

LIVE WEIGHT ESTIMATION (Level 3)

Topic	Training & information Content
3.1	Estimating feeding value of fodder & feed on dairy farms
3.2	Sampling feeds & forages/analysis interpretation
3.3	Estimating Dry Matter intake for various breeds/age categories of dairy cattle in the tropics
3.4	Reviewing feed intake, rumen fill, Body Condition Scoring (BCS)
3.5	Life weight estimation of cows
3.6	Rumen fermentation
3.7	Mineral & vitamin requirement, guidelines
3.8	Manure scoring and evaluation
3.9	Guidelines for ration calculations for various breeds, heifers, lactation stage (Rumen8)
3.10	Use of Rumen8 software for ration calculation
3.11	Optimization of ration with Rumen8
3.12	Feeding management guidelines
3.13	Feeding management of dry cows/close up
3.14	Feeding systems
3.15	Metabolic disorders
3.16	Scoring locomotion and hoof condition
3.17	Mycotoxin in dairy cattle nutrition
3.18	Heat stress in dairy cattle nutrition
3.19	Monitoring feeding management, using KPIs (based on Rumen8)



1. You will learn about (learning objectives):

- Why weigh/estimate the cow's body weight
- How to weigh/estimate to cow's body weight
- The causes of the deviations



2. Background

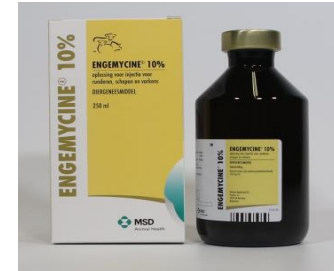
- Bodyweight is an important management tool in case of treatments, selling for slaughtering; and of course feeding issues must be taken in consideration
- Knowing the cow's bodyweight will help the farmer optimize the general management of the farm



3. Importance of Weighing animals

Animal health/treatment

- When your cow is sick, first and foremost, of course, we must determine what exactly is going on, and then apply the correct treatment
- Most treatments are based on cc's/ml's per kg/100kg liveweight. A reliable weight estimation is therefore of vital importance
 - Underdose can/will not give the desired result, cow will remain sick and could even die
 - Overdose can/may lead to concomitant conditions and allergic reactions
- Every treatment must be performed with the correct amount of medication, according to the cow's bodyweight

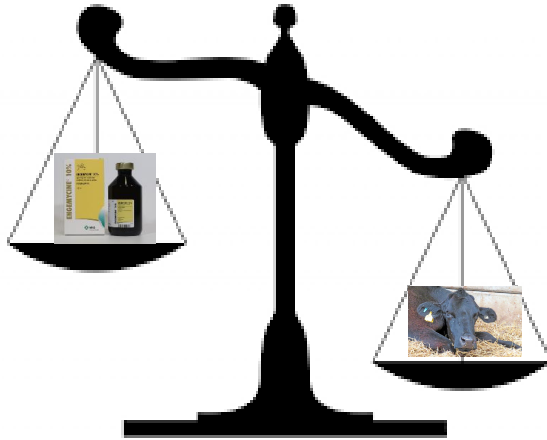


Now what's the correct dosage for her, I think we have to weigh her

3.1 Importance of Weighing animals: **Animal health/treatment Cont'd...**

Underdose

Can/will not give the desired result, cow will remain sick and could even die



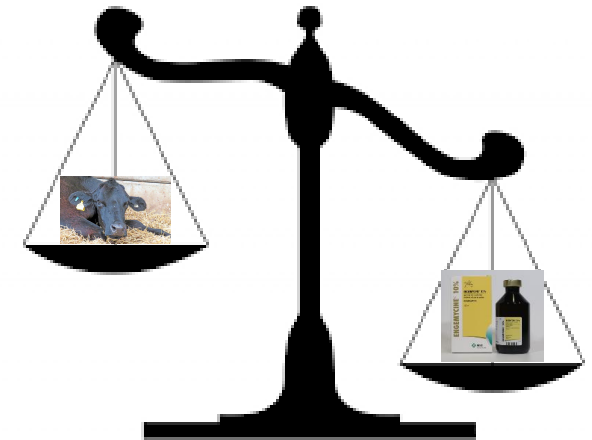
Correct dose

Just right



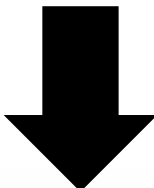
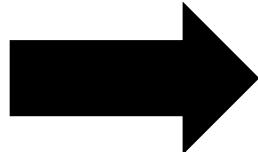
Overdose

