

Practical Truths About Sorghum Silage

John Paul Heavyside

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THIS MARK MATTERS.  Dairy Farmers of America



Meet your panelists



Jordan Bell, PhD
Associate Professor
Texas A&M AgriLife
Extension Agronomist



**Douglas Duhatschek,
DVM, PhD**
Technical Services Manager
Parnell Pharmaceuticals



Lyndon Luckasson
OEM Business Director
Scherer Inc.



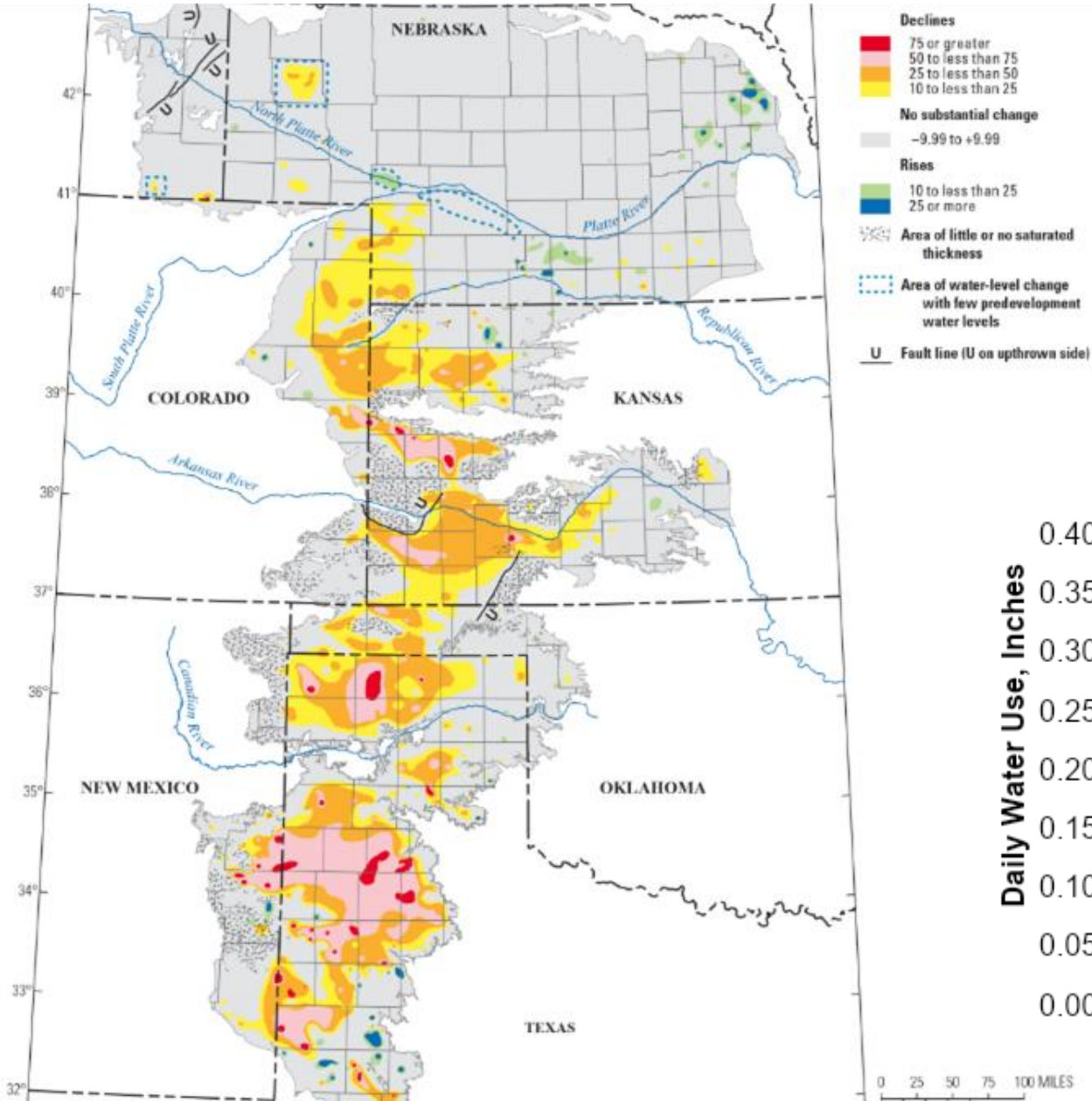
Braden Gibson
Manager
Gibson Farms



The case for sorghum

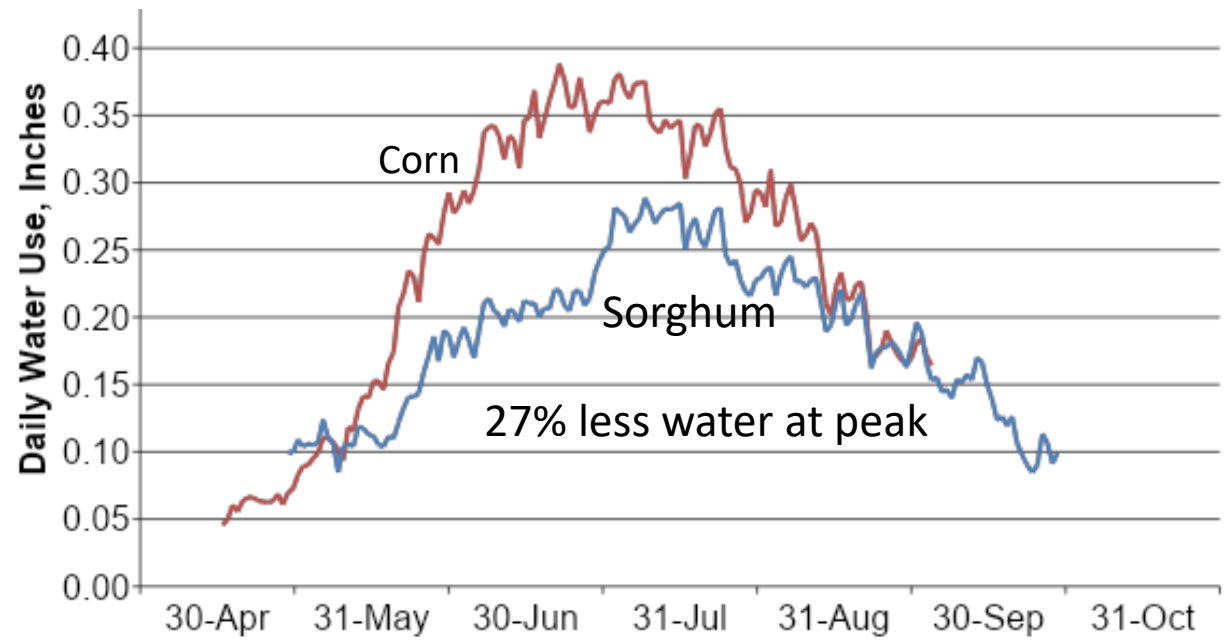
Jordan Bell, PhD

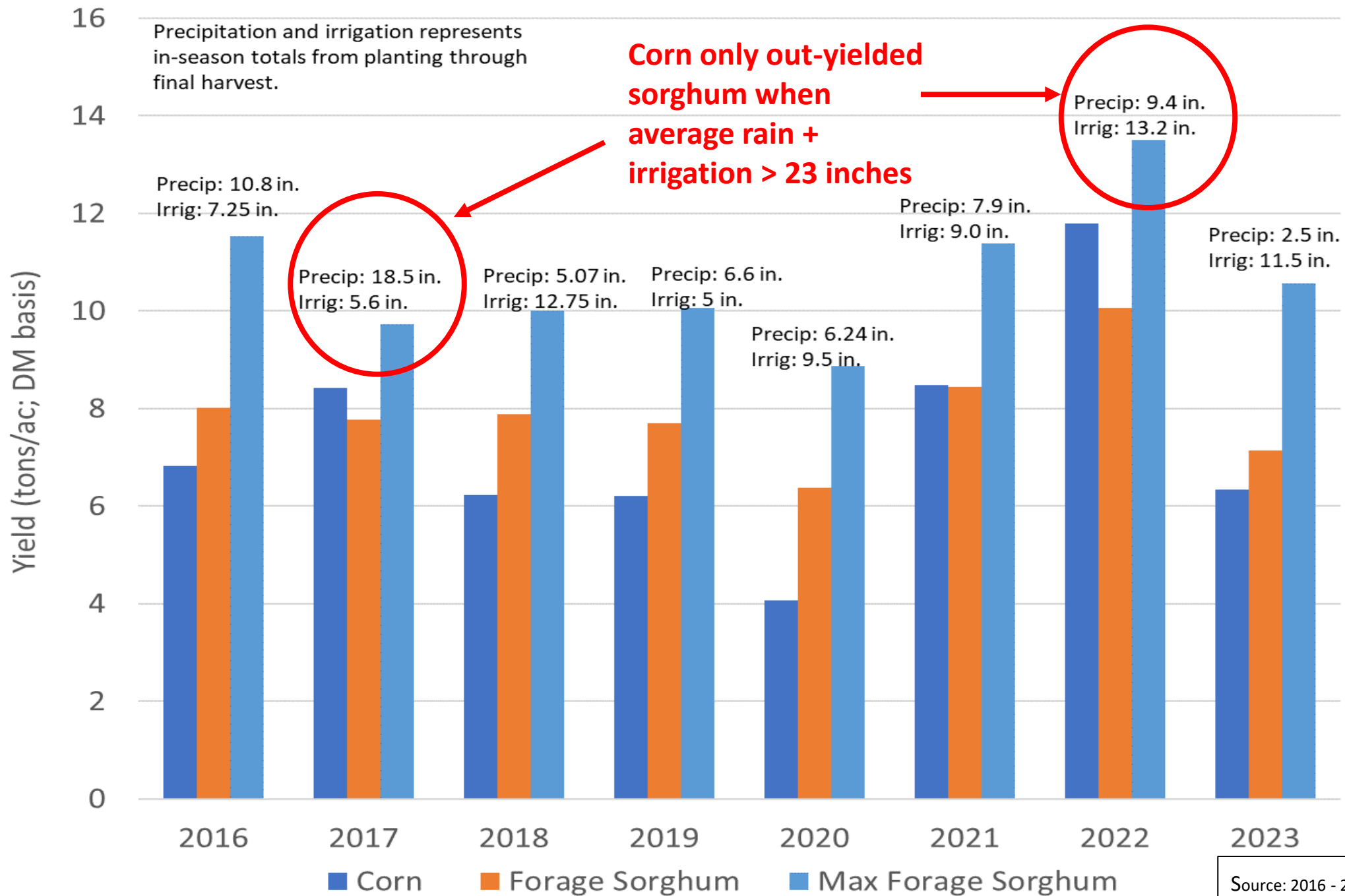
Percent Change in Saturated Thickness from Predevelopment to 2019



120 acres
 500 gpm capacity
 0.22 inch/day
 1.0 inch/4.5 days

250 gpm capacity
 0.11 inch/day
 1.0 inch/9 days





Source: 2016 - 2023 J.Bell TAMU Forage Sorghum Trial Summaries

Drought Damaged Corn Silage

Hybrid	RFQ	TDN	Milk/ ton	Yield (tons/ac) 65% Moist.
Corn Check: P1151 w/ ear	92	53	2962	27.5
Corn Check: P1151 w/o ear	28	30	1588	20.7
Corn Check: 55VP77 w/ ear	133	62	3467	25.5
Corn Check: 55VP77 w/o ear	37	34	1759	18.9

