

UF Silage Hybrid Decision Tool

A New Approach to Variety Trials Data Mining

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Introduction

- Variety testing is an important service Extension provides.
- Information on crop productivity, disease resistance and other relevant characteristics are essential for decision making during planting season.
- Lack of easy access to data and cumbersome spreadsheets and reports limit utilization of such resources by our producers.

Objective

- Our objective was to create a simple query tool to assist producers on decision making on hybrid selection for corn and sorghum production in Florida.

Species & Means	Spring		Summer			
	Yield (ton/acre)	Milk (lb/acre)	Yield (ton/acre)	Milk (lb/acre)		
Corn	8.81	30,547	41,857	6.04	19.935	35,354
Forage Sorghum	7.04	19,978	36,523	5.57	15.403	43,283
Sorghum Sudan	8.11	19,152	29,164	5.35	12.964	24,564

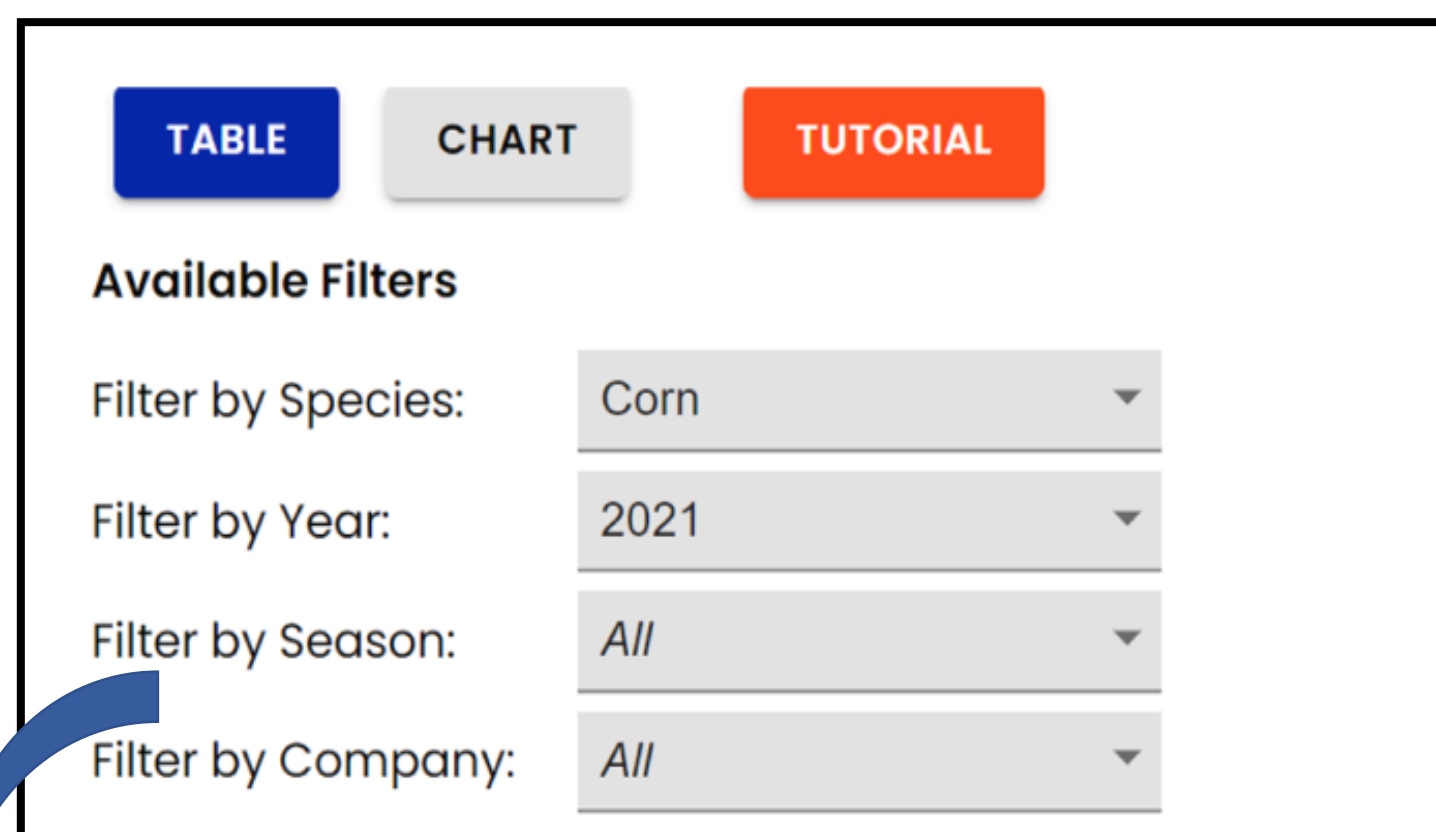
Table 1. Means of yield and milk production, and the most productive of each species.

