

Wanderley*, R.C., A.G.Silva, A.F. Pedroso, EMBRAPA-CPPSE, São Carlos, SP, Brazil, and G. Ashbell, The Volcani Center, Bet-Dagan, Israel.

To improve quality and reduce losses during ensiling, orange peel and sugar cane were, mixed with poultry litter to increase DM to 40-50%. Corn silage was used as the control. Silages were prepared in 200 kg plastic containers. An in situ study was conducted using 3 lactating cross-bred cows, fitted with rumen cannulas, and fed sugar cane + urea and corn silage as roughages, and a concentrate mixture of ground corn, soybean meal, cottonseed meal, wheat mill run, and minerals. Silage samples were ground using a 5 mm screen, and 6 g were placed into heat sealed nylon bags with a 40 μ pore size (measuring 14.5 x 7.0 cm). Bags were incubated in the rumen for 2, 4, 6, 12, 24, and 48 h. Before incubation, bags containing the samples were washed in tap water (39°C) for 15 min. The DM lost during washing was considered the potentially soluble fraction (PSol) and the remaining was the slow degraded fraction (SDF). The amount digested in 48 h was considered as the maximum potential degradable (PMax). The rate of degradation (RD) was determined by regressing the LN of residues by incubation time.

Silages

	Orange peel + poultry litter	Sugar cane + poultry litter	Corn
PSol, %	21.5 ^c	29.9 ^a	23.5 ^b
PMax, % SDF	54.8 ^a	30.6 ^c	34.4 ^b
Total, %	75.9 ^a	60.9 ^b	58.8 ^b
RD, %/h	2.5 ^a	1.1 ^b	1.1 ^b

^{a,b,c} Means differ ($P < .05$) between treatments.

The potential ruminal digestibility was greater for the orange peel + poultry litter, while the other two silages, sugar cane + poultry litter, and corn were similar. These silages were used in a feeding trial with Santa Ines sheep, showing excellent results for OP+PL.

Key Words: Silage, by-products, digestibility