Can/may lead to concomitant conditions and allergic reactions



3.2 Importance of Weighing animals Cont'd...

- Regular weighing animals helps monitor animals for weight gain; to be sold live (live weight) or carcass



3.3 Importance of Weighing animals Cont'd...



100 % Live Weight
(Skinny cow)



100 % Live Weight
(Normal cow)



100 % Live Weight
(Muscled cow)

35 % Carcass Weight

50 % Carcass Weight

65 % Carcass Weight



Beware!

Most cows have the same kind of bone structure. Muscles and fat will give the extra weight. Also stomach fill must be extracted from the live weight to come to a reliable carcass weight. In healthy cows a full stomach weighs approximately 125-150 kgs.

4. Regular weighing relates to income

- Regular weighing influences feeding
 - More weight translates to more feed, less weight to less feed
- Without measuring weights, you could be losing/wasting income



4.1 Regular weighing relates to income

- From economical point of view;

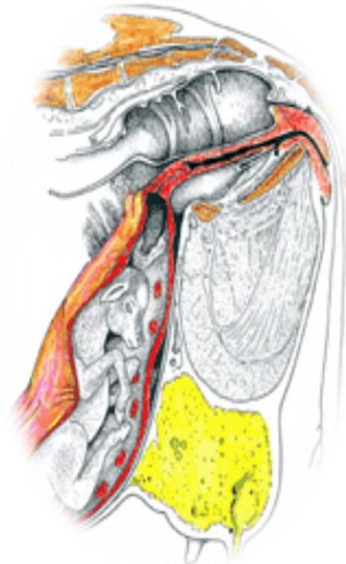
More milk	---->	Losing weight	---->	Poor fertility
More milk.	---->	More concentrate	---->	Maintain health
Skinny cows	---->	Low weight	---->	Decreased resistance
Fat cows	---->	Over weight	---->	Over fed
Pregnant cows	---->	Gain weight	---->	Adjust rations



