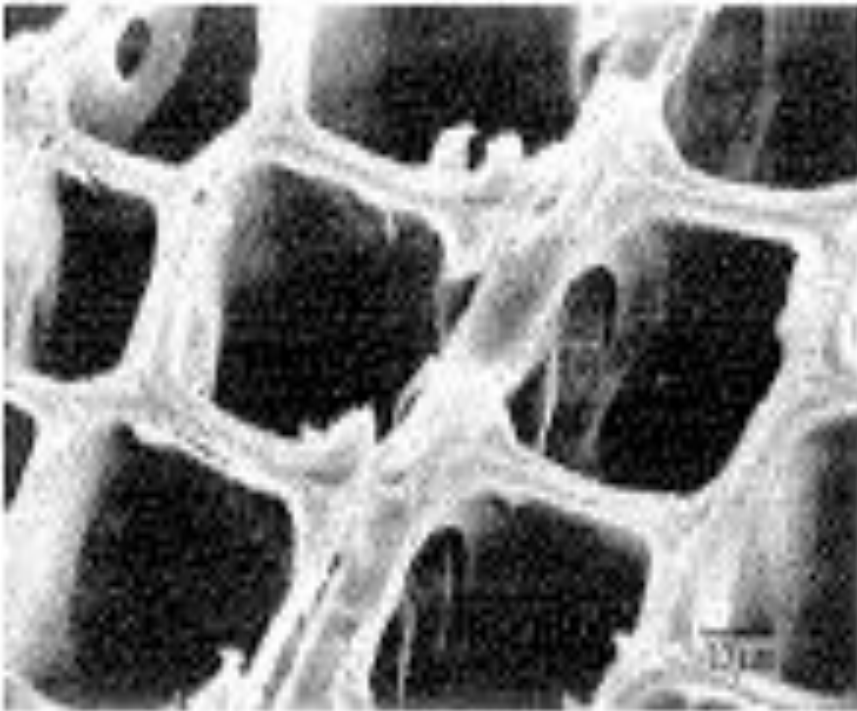
Fertile Seeded



**Male Sterile
No Fertile Seed**



Sugar and Starch stored in forage