

LINEAR MEASUREMENT GUIDELINES & CORRELATIONS for the Female (Measured in inches)

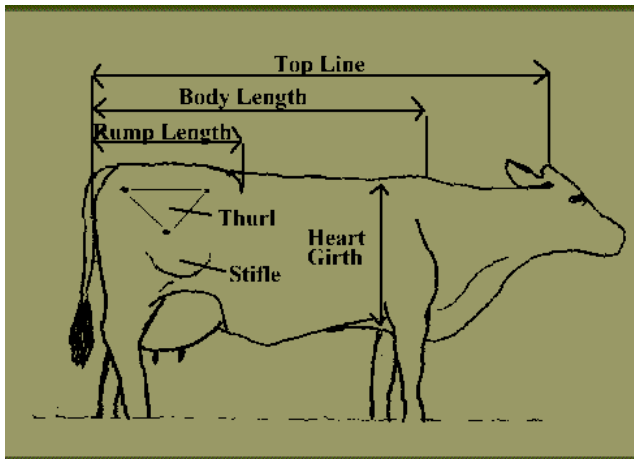
TOP LINE

The top line is the total length of the animal from front of the poll to back of the rump. The top line is derived from three measurements: Neck length, Body length and Rump length. These three measurements added together make up the total top line length.

HEART GIRTH

The total distance around the female's chest behind her shoulders is her heart girth. The heart girth should be equal to the total top line or larger by 12 months of age. The large girth is needed for proper space and development of the vital organs (heart, lungs, glands). The closer the heart girth is to the top line, the

more efficient, adaptable and vigorous the animal will be. Insufficient heart is a structural defect and indicator of other potential defects including splayed out legs & feet and hooked toes. A cow with a small heart girth is more susceptible to stress and is a high maintenance animal. She will not perform well on grass. A small heart girth is a structural defect and should not be tolerated. Reproduction suffers.

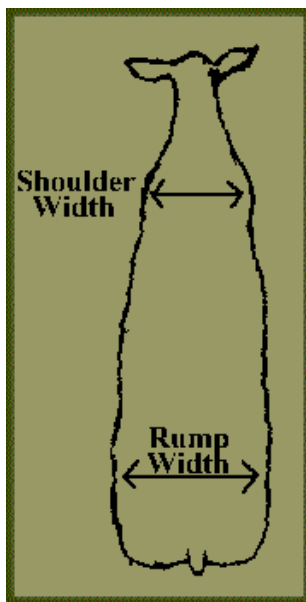


NECK LENGTH

This measurement is from the dip in the vertebrate (takes practice to find the right dip) between the shoulder blades to just in front of poll. A well balanced cow will have neck length that is $\frac{1}{2}$ the body ($\frac{2}{3}$) measurement or $\frac{1}{3}$ of the total. A range ± 0.5 or -0.5 inches is acceptable. If the neck is too long the cow will be very dairy in appearance and high maintenance; easy to stress. Her daughters will have long necks. A female with a long neck tends to produce more milk than her calf can consume which can be considered wasted energy. She is not an efficient feed converter and will be a slower breeder. If the neck is too short the cow will be wider in the shoulders (coarse) and milk production suffers. Wide shoulders are a masculine trait. A long neck does NOT correlate with femininity. The key is balance in all areas.

BODY LENGTH OR 2/3 TOP LINE

The body length, also referred to as the 2/3 top line, is composed of the rump length and back length. The distance from the middle dip in vertebrate between the shoulder blades to the back of the rump is the body length. If the back is too long it affects the neck length and the animal is out of balance. Long backs tend to be weak and will sway as the animal travels. Most long backs have a loin muscle that is smaller than normal and irregular shaped. This animal will show an obvious break or dip behind the top of her shoulders to the loin muscle. There will be a dip or indentation from the rib cage to the shoulder blades. These breaks or dips are a structural defect and should not be tolerated.