Regular weighing of cows will help to detect problems in advance

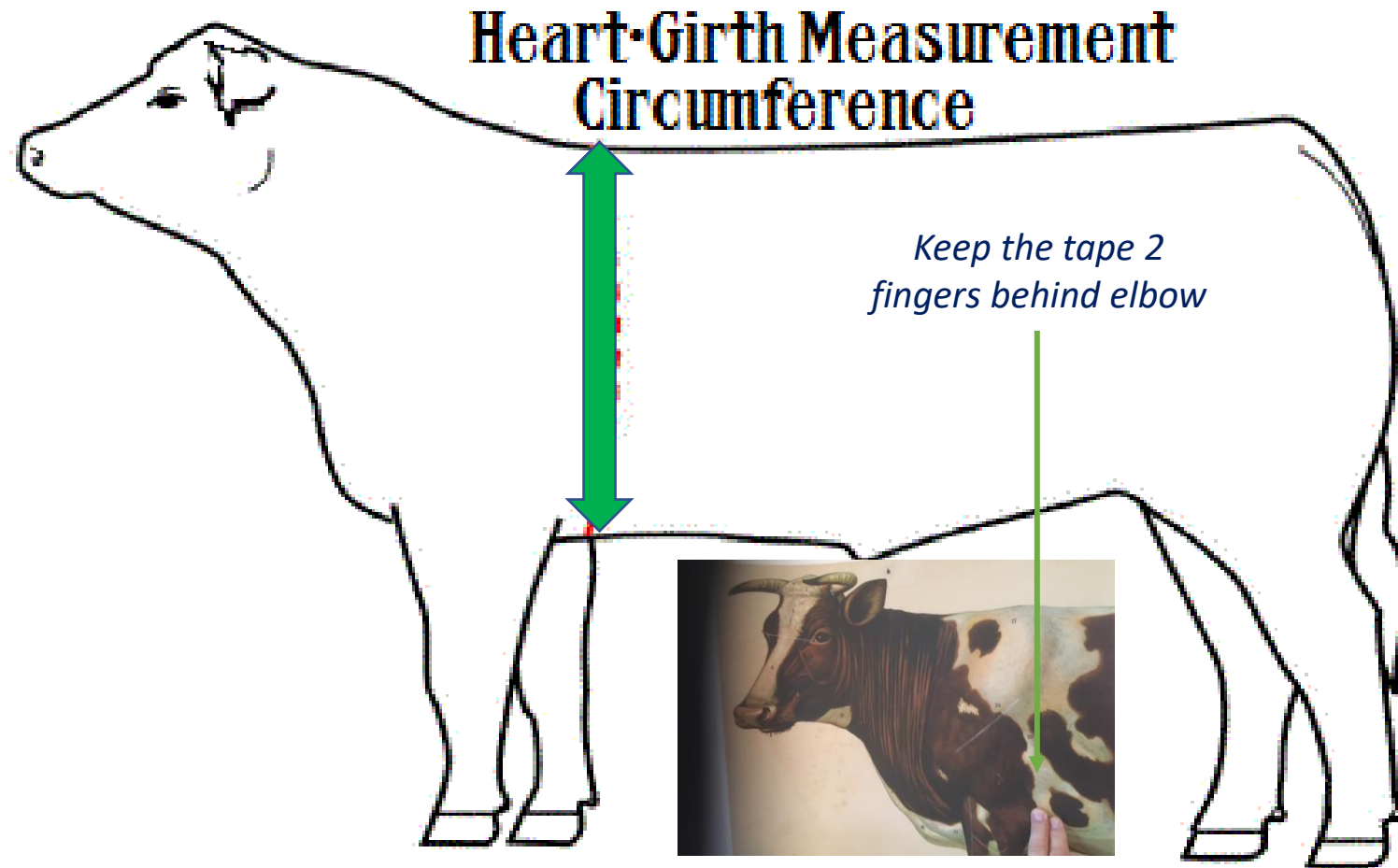


Regular weighing gives more insight how efficient cows produce

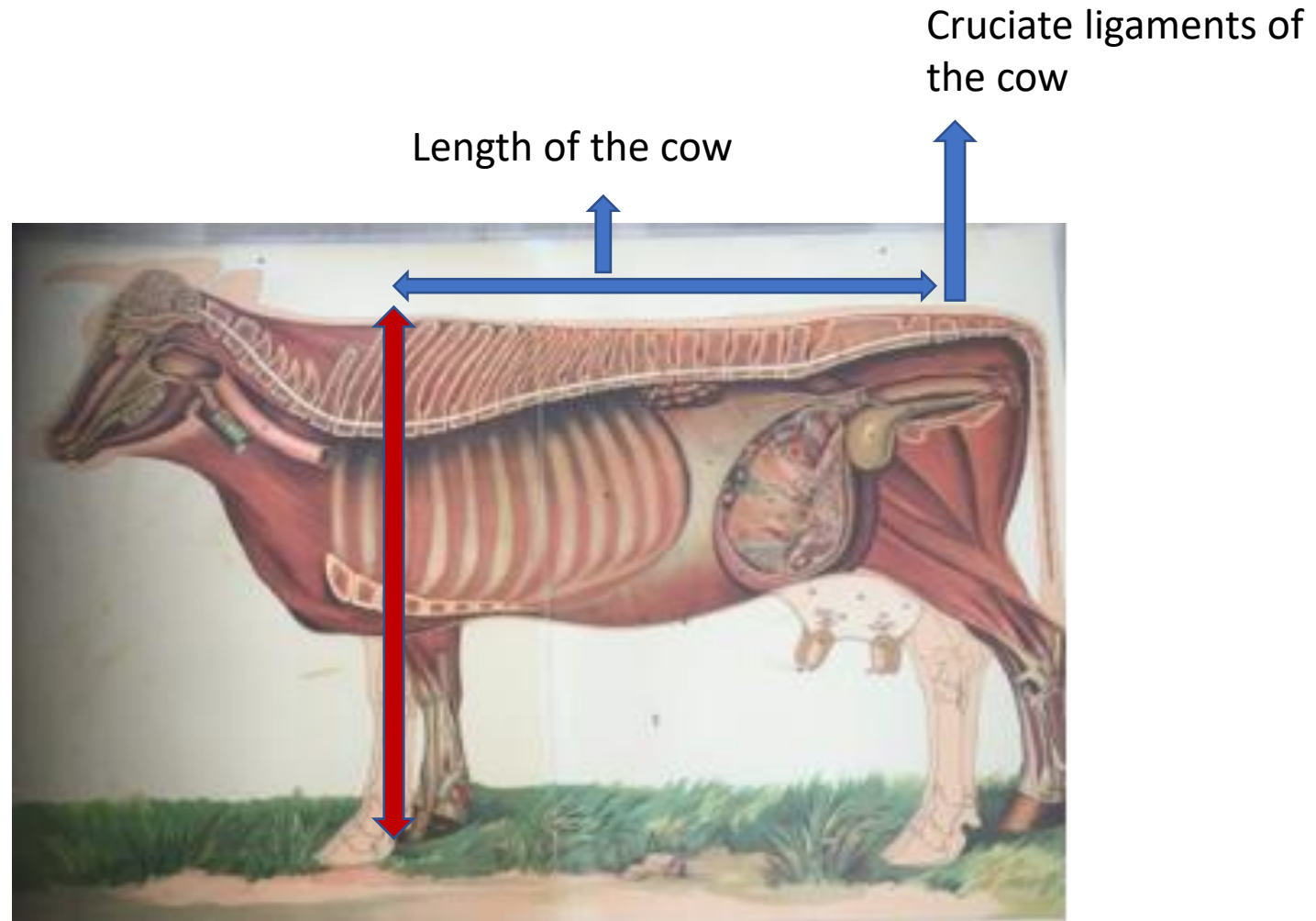


Regular weighing will help to optimize general management i.e., grouping, drying etc.

5. How and where do we measure?



5.1 How and where do we measure?



6. Live weight estimation table

		Lenght in cm's												
		100	105	110	115	120	125	130	135	140	145	150	155	160
Hearth Girth in cm' s	140	236	248	259	271	282	299	310	323	336	348	360	373	385
	145	248	260	275	285	296	311	323	343	352	365	378	390	403
	150	260	274	286	300	317	326	338	352	365	377	389	402	417
	155	278	292	306	319	334	348	362	376	389	404	418	431	445
	160	296	311	326	341	356	371	385	400	415	430	444	459	474
	165	316	331	347	363	379	395	410	426	441	458	473	489	504
	170	335	352	367	384	410	418	435	452	468	485	502	519	535
	175	355	372	390	407	425	443	461	478	497	509	533	551	568
	180	375	394	413	432	450	469	488	507	525	544	563	582	600
	185	396	416	436	456	475	495	515	535	554	574	594	615	634
	190		439	460	481	501	523	543	565	584	606	627	648	668
	195			484	506	529	551	573	594	617	639	661	663	705
	200				532	556	579	602	625	648	671	694	718	741
	205					584	608	632	656	681	706	730	755	779
	210					612	638	663	689	715	741	766	792	817
	215					642	670	701	722	754	777	803	830	851
	220					672	700	728	756	784	813	840	869	896
225					702	733	762	791	821	850	879	908	938	
230					735	766	797	829	852	889	918	949	980	