plant cells, not in seed head

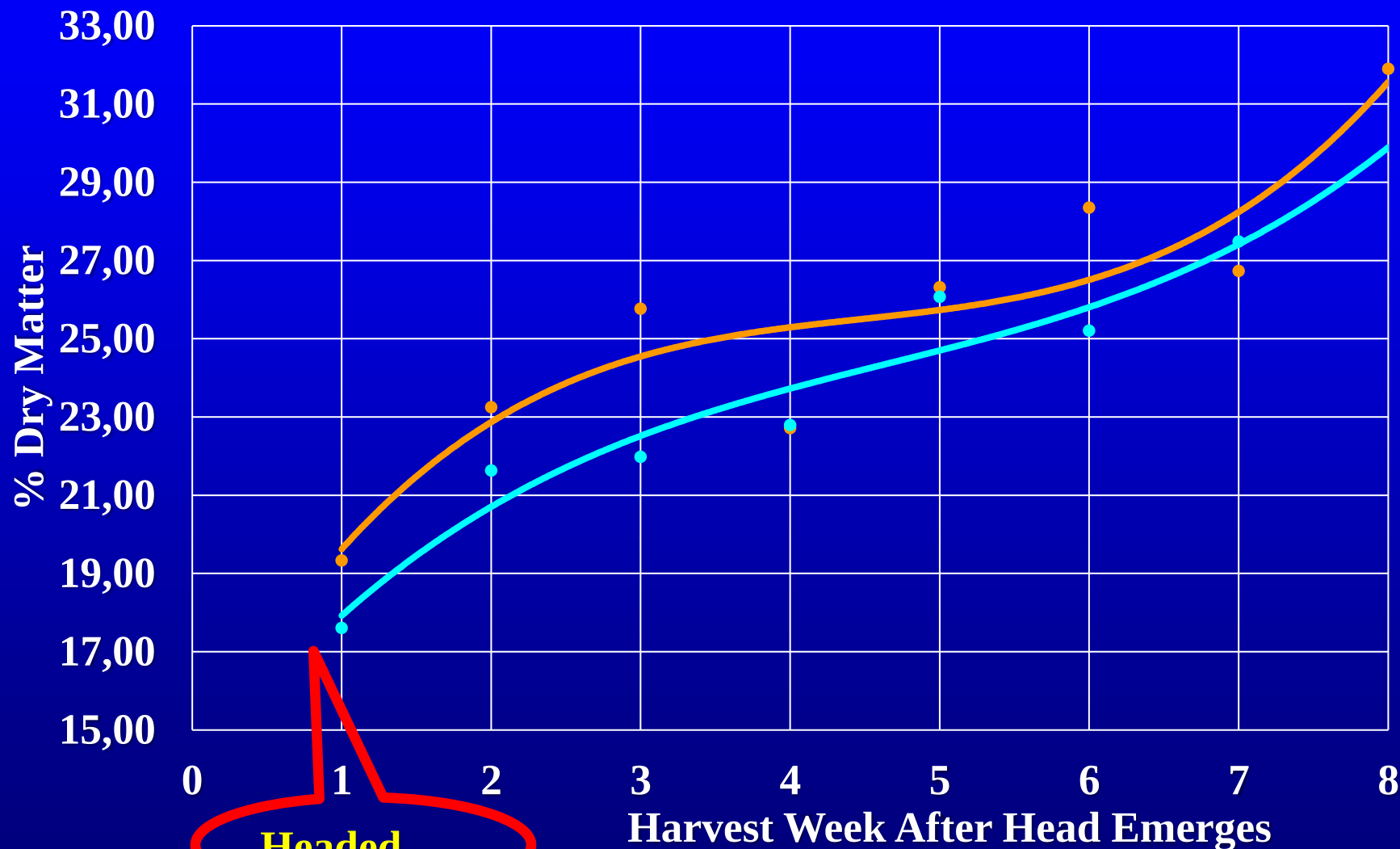


➤ Cells must be ruptured for bacteria to enter