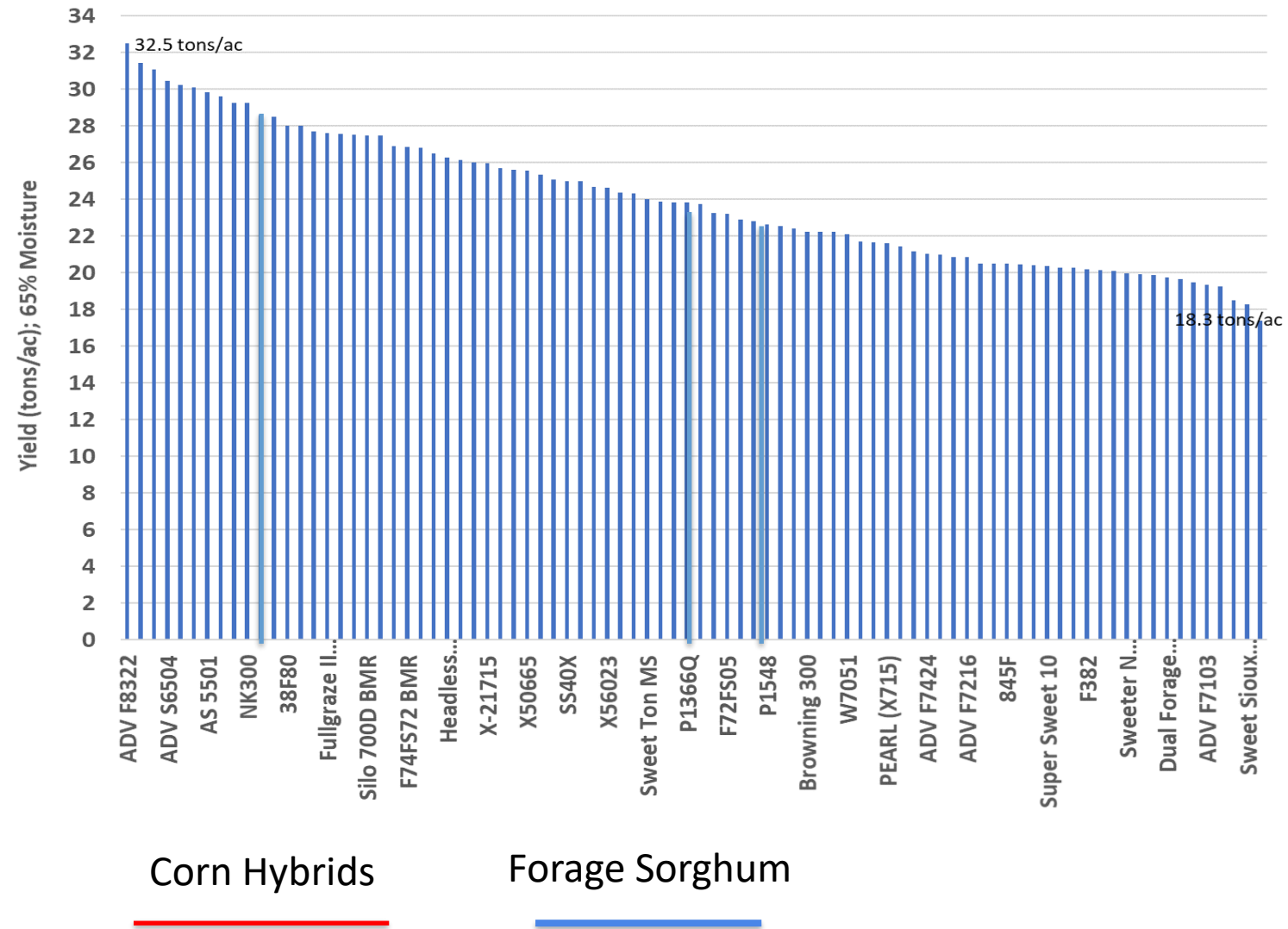
Message to producers: If there is a risk for drought damaged corn, consider forage sorghums.

Source: Bell, TAMU



2021 Texas A&M AgriLife Forage Sorghum Variety Trial

- Planting Date: June 7, 2021
- Forage Sorghum Seeding Rate: 80,000 seeds/acre
- Corn Silage Seeding Rate: 32,000 seeds/acre
- In-season Irrigation: ~8.25 inches
- In-season Precipitation: ~8 inches



Corn vs Sorghum Costs

	Corn (27 tons)	Sorghum (20 tons)	Difference
Seed	\$132	\$16	\$116
Fertilizer	\$226	\$118	\$108
Irrigation	\$124 (20 inches)	\$85 (14 inches)	\$39
Harvest & Hauling	\$338	\$250	\$88
Other	\$347	\$242	\$105
Total Variable Costs	\$1,167 (\$43/ton)	\$711 (\$35/ton)	\$456

2026 Texas A&M AgriLife Extension Panhandle District 1 Budgets



Sorghum trials and nutrition

Douglas Duhatschek, DVM, PhD

Acknowledgements

Funding sources:



Dr. Juan Piñeiro



Dr. Jourdan Bell

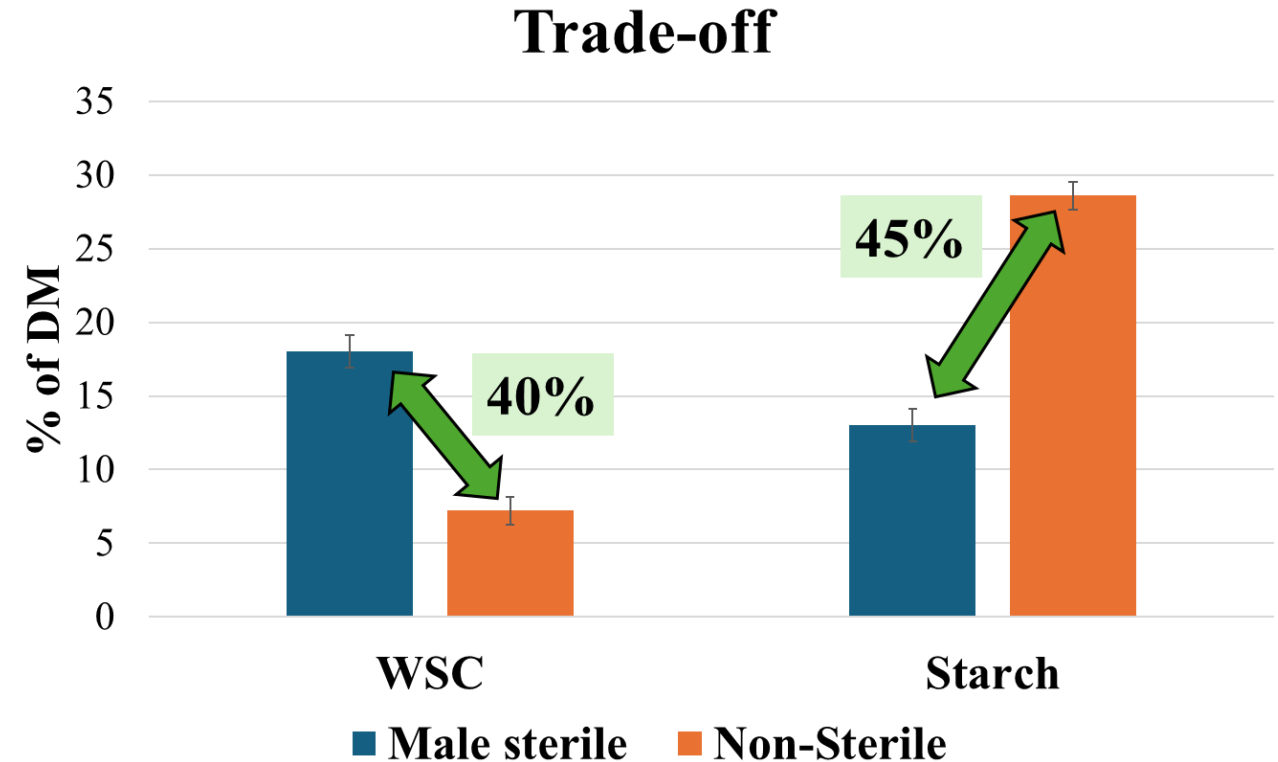
- Dairy farmers, crop producers and custom harvesters.
- Rock River Laboratory, Watertown, WI.
- Southwest Regional Dairy Center.

- Dr. Luiz F. Ferraretto
- Diego Druetto
- Dr. Michael Conner
- Dr. William P. Weiss