235					767	798	831	863	895	927	959	991	1023	
240					800	833	867	900	933	966	1000	1034	1067	

Live weight estimation table.

- Live weight estimation table makes use of measurements from tape measure



7. Estimation of body weights: Measuring different cows



Skinny cow

Pull the measuring tape till its really tight.



Normal cow

Measure correctly.



Muscled cow

Loosen the measuring tape, keep your hand between tape and skin.

Keep in mind!

Abnormal cows must be measured correctly to avoid being overweight (for skinny cows) or underestimated (for well muscled cows)

8. Body weight: Measuring vs Weighing



There could be differences between measuring (550 kg) and weighing (595 kg)



Possible causes of variations/deviations:

- > 6 months pregnant
- Full/empty stomach
- Before/after milking
- Bone structure

9. Administration of body weight

- The following form/can can be used:

Cow name/number	Estimated live weight	Heart girth in cm's	Body length in cm's	Table weight	Adjustments	Final estimation
4105	465 Kg's	191 cm's	127 cm's	530	+ 10 (pregnant 6 months)	540 Kg's

10. Summary/Take home messages

1. Body weight is a reliable management tool
2. Body weight will help to optimize other management traits
3. Body weight must be known to treat cows in a efficient way
4. Body weight information is a good selection tool
5. Body weight measurement can be executed during milking
6. Body weight registration should be done regularly



Knowing = Growing!

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