

Weigh Your Cattle with a Tape Measure

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It is often important for persons dealing with cattle to have an indication of the liveweight of the animal or to know whether the animal is losing or gaining weight. The best method of determining liveweight is to weigh the animal on a scale, which should indicate liveweight to within ± 5 lb. However, where a scale is not available or practicable, it has been found that an estimate of liveweight can be obtained by measuring the circumference of an animal immediately behind the shoulder, usually known as the "heart girth".

THERE is available commercially a tape called "Weighband", developed in the United States of America, which is marked off in pounds weight instead of inches, and which enables the weight of an animal to be read directly. This band, however, was designed from measurements made with British breeds

of cattle under improved conditions. Because of price and availability, many farmers in the Territory are unable to make use of them. However, an ordinary tape measure marked off in inches can now be used because of work carried out recently at the New Guinea Lowlands Livestock Station, Erap.



Plate I.—To measure heart girth, the tape is passed around the body and held just tightly enough to flatten the hair

To determine the feasibility and accuracy of this method with cross-breed Brahman and Afrikaner cattle, some 550 cattle were weighed and the heart girth measured in two successive weighings one month apart. It was found that the heart girth increases in proportion to the weight in a curvilinear function. That is, the difference between successive weights for a proportionate increase in heart girth becomes larger as the animal increases in weight.

Estimating the liveweight of an animal by this method, it is not as precise as that obtained by weighing the animal. An animal indicated as weighing 250 lb would be within ± 25 lb, and the range increasing to ± 50 lb at 950 lb liveweight.

Where the object is not to determine the actual weight, but to determine whether the animal is losing or gaining weight, then for a particular animal it is possible to observe rela-

tively small weight changes. Where animals had gained weight, there was a corresponding increase in heart girth. Similarly it would be expected that losses in weight would be indicated by a reduction in heart girth circumference. However, the reduction in heart girth would cease when sub-cutaneous fat and other expendable tissue had been utilized. The animal could then continue to lose weight with no corresponding reduction in heart girth, since the skeleton of the animal would not reduce in size. It is at this point that the farmer will have to rely on his eye rather than the tape.

To obtain consistent readings with the tape measure, certain procedures must be followed. The tape is passed around the animal directly behind the hump on the back. The tape should be held tightly enough to flatten the hair, but not contract the skin.

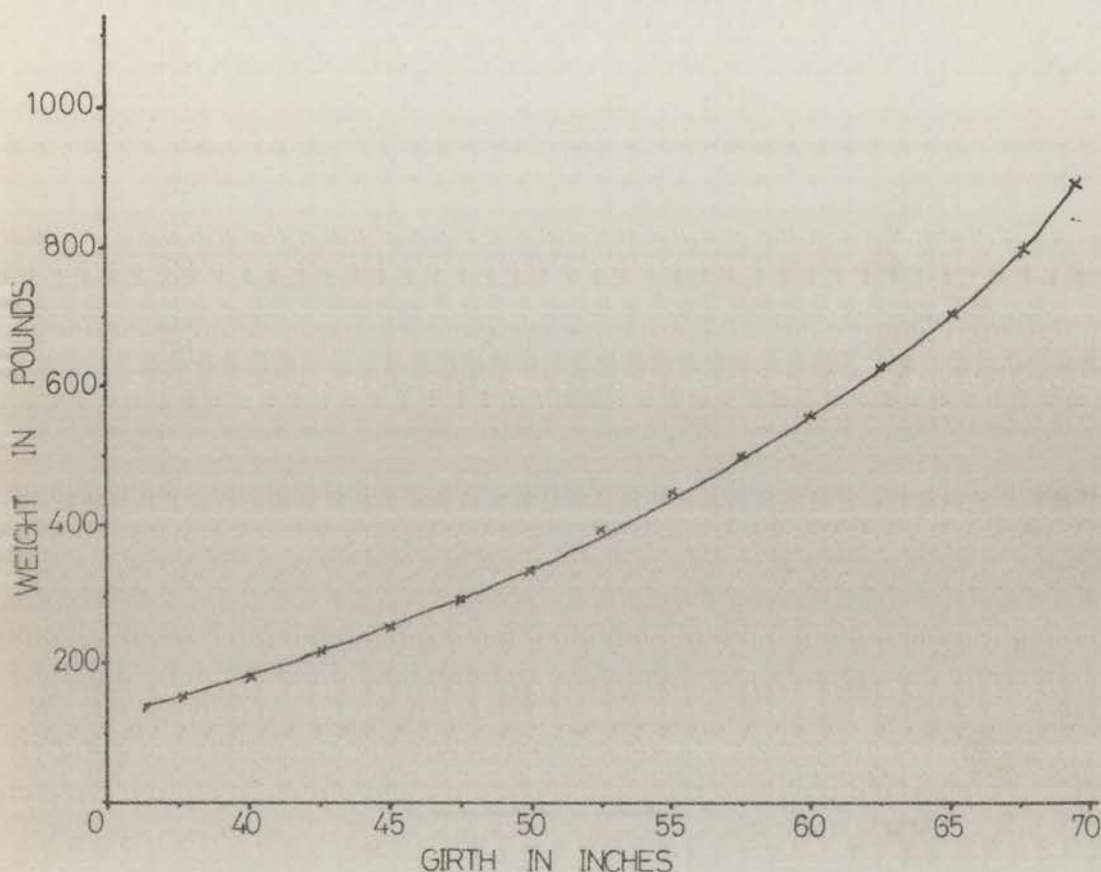


Figure 1.—Showing the relationship between the heart girth and liveweight of Zebu-cross cattle.

The animal being measured should stand with both front legs together, the head slightly elevated and not be twisted or hunched. If the animal lowers its head or is hunched in the crush, the heart girth circumference will be increased. Since very few cattle are likely to assume the ideal stance, the tape measure should be held taut and the minimum reading obtained. Unless the operator observes these procedures, large errors and inconsistencies will result.

This method of estimating liveweight would be useful where cattle are being sold for slaughter, or where the approximate liveweight is required so that the correct amount of drench or drugs can be administered. Where it is the change in weight, rather than the total weight, which is important, this method would be very useful, particularly to give less experienced farmers some indication of the progress of their cattle.

The following girth measurements and weights were obtained:

Heart Girth (in)	Weight (lb)
36½	136
37	141
37½	147
38	152
38½	159
39	166
39½	172
40	177
40½	184
41	192
41½	200
42	207
42½	215
43	222
43½	230
44	237
44½	245
45	252
45½	260
46	268
46½	276
47	283
47½	291
48	300
48½	308
49	317
49½	326
50	336
50½	345
51	355
51½	365
52	375
52½	385
53	395
53½	406
54	417

Heart Girth (in)	Weight (lb)
54½	428
55	438
55½	448
56	458
56½	468
57	479
57½	491
58	503
58½	516
59	528
59½	540
60	553
60½	566
61	579
61½	592
62	606
62½	620
63	636
63½	652
64	668
64½	685
65	702
65½	720
66	738
66½	756
67	775
67½	792
68	810
68½	828
69	847
69½	865
70	884
70½	905
71	927
71½	950