

About this factsheet

Many farmers sell their sheep based on estimated weight. A reliable, quick and easy-to-use method of estimating the weight of Barbados Blackbelly-type sheep uses a tailor's tape to arrive at a heart girth measurement for which corresponding live weight is read off a chart.

Weight tape for sheep

Low-resource farmers sell their sheep based on the estimated weight of the animal. Since most farmers underestimate the weight of their animals, they invariably receive a lower price from the buyer. After carefully studying this phenomenon, CARDI scientists in Barbados felt that by developing a weight tape for Barbados Blackbelly and Blackbelly type sheep, small farmers using this tape when selling animals would realize more income from the sale of their sheep. In addition, using a weight tape to determine their sheep's weight would also help the farmer to calculate the amount of ration to feed and the dose rate for medication; hence the tape can be used as a management tool. Weight tapes are available for cattle and pigs but there is none for estimating the weight of Caribbean hair sheep. This study was designed to develop and make available an affordable and reliable means of estimating the weight of sheep.

A sample frame to develop the weight tape was made up of 370 Barbados Blackbelly and Blackbelly-type chosen at random from different farms across Barbados. The sample consisted of animals of both sexes at different stages of development. These animals were weighed using a portable scale and at the same time measurements were made viz, (1) length from shoulder to the tail head, (2) the height at shoulder and (3) heart girth, i.e. distance around the animal immediately behind the front legs. (see Figure 1)

It was found that the weight of Blackbelly or Blackbelly-type sheep can be estimated by measuring their heart girth, using a tailor's plastic tape.

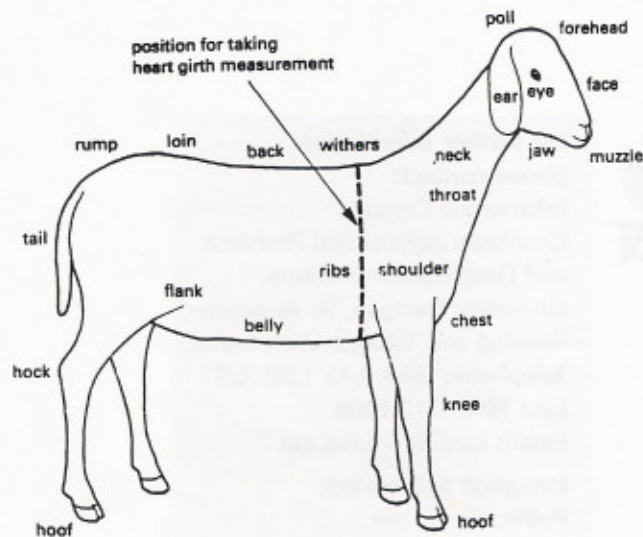


Figure 1 Heart girth measuring site on sheep's body

By using the heart girth and the corresponding body weight and measurements from the 370 sheep, a table was constructed (Table 1) which indicated that there was a very close correlation between heart girth and body weight (live weight). Therefore when a farmer or butcher needs to know the approximate body weight of a particular sheep, he needs only to use a tailor's tape, arrive at a heart girth measurement and then simply read off the corresponding live weight on the table. Three simple examples are given below.

	Heart girth		Weight	
	ins	cm	lbs	kg
a.	25	64	56	25
b.	36	92	132	60
c.	26	66	62	28

As a first impression this seems to be an extremely handy way of measuring body weight in sheep. However, the relationship between heart girth and body weight depends on the shape of the animal. For a given heart girth measurement, a long-legged animal would be heavier than a shorter (squat or dwarf) animal. This, together with the variation of shapes at different ages causes a degree of error in this tape. The statistical analysis revealed the error to be ± 2 to 3 pounds (1 to 1.5 kilograms).

This tape was developed as a quick, readily available and easy-to-use tool; and 100% accuracy using only 370 sheep was not expected with a sample size of only 370 sheep.

Note: The calculated weight is only an estimate of the animal's live weight. In some cases the estimated weight may not appear in the table, but may be within a weight range.

For example: An animal measuring 28 in (71 cm) would be within the 67–77 lb (30–35 kg) weight range, but closer to 67 lb (30 kg) weight.

Heart girth		Weight	
in	cm	lb	kg
16	40	12	5
19	47	22	10
21	53	33	15
23	59	44	20
25	64	56	25
27	69	67	30
29	73	77	35
30	77	87	40
32	81	99	45
33	85	110	50
35	89	122	55
36	92	132	60
37	95	142	64

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