Conclusions

- Since launching (May 2022), 52 new users access It so far.
- Feedback from industry and producers have been positive, but not yet quantified.
- This platform can serve as model for other crops.
- Variety selection is a key point at system planning; there is a 30% difference in milk production per acre from the top hybrids compared to average

Design

- The corn and sorghum hybrid trials are hosted at the UF/IFAS Plant Science Research and Education Unit, from 2008 to 2021.
- Trials were planted in two seasons: spring and summer.
- Typescript language and React framework have been used to develop the platform



UF Silage Hybrid Trial Table

Year	Company	Hybrid	Season	Yield Dry Tons/acre	Milk lb/Ton of silage	Milk lb/acre	NDF %	NDFD %	Starch %	
>	2021	Pioneer	P1903YHR	Spring	11	3476	38339	37.3	62.3	42.7
>	2021	Croplan	5900vt2p	Spring	10.28	3408	34887	37.5	59.3	41.2
		Relative Maturity: 119		35% DM T/A: 29.4		Dry matter %: 38.8		Crude protein %: 8		240 UNDF: n/a
		ADF %: 21.3		Sugar %: 6.5		NEL Mcal/lb: 0.71		IVDMD %: n/a		TDN %: 73.1
		Yield digestible NDF, T/A: n/a		Disease %: 47		Lodging %: n/a				
>	2021	SeedKoz	MerCorn MC 4670	Spring	9.9	3487	34882	34.7	59.7	45.3
>	2021	University of Florida	289	Spring	9.75	3248	31205	43.3	60	34.2

Figure 1: Table with examples of the results shown by the app during the use.

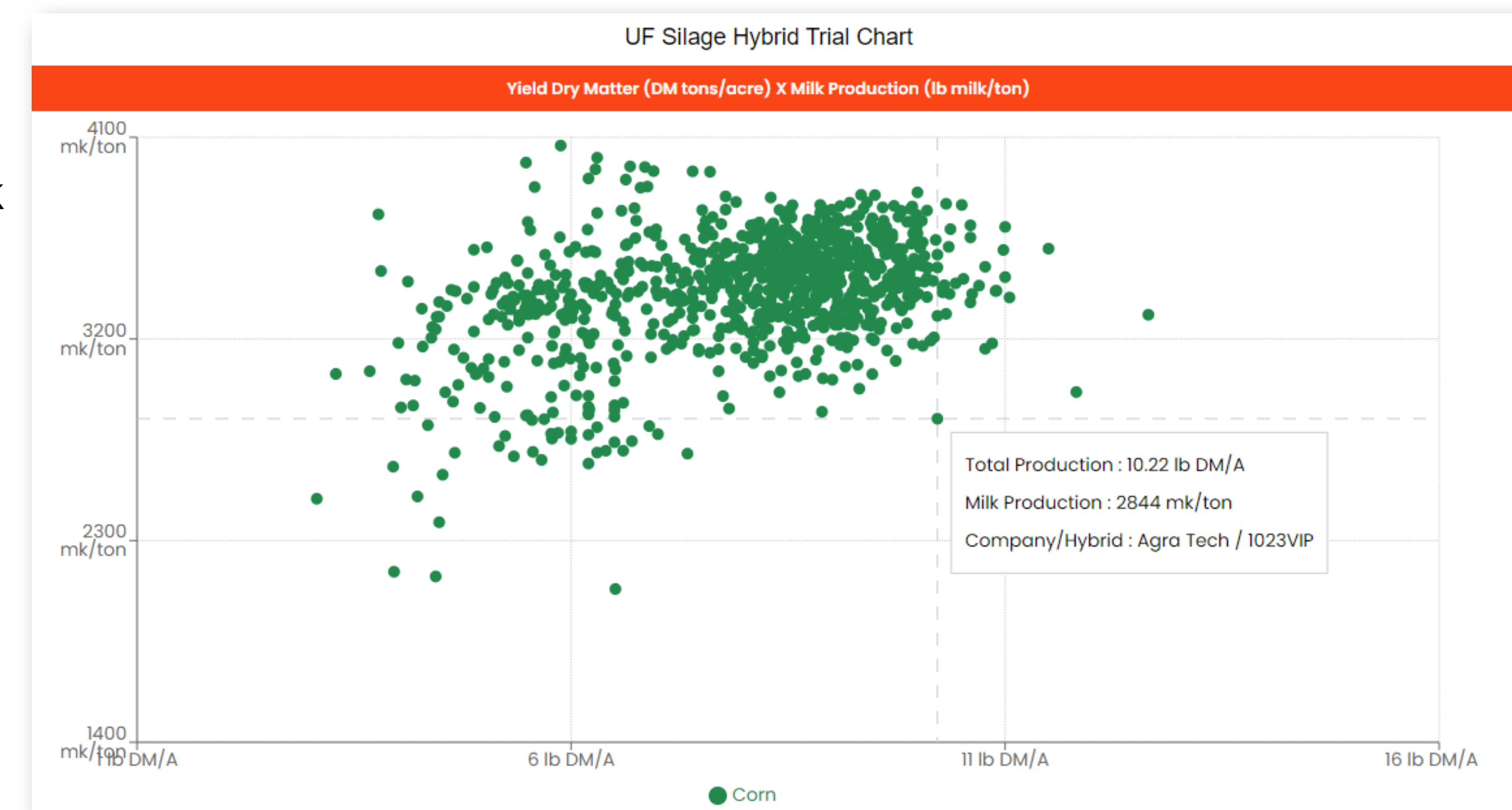


Figure 2: Graphical representation of the dispersion of dry matter yield and estimated milk production per acre.