AN IMPROVED HARNESS TO COLLECT FAECES FROM SHEEP

M.L. COLE[A], *J.A.W. SMITH*[A], *C.A. COLE*[A] *and D.A. HENRY*[A]

[A] CSIRO Division of Animal Production, Private Bag, PO Wembley, W.A. 6014
[A] CSIRO Centre for Mediterranean Agricultural Research, Private Bag, PO Wembley, W.A. 6014

Murray (1994) showed that feed intake can be affected adversely when sheep are fitted with harnesses to collect faeces. A similar study, using a harness that was designed in our laboratory and has been used here for many years (I.N. Southey and D.B. Purser pers. comm.), is reported here.

The harness, as modified recently (Figure l), is light-weight and fully adjustable to suit sheep of different sizes. The frame of the harness is 2 strips of PVC (A; 610 mm x 50 mm x 5 mm) softened at 80°C and shaped to fit the sheep's back behind the shoulders and in front of the hips. Medium density foam (650 mm x 60 mm x 25 mm) pads the inside curvature of the frame. Three PVC strips (445 mm x 22 mm x 2 mm) join the 2 pieces of the frame, one strip along the spine and 2 along each side, and holes at intervals in each strip allow adjustment for a comfortable fit. Seatbelt webbing (B) holds the harness in place across the brisket and is adjusted to fit through 2 slip rings. The faeces collection chute (C) is of PVC pipe (160 mm diameter x 100 mm), with one end cut square and the other cut at 30^0. On the circumference of the angled end extruded rubber is glued to give a snug fit against the sheep. The upper side of the chute is fastened in 2 places to the top of the rear frame (A) using PVC strips (225 mm x 22 mm x 2 mm), and holes in the strips provide adjustment of the chute relative to the harness frame. On the square end of C a strip of the PVC pipe (5 mm, cut to fit) is welded to the outer circumference of the chute as an edge against which to hold the faeces collection bag. Plastic bags (300 mm x 400 mm x 170 pm) used to collect faeces are held firmly against the PVC edge strip using a loop made from PVC (150 mm x 5 mm x 2 mm) and a steel extension spring (50 mm). Nylon air-brake tubing (D; 600 mm x 10 mm diameter), heated and flattened 70 mm on each end, is fastened to the side straps of the harness to pass under- the belly. Two steel extension springs (90 mm) are connected with a spring clip to D to keep the lower edge of C snugly against the sheep.

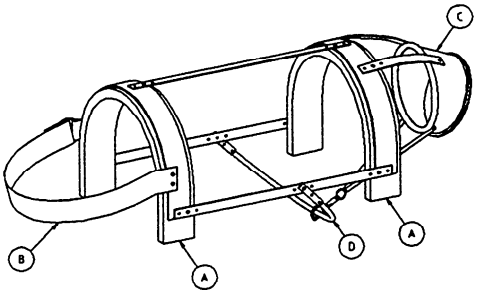

Figure 1. Harness for collecting faeces from sheep (drawing by C. Higginson)

Dry matter intake of 6 hays was determined in 6 groups of mature wethers (4 or 6 per group), before and after the harnesses were fitted. There was no effect of the harnesses on DMI (Table 1) of 4 of the hays. Of the other 2 hays, DMI by 1 sheep in each group decreased when the harnesses were fitted. If the data from these sheep were excluded, there was no effect of the harnesses on DMI, which suggests that as long as the harnesses are fitted correctly, DMI will not be affected adversely.

Table 1. Dry matter intakes of sheep fed one of 6 hay diets before and after harnesses were fitted

	Dry matter intake (g DM/day)					
	Hay 1	Hay 2	Hay 3	Hay 4	Hay 5	Hay 6
Before harness [A]	1631[a]	2034[b]	1720[a]	1935[a]	1539[a]	1616[a]
With harness	1551[a]	1894[b]	1705[a]	1805[b]	1571[a]	1639[a]

[A] Mean values in column with different letter in superscript are significantly different (P<0.05).

MURRAY, P. J. (1994). *Proc. Aust. Soc. Anim. Prod. 20: 424.*