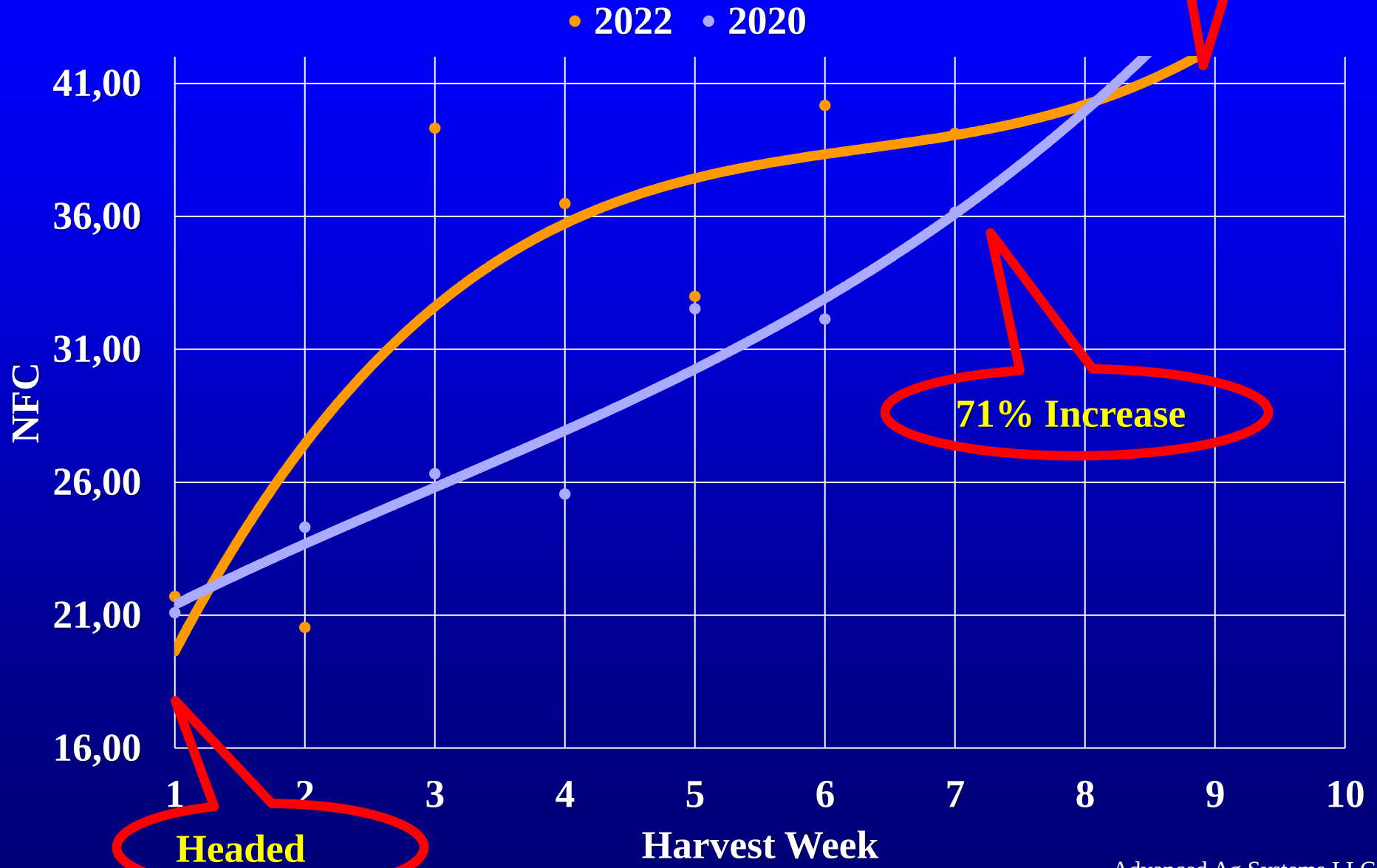
- Slow Steady nutrient release
- Higher rumen pH so higher components
- NO processing needed.

