

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 Afrikander 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.

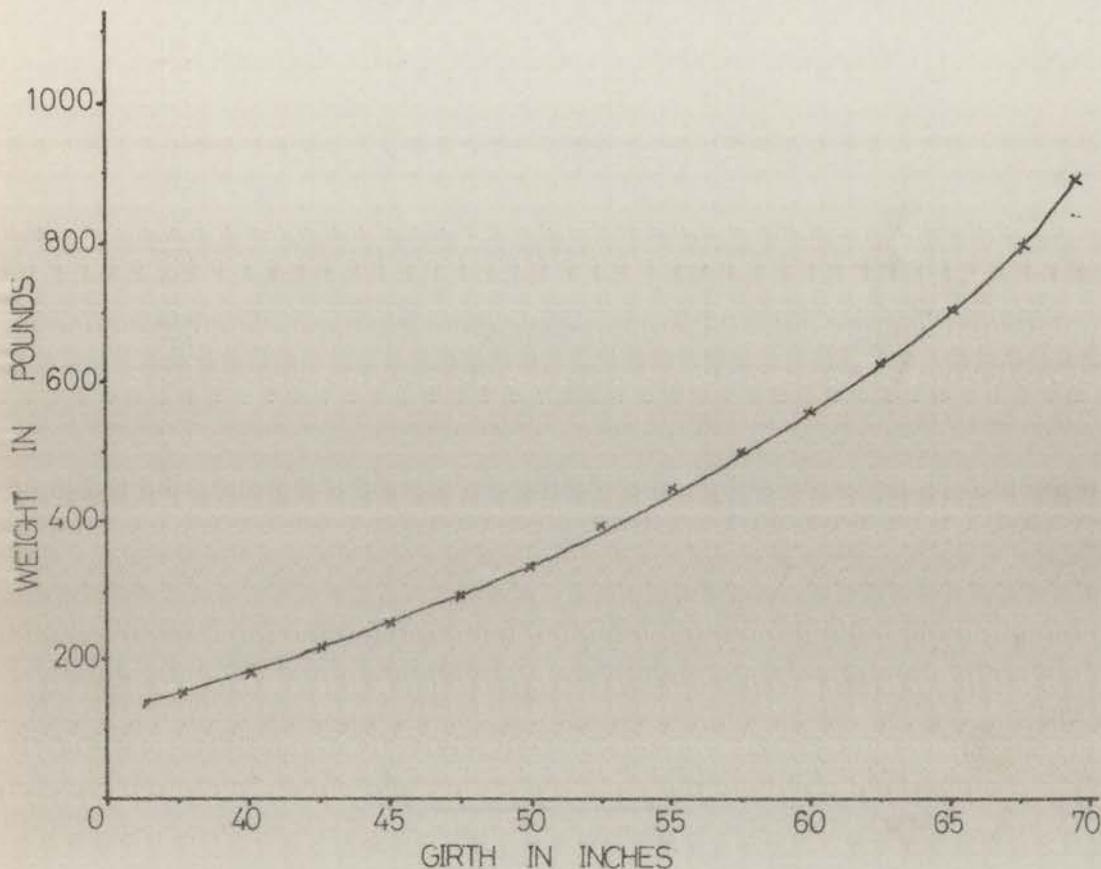


Figure 1.—Showing the relationship between the heart girth and liveweight of Zebu-cross cattle.

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)	Heart Girth (in)	Weight (lb)
36½	136	54½	428
37	141	55	438
37½	147	55½	448
38	152	56	458
38½	159	56½	468
39	166	57	479
39½	172	57½	491
40	177	58	503
40½	184	58½	516
41	192	59	528
41½	200	59½	540
42	207	60	553
42½	215	60½	566
43	222	61	579
43½	230	61½	592
44	237	62	606
44½	245	62½	620
45	252	63	636
45½	260	63½	652
46	268	64	668
46½	276	64½	685
47	283	65	702
47½	291	65½	720
48	300	66	738
48½	308	66½	756
49	317	67	775
49½	326	67½	792
50	336	68	810
50½	345	68½	828
51	355	69	847
51½	365	69½	865
52	375	70	884
52½	385	70½	905
53	395	71	927
53½	406	71½	950
54	417		