Legend Seeds Corn Silage Testing

2019 L.E.A.P. PLOT SUMMARY

Legend Elite Advancement Project (L.E.A.P.) is our proprietary, in-house research program. It validates data on hybrid genetic performance over time and agronomic placement. Our L.E.A.P. plots are used for product evaluation, selection, and positioning on the right soil type and in the right geography to consistently deliver high value products to growers.

Hybrids grouped by location and maturity sets and ranked by TTNDFd.

Pounds of Beef/acre and per ton are based on 1 pound beef produced for every 6 pounds of TDN fed.

HYBRID	RM	MILK PER ACRE	MILK PER TON	TONS/ AC AT 65%	% MOISTURE	ADF	NDF	LIGNIN	TTNDFd	NDFd 30 HOURS	uNDF 240hr (%DM)	STARCH	7HR STARCH DIGESTIBILITY	NFC	30HR TDN	LBS BEEF/ TON	LBS BEEF/ ACRE
EARLY LOCATION, 95 DAY AND EARLIER RM					***Locations: Lake Preston, SD; Blunt, SD; Colfax, ND; Fairfax, MN*; Bloomer, WI***												
LNG 9895 RR	95	34,643	3,399	29.2	62.2	22.0	38.5	4.0	39.1	58.0	10.0	34.9	77.7	48.3	72.9	243	2,478
LR 9993 GENSSRIB	93	36,495	3,446	30.4	60.8	19.8	35.8	3.8	37.1	58.6	9.2	39.6	76.9	51.5	73.5	245	2,600
LR 9995 VIP3220	95	39,779	3,441	33.1	61.6	20.5	36.1	3.9	36.8	56.8	9.9	38.0	76.1	51.0	73.3	244	2,826
LNG 9091 RR	91	31,101	3,195	27.9	63.2	24.6	41.7	4.6	36.7	54.1	12.1	32.4	76.8	45.4	69.9	233	2,270
47J9090 VIP 3220	90	41,789	3,542	33.8	59.7	18.3	33.5	3.6	31.9	56.6	7.6	42.9	78.0	54.7	74.6	249	2,933
EARLY LOCATION, 96 DAY AND LATER RM					***Locations: Lake Preston, SD; Blunt, SD; Colfax, ND; Fairfax, MN*; Bloomer, WI***												
LR 97S00 GENSSRIB	100	34,076	3,349	29.0	66.6	22.4	39.0	3.9	38.6	57.6	9.3	33.8	82.6	48.4	72.3	241	2,450
LNG 9800 RR	100	33,330	3,168	30.0	63.4	24.2	41.2	4.6	35.5	53.4	11.1	31.4	77.4	45.6	69.6	232	2,440
LR 94A01 3011A	101	39,762	3,481	32.6	57.9	17.8	32.9	3.5	34.9	57.7	7.3	42.9	75.0	55.4	73.9	246	2,811
LATE LOCATION, 100 DAY AND LATER RM					***Locations: Pocahontas, IA; Fairfax, MN*; Lake Preston, SD; Blunt, SD***												
LR 97S00 GENSSRIB	100	35,799	3,388	30.1	64.3	20.9	36.9	3.7	40.4	60.8	8.6	35.8	83.4	49.8	73.0	243	2,567
LNG 9800 RR	100	32,858	3,233	29.2	65.1	23.8	41.4	4.5	38.1	56.1	10.4	30.1	77.6	44.7	70.7	236	2,397
LNG 9505 RR	105	35,667	3,337	30.4	66.7	23.2	40.6	4.4	37.4	57.1	11.1	33.0	80.1	45.8	72.0	240	2,563
47J104 3122 EZREF	104	40,220	3,482	33.1	61.8	19.3	35.1	3.8	36.5	60.6	8.8	40.3	78.1	51.9	74.0	247	2,851
LR 97S05 GENSSRIB	105	48,947	3,593	39.0	59.6	18.5	33.9	3.6	36.1	60.8	8.1	40.7	77.6	52.8	75.5	252	3,431
LR 94A01 3011A	101	41,034	3,508	33.4	55.6	16.5	31.1	3.3	35.2	59.4	6.7	45.2	75.2	56.9	74.3	248	2,893

** Yield was missing from Fairfax, so weighted average was used.*

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Silage hybrids were planted in replicated plots and yield calculations were made assuming a 30,000 and 35,000 population for the Leafy and dual-purpose corn respectively. Rock River Labs conducted a comprehensive nutrient analysis on each sample with NIR. Selected results are reported along with milk and beef production per acre predictions based on quality and yield calculations.

Key Points:

1. Leafy and LNG hybrids were the top three of the late sort and the top two of the early sort based on total track neutral detergent fiber digestibility (TTNDFd).
2. Hybrid performace was ranked based on TTNDFd. TTNFd is a more accurate predictor of animal performance over neutral detergent fiber digestibility (NDFd) as it is an improved measurement of fiber digestiblity and the rate of digestion.
3. A change in TTNDFd of 2-3 points equates to 1 lb. of milk when forage makes up 50 lbs. in the diet.
4. Leafy and LNG hybrids also rank very strongly in the 7 hr. starch digestibility category. The 7 hr. starch digestibility is an improved estimate of available starch due to hard grain than the percent starch number.

Points to remember about Leafy and LNG corn:

- A planting population of 30,000 or less is recommended for optimal digestibility and tonnage.
- Leafy and LNG have a wider harvest window than dual-purpose corn with better staygreen.
- The grain is very soft and highly digestible.
- These hybrids ferment in as little as 30 days because of the soft starch and grain is easily crushed at chopping.
- Lab tests may not fully represent or predict animal performance with Leafy and LNG corn. Analytics that don't include TTNDFd and 7 hr. starch digestibility may not adeqately predict animal performance because ADF/NDF, starch and NDFd don't account for the dynamics of fiber digestibility. For this reason the milk/ton may be reported low, but cows often still milk above the lab predictions.
- Milk/ton and milk/acre do not use TTNDFd and therefore underestimate the value of Leafy and LNG corn.
- Percent starch may not accurately predict available starch because hard or vitreous grain is not as digestible as soft or floury grain. The soft starch is more available to rumen microbes while the hard grain is bound with protein molocules and therefore less digestible by the microbes.

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