SHOULDER WIDTH

Shoulder width should be same as the rump length. Take the shoulder width and subtract the rump length. The resulting # is to be 0 or +.5 or -.5 inches. A female with shoulders that are wider than ideal will tend to have a decrease in milk production. A narrow shouldered female has higher maintenance requirements and will typically have reproduction issues. In the cow, the shoulders should balance the rump length.

RUMP LENGTH %

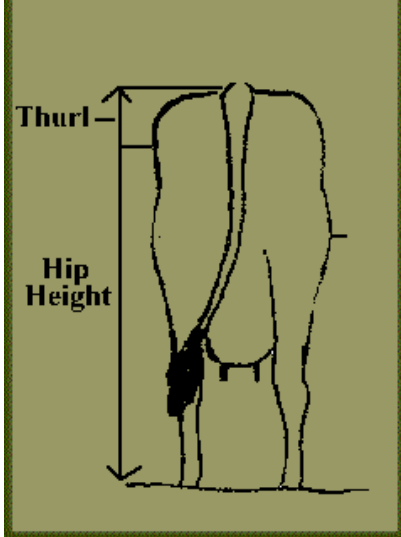
The rump length percent is the percentage the rump makes up of the body length. Divide the (2/3) body length into the rump length to get the rump length percent. In females the rump length should not exceed 40% of the body length. 38% to 40% is the ideal range. Either side of this is in the extreme. The rump length sets the standard for femininity.

FLANK CIRCUMFERENCE

Flank circumference is the fertility and maternal trait indicator.

The greater the flank circumference is than the heart girth the higher the fertility.

- High flanked cows have a tendency to be a little more flighty.
- High flanked cows have less meat on the rump.
- High flanked cows have a tendency to be higher maintenance.
- High flanked animals will take longer to finish on grass.
- The flank area should be 2 to 10 inches larger than girth at 12 months.
- Larger is better.
- A small difference or less suggest that other fertility indicators should be checked.
- Fill can affect as much as 3 inches.



RUMP WIDTH %

The rump width divided by the rump height give the rump width % measurement. Example: If the rw is 21" and the rh is 48", than the rump width % is 43. She is 43% wide as she is tall. The minimum rump width% standard for a female is 40%. The wider and deeper the rump - the larger the flank and higher in maternal characteristics she will be. A wide deep rump represents femininity, reproductive efficiency, easy fleshing and keeping, as well as having a higher volume of meat in the rump area. Wide rumped cows have sons and daughters with wide rumps.

ADJUSTED RUMP WIDTH

This is the rump width minus the rump length. The rump width standard is 2.5 inches wider than its length. The higher this number is the higher level of reproductive performance is expected. The rump measurements correlate with fertility.

- The wide rumped cow has sons with short necks.
- The wide rumped cow has daughters with wide rumps.
- The wide rumped cow has more meat in the rump area and produce sons and daughters with more meat.
- The progeny that meet standards will mature earlier and finish by 16 to 18 months of age on grass.

RUMP HEIGHT

Correlates with high gain-ability.

Tall animals tend to be out of balance, slow to come into puberty, thus lower in fertility and reproductive efficiency. They have a smaller loin muscle. For overall performance and finishing on grass a frame score of 3.5 to 4.5 works best.

THURL

Thurl should be 13% of the rump height or greater. Greater is better if the slope of the rump (hooks to pins) is at the proper angle.

Thurl size and shape makes for ease of calving. It correlates with pelvic depth and structural soundness of the hind legs. If the thurl is properly in place the animal will track (back foot in front track) when it walks.

Measurement is taken from ground to stifle joint to top of back

UDDER

The udder should be small and tucked neatly between the back legs with four equally placed nipples 3-4 inches long. The udder should attach high up behind the back legs for longevity and soundness.

The udder should blend into the lower part of the belly very smoothly.

There should be no inverted V or crevice between the udder and stomach. The udder should not be tilted up in the front. Tilted udders are a structural defect resulting from the sire and his scrotal makeup. Tilted udders have less milk.

The udder has a direct influence on the scrotal make up and navel area of her sons.