Focus on fiber

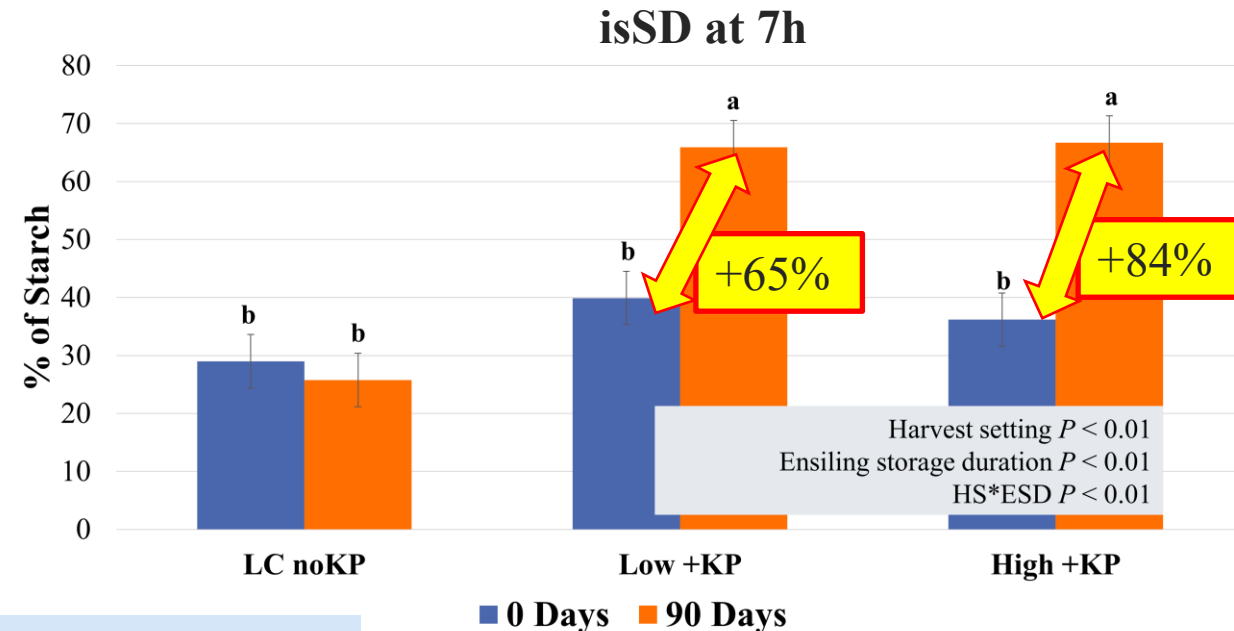
- **BMR x conventional**
 - BMR ~5%-point higher NDFD
- **Male-sterile sorghum**
 - Accumulates WSC trading-off with grain production
 - Wider harvest window
 - May need wilting to dry
 - Proved to work as partial replacement for corn silage → Increased DMI when replacing 50% of corn silage
 - Greater risk of ergot → flower remains open without pollination



Item	Dietary treatment			SEM
	Control	25%-BMR-MS-SS	50%-BMR-MS-SS	
DMI, kg/d	23.6 ^b	26.6 ^a	26.3 ^a	0.53
ECM, kg/d	40.4 ^b	44.4 ^a	43.7 ^a	0.95
Milk yield, kg/d	35.1 ^b	38.6 ^a	37.5 ^a	0.84

Focus on starch digestibility

	2021 (corn KP)	2024 (Durracut KP)			
	Corn Rg2.0	●10 Rg1.0	●24 Rg1.0	●10 Rg0.5	●24 Rg0.5
DM, %	34	35	36	35	34
Starch, %	31	33	32	31	29
BPS _{2.36mm} , % of starch	.	64	52	70	58
isSD7, 0 mo	75	77	79	80	81
isSD7, 3 mo		85	87	85	86
isSD7, 6 mo		83	90	85	90
isSD7, 9 mo		84	90	85	92

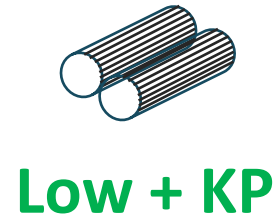


What do I need to get there: Treat it like corn

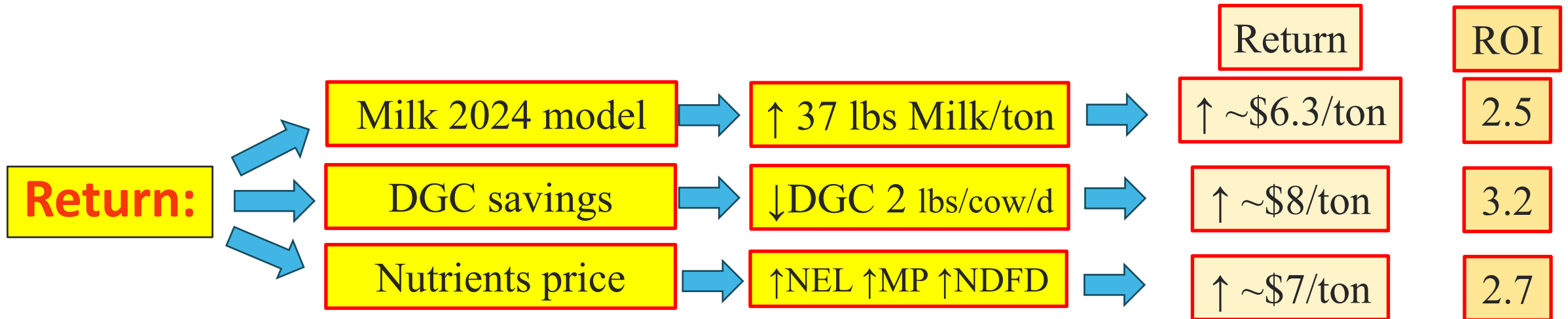
- Maturity → late soft dough - early hard dough
- KP and settings → Sorghum specific KP & <1mm gap
- Hybrid → 1- Early to mid maturing cycle
2- bigger heads ~starch >30% of DM
- Ensiling time → at least 3mo → 5mo

ROI. **Low + KP** vs. **Low no.KP** (90 d of ED)

Investment = **\$2.5/ton**
↑ 40 %-points isSD7



Vs.





