

Sila-bac Evaluation

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Story in Brief

The influence of Sila-bac silage inoculant on storability and digestibility of corn silage was evaluated using eight Charolais heifers. Wet weight and spoilage losses were slightly greater with treated silage. Digestibility of organic matter was 58.4 *vs* 56.9 and of fiber was 38.5 *vs* 35.3 percent for untreated and Sila-bac silage.

Materials and Methods

Corn silage used in this study (Pioneer Variety 3147) was harvested in the early dent stage on June 6, 1978, in Weslaco, Texas. Treatments consisted of a control or untreated silage and a Sila-bac inoculated silage. Sila-bac, a commercial silage additive marketed by Pioneer Hybrid International Inc., Des Moines, Iowa, was added to the chopped forage at the rate of 1 lb/ton of forage diluted with 9 lb of ground corn to aid distribution. For fermentation, chopped forage was placed in large, heavy duty plastic bags holding approximately 50 lb each. Seventy-one days later, the silage was transported to O.S.U. and stored frozen prior to feeding. Bags were weighed initially and at feeding to estimate wet weight loss. Compositions of silages are shown in Table 1.

Apparent digestibility of the silage was measured using eight Charolais heifers, averaging 800 lb. Animals were fed 6 lb of dry matter from their respective rations twice daily. Chromic oxide and a urea mineral supplement (Table 2) were incorporated into

Table 1. Composition of control and Sila-bac treated corn silage (DMB).

Item	Control	Sila-bac
	----- % -----	
DM	33.0	32.8
Ash	6.6	7.5
ADF	29.6	28.0
N	1.3	1.3

Table 2. Supplement composition¹.

Item	%
Urea, %	67.7
Trace mineralized salt, %	16.0
Dicalcium phosphate	16.2
Vitamin A and D	+

¹ Supplemented at rate of 1.6% of total ration dry matter.

Table 3. Weight loss and spoilage.

Item	Control	Sila-bac
		----- % -----
Wet weight loss	0.98	2.59
Spoiled or moldy	2.76	3.96

Table 4. Apparent digestibility estimates for control vs Sila-bac treated corn silage.

Item	Control	Sila-bac
		----- % -----
Digestibility		
Organic matter	58.4	56.9
Fiber	39.8	33.1
Nitrogen	40.0	35.8

the ration at the time of feeding. Following an initial 14-day standardization period during which all animals received the control silage ration, animals were placed on their experimental rations. During the course of the trial one heifer was removed due to illness. Test periods lasted 12 days, with feces being sampled the final five days. Heifers were then switched to opposite rations for collection. Silage and fecal samples were analyzed for dry matter, ash, acid detergent fiber and protein.

Results and Discussion

Although at ensiling the forage material appeared very acceptable, the fermented material contained mold in some areas. Poor air exclusion and temperatures over 100° F at harvest and during storage may have altered normal fermentation.

Loss of wet weight through fermentation and amount of spoiled material which could not be fed are presented in Table 3. Addition of Sila-bac did not reduce fermentation or spoilage losses in this trial. Digestibilities are shown in Table 4. The additives did not enhance digestibility as a previous laboratory study (Rust *et al.*, 1978) predicted. All digestibilities appeared quite low, possibly due to high temperatures of fermentation and storage. Although the inoculant may be useful for higher moisture, out-of-season or difficult-to-ensile crops, as others have indicated, results from this trial showed no benefit from the inoculant.

Literature Cited

Rust, S. R., F. N. Owens, A. B. Johnson, B. J. Shockey and K. B. Poling. 1978. Okla. Agr. Exper. Sta. Res. Rep. MP-103:146.