Dry Matter by Harvest Week

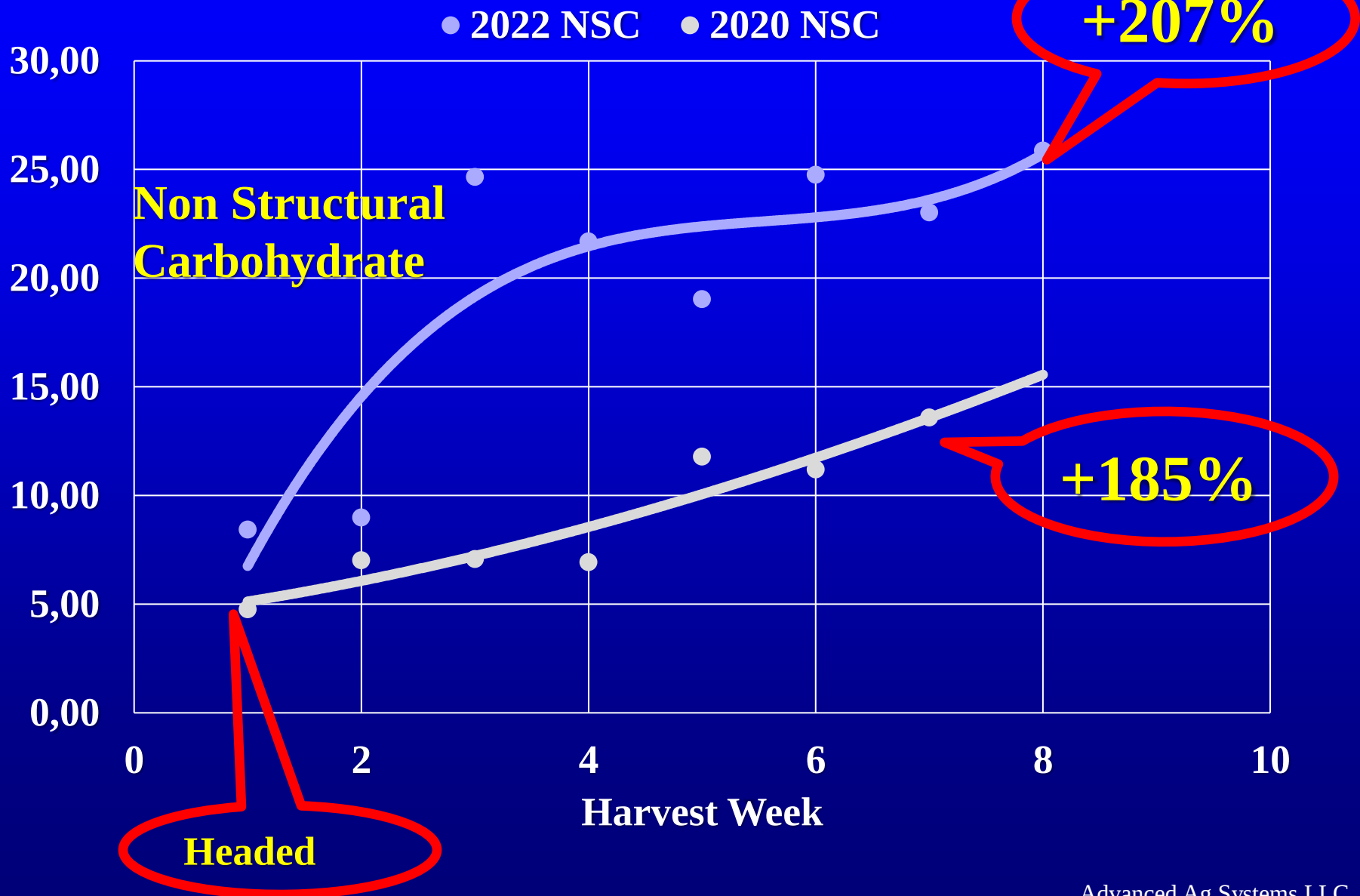
● 2022 ● 2020



NFC Non Fiber Carbohydrate % Dry Matter Basis

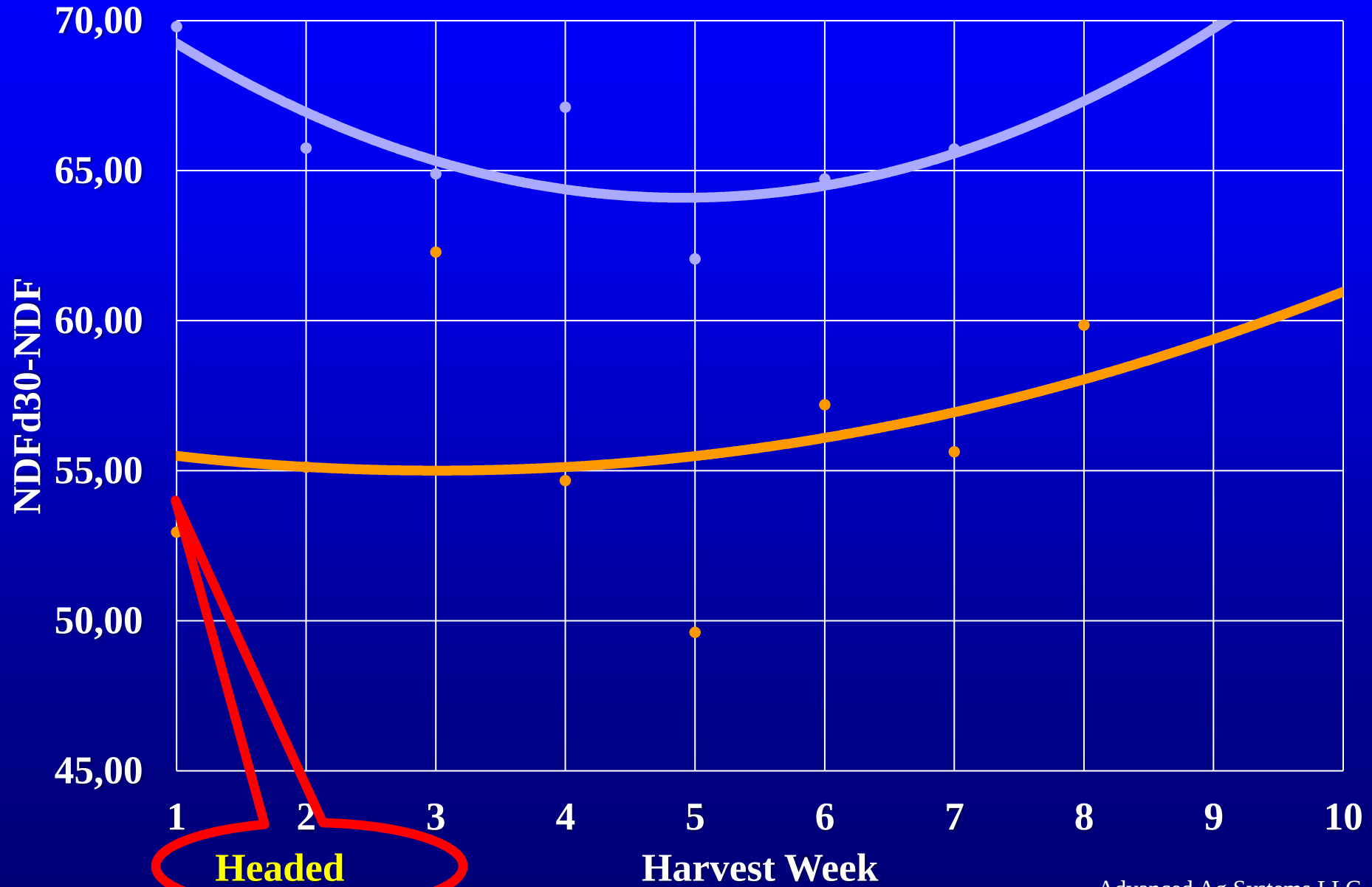


Male Sterile Non Structural Carbohydrates by Harvest Date



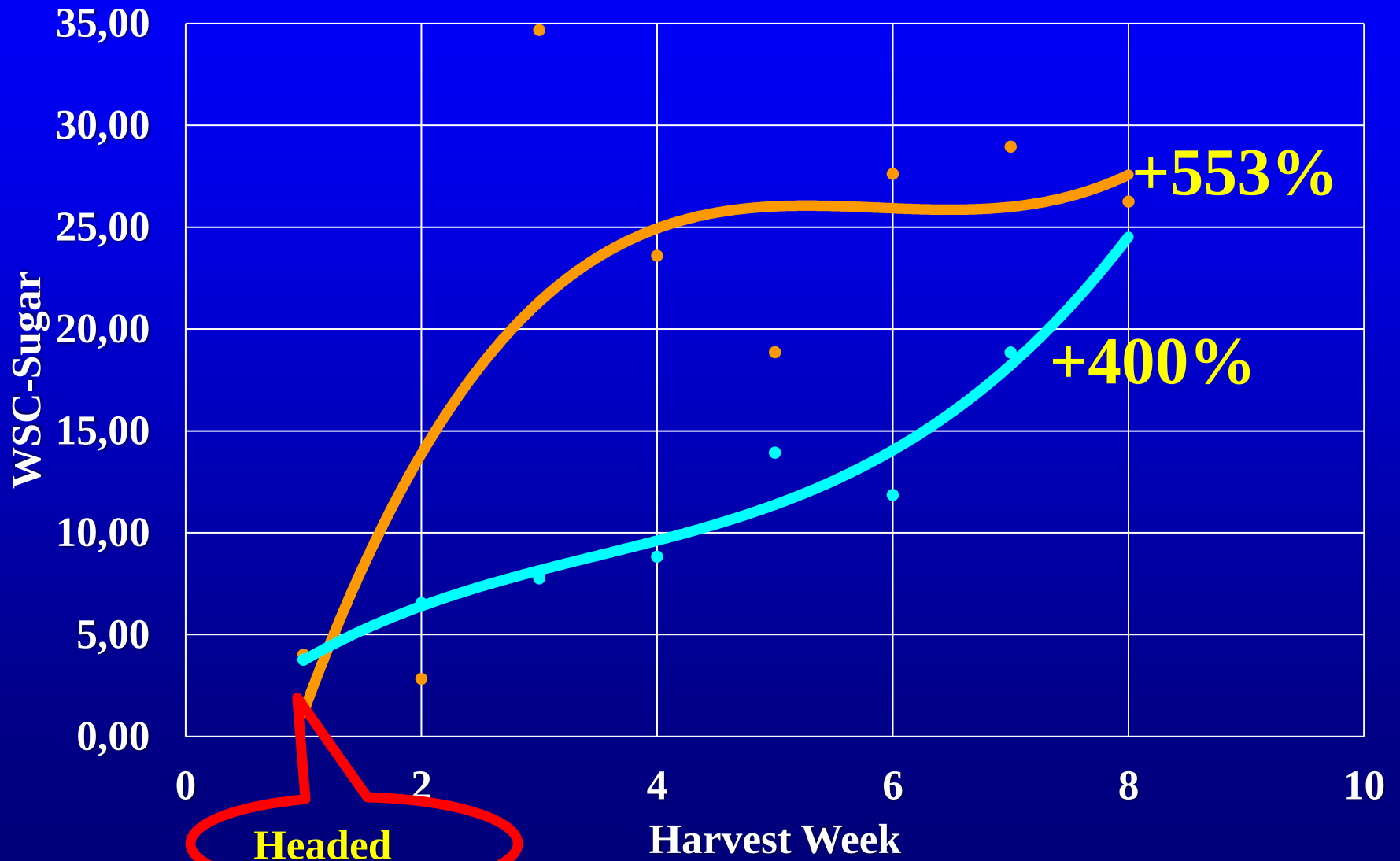
NDFd30-NDF

● 2022 ● 2020



WSC-Sugar %

● 2022 ● 2020



Ration	ME Milk	MP Milk
Base Corn Silage	85.5	87.9
August 10 sorghum	77.9	87.5
August 17 sorghum	78.3	89.3
August 24 sorghum	78.4	87.8