Thank you

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Kernel processing

Lyndon Luckasson

Director KP Sales, Scherer Inc

DurraCut™ Sorghum Silage

Patent Pending Technology



Forage sorghum harvested without the use of kernel processors. 85% of berries intact.



Forage sorghum harvested with the use of kernel processors. 2% of berries intact and 98% of berries processed.

Increased starch digestibility in dairy cows

	Low-cut height without Kernel Processing		Low-cut height with Kernel Processing		
	0 days	90 days	0 days	90 days	210 days
Ensiling Times					
ADF, % DM	24.3 ^a	23.9 ^a	22.1 ^a	22.0 ^{ab}	21.92 ^a
aNDFom, % DM	34.2 ^a	33.3 ^a	30.4 ^{ab}	27.5 ^a	32.56 ^b
Starch, % DM	33.1 ^b	30.6 ^b	37.2 ^b	36.7 ^a	31.01 ^b
2.36 mm Berry Processing Score (BPS), % starch	7.7 ^c	8.6 ^c	55.8 ^b	56.7 ^b	
Rumen in situ starch digestibility after 7 hours of incubation (IsSD7), % starch	29.0 ^b	25.8 ^b	39.9 ^b	65.9 ^a	86.02 ^a

DurraCut Kernel Processor Rolls

Engineered for maximum feed efficiency and starch availability

- **Innovative Kernel Processing Technology**

- Breakthrough design engineered specifically for forage sorghum and other small grains.
- Achieves up to 100% berry processing, ensuring optimal starch accessibility and digestibility.

- **Enhanced Feed Performance**

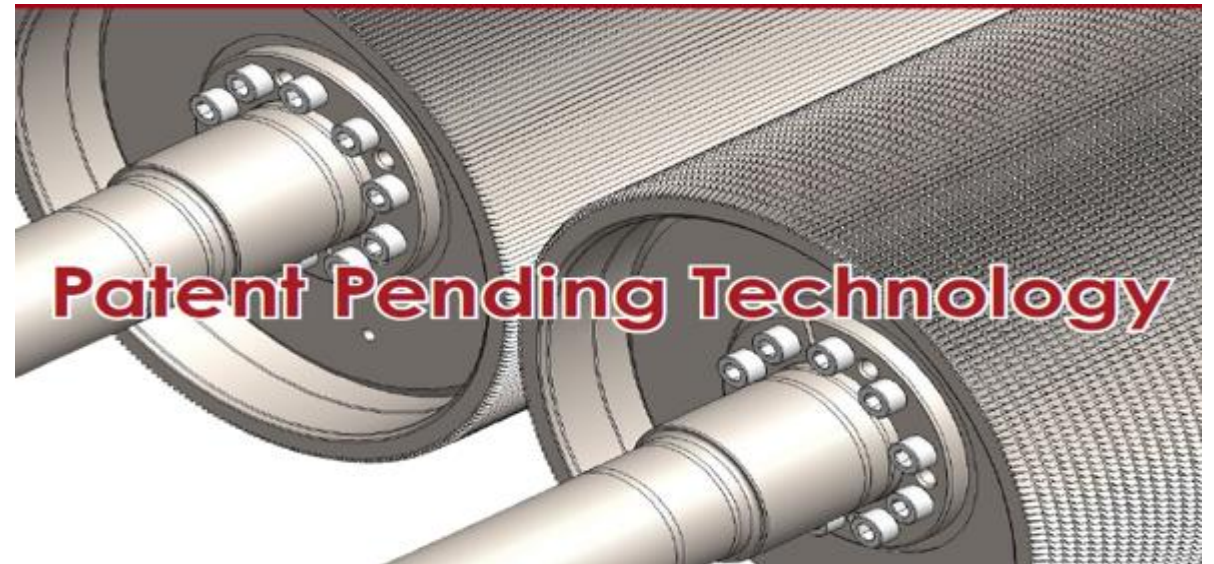
- Improves starch digestibility in dairy cows, resulting in higher milk production.
- Reduces intact berries from 85% to just 2% — a major improvement in feed quality.
- Improves feed efficiency and gain in beef cattle.

