

A COMPARISON OF FINE CHOP SILAGE WITH BALE SILAGE  
AS SUPPLEMENTS TO PASTURE FED DAIRY COWS

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Conservation of pasture as silage conserved in round bales and stored individually in polythene bags is an alternative to the traditional technique of chopping and ensiling pasture in pits or bunkers. This experiment compared the feeding values for milk production of wilted round bale silage, wilted fine chopped bunker silage and high quality irrigated pasture. The dry matter %, chop length cm, in vivo dry matter digestibility % and nitrogen % were (18.9, 46.1, 38.5); (2.5, 22.3, 2.2.); (64.4, 68.5, 66.7) and (2.4, 2.6, 2.2) for pasture, bale silage and fine chop silage respectively.

Thirty two cows in mid lactation were individually fed in stalls either restricted pasture, restricted pasture plus bale silage ad libitum, restricted pasture plus fine chop silage ad libitum or pasture ad libitum. Feed intakes, rumen pH, rumen ammonia concentration, liveweight change and yields of milk and milk constituents are presented in the table.

Production of dairy cows fed either restricted pasture (P), pasture ad libitum (PP), restricted pasture plus bale silage (PB) or restricted pasture plus fine chop silage (PC).

	P	PP	PB	PC	L.S.D. P=0.05
Number of cows	8	8	8	8	-
Pasture intake (kg DM/d)	7.16	14.85	7.35	7.21	-
Silage intake (kg DM/d)	-	-	7.39	7.25	-
Total intake (kg DM/d)	7.16a	14.85b	14.74b	14.46b	0.77
Milk (L/d)	9.68a	13.81b	13.88b	13.38b	1.00
Milk fat (g/d)	451a	602b	590b	591b	54
Milk protein (g/d)	305a	444b	446b	430b	32
Liveweight change (kg/d)	-2.19a	-0.02b	0.18b	0.31b	0.59
Rumen fluid pH	6.94	6.90	7.12	7.00	0.25
Rumen ammonia (mg N/100 ml)	16.7a	17.7ab	19.2b	19.8b	2.2
Means within rows with different subscripts differ significantly (P=0.05)					

Despite the different ensiling techniques and the significantly greater chop length for bale silage than fine chop silage, intakes of bale and fine chop silage were similar. Yields of milk and milk constituents, liveweight change, rumen fluid pH and rumen fluid ammonia concentration were not influenced by silage type. Marginal responses in milk yield and milk constituents from both silages were similar and equal to those obtained from high quality pasture indicating the high potential of silage as a supplement for dairy cows.

Anaerobic losses of DM during silage fermentation were about 10% for both fine chop and bale silage. However, aerobic loss of useable silage DM due to mould was high in round bale silage (ca. 20%) and highly variable (0 - 80%).

Further research into factors that reduce losses of silage during storage are warranted.

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