August 31 sorghum	79.6	88.7
Sept. 7 sorghum	77	83.7
Sept. 14 sorghum	79.4	88.7
Sept. 21 sorghum	79.4	87.5

Ration	ME Milk	MP Milk
Base Corn Silage	85.4	85
August 10 sorghum	84.1	91.8
August 17 sorghum	84.5	93.6
August 24 sorghum	84.6	92.3
August 31 sorghum	85.6	93.1
Sept. 7 sorghum	83.5	88.7
Sept. 14 sorghum	85.4	93.1
Sept. 21 sorghum	85.5	92.1

**Sorghum is NOT
Corn Silage**

Item	Base CS 2022	Sorghum-PA 2022	Sorghum-NY 2022	Base CornSilage 2020	Sorghum-NY 2020
Corn silage, kg. DM	9.08		0	9.08	0
Alfalfa silage, kg DM	6.13	6.13	6.13	6.81	6.81
Sorghum silage, kg. DM		9.08	9.08		8.54
Corn, kg. DM	2.63	2.91 (+.28)	2.91(+.28)	2.72	3.13 (+.41)
Soy Plus, kg. DM	1.45	1.54	1.73	1.59	1.09 (-0.5)
Diet sugar, % (WSC)	1.73	5.68	6.22		
Diet Sugar, % (ESC)	1.73	3.50	3.54		
Predicted ME- Milk, kg.	38.82	38.68	39.00	38.77	38.82
Predicted MP- Milk, kg.	38.64	38.59	38.77	38.59	41.81
Advanced Ag Systems LLC					



Questions??

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