- **Tested and Validated**

- Field-proven data demonstrate significant improvements over traditional harvesting methods.
- Ideal for operations seeking measurable ROI in feed conversion and herd performance.

Cost of Operation

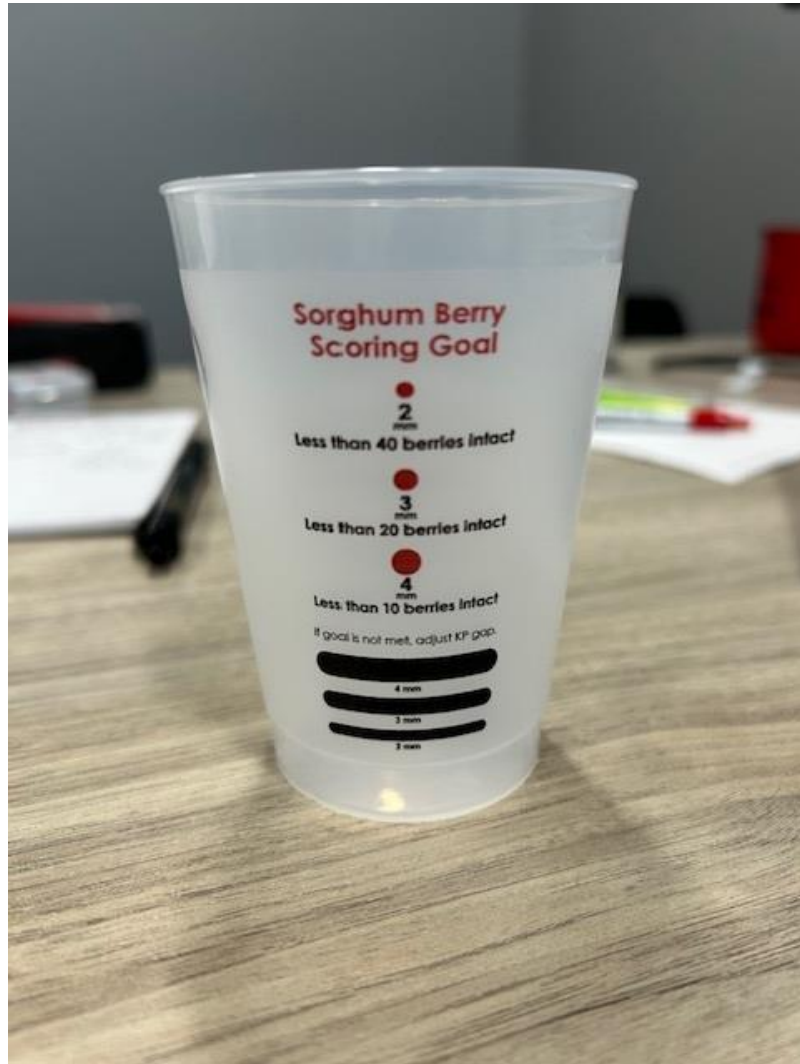
- When we compare to harvesting Corn Silage with a kernel processor, we will have **~15% reduced** throughput when harvesting Sorghum
 - As long as we are comparing sorghum to corn with similar starch content!
- **Processing fodder is more difficult than processing grain**
 - Higher grain means more tons/hr





2/26/2026

Sorghum Berry Scoring



DURRACUT Availability

- Krone 80 series
- NH 2007 - present
- Claas 2004 – present
- JD 2016 - present



Grower/Harvester Experience

Braden Gibson

Gibson Farms

Dumas, TX

Sorghum growing experience

- **Sorghum hybrids over time**
- **Planting techniques(air drill, planter row spacing)**
- **Tillage options**
- **Weed pressure**
- **Pest management**
 - SCA
- **Disease concerns**
- **Standability**

Sorghum Harvesting experience

- **Harvest timing/harvest window**
- **Dry down/moisture**
- **Harvest efficiency**



Questions?

Dr. Brent Bean, Director of Agronomy, United Sorghum Checkoff

Dr. Jourdan Bell, Texas A&M Agrilife

Dr. Douglas Duhatschek, Parnell

Lyndon Luckasson, Scherer

Braden Gibson, Gibson Farms