

# How Linear Traits Affect Function and Longevity of the Goat

*By Marilyn Grossman*

TRAIT	EFFECT ON FUNCTION
Stature	The size of the goat directly relates to the amount of milk that her body is capable of producing. In the comparison of pounds of feed consumed to pounds of body weight to pounds of milk produced, the first two numbers must be high for the 3 <sup>rd</sup> number to be a large amount.
Strength	Width of the head and muzzle - the width of the head determines the extent of the muscular system that controls the jaw's ability to close and chew; determines the width of the passages that carry oxygen to the lungs. Width & depth of chest - ample chest capacity for a strong heart and large lungs is essential. Approximately 400 pounds of blood must be oxygenated and pumped through the udder to produce 1 pound of milk.
Dairyness	Heavy, round bones have coarse muscles that have greater applied strength, but are awkward and fatigue easily. Flat bones have leaner, smoother muscles that require less applied strength and are quick in response, agility and endurance. Angled ribs are longer and have more bone. As a doe milks, her body pulls calcium from her bones. The more bone she has, the more calcium she can pull from her skeletal system, the more milk she can produce without becoming emaciated. Widely spaced ribs allow for greater contraction and expansion of the chest, to permit more oxygenation of the blood for milk production. A long, lean neck is preferred. A short neck can reduce strength and cause shoulder strain as she eats. Sharp, tight withers provide secure attachment for the ligaments and muscles that control the movement of the shoulder blade and aid in respiration by turning the rib bones forward. Depth and arch of the flank provide room for the udder with clearance by the legs. Loose and pliable skin is indicative of milk producing, rather than flesh producing, animals.
Rump Angle	A slight angle to the rump allows gravity to aid the cleaning process after kidding. A steep rump shortens the length and area available for udder attachment and puts stress on the legs for weight bearing. It also causes a hardship on delivery, pushing the kid up and over the pelvic area, rather than the smooth delivery offered by the slightly angled rump.
Rump Width	The width of the rump is indicative of the general width of the body. The rump width indicates the amount of room for internal organs, the kidding passage, and the udder attachment.
Rear Legs	The angle of the rear leg affects the distribution of body weight, which affects the wear and tear on the goat over the years. The strength in the legs affects a goat's ability to get to the feed trough, and hold her position in the social hierarchy once there. A poorly shaped leg causes added burden on the foot, and can cause the pastern to break and the toes to spread. A goat that cannot walk easily to her feed with agility will have a shorter productive life.

# How Linear Traits Affect Function and Longevity of the Goat

*By Marilyn Grossman*

<b>TRAIT</b>	<b>EFFECT ON FUNCTION</b>
Fore Udder Attachment	There is cord-like tissue that joins and forms a bond between the fore udder and the body wall. The fore udder helps to support the weight of the udder. A poor fore udder means the connective tissue of the udder will break down. The udder may shift its position on the body causing added strain on the feet and legs. The udder may actually drop lower when the fore udder is inadequate.
Rear Udder Height	The height of the rear udder indicates the snugness of the rear udder to the body wall, and affects the durability of the udder to keep its position on the body throughout years of many lactations.
Rear Udder Arch	The arch of the rear udder affects the amount of muscle and ligaments connecting the udder to the body wall. This determines the udder's ability to retain its shape and keep its position on the body.
Medial Suspensory Ligament	The medial suspensory ligament is made of two strong sheets of elastic tissue. It attaches to the pelvic arch and is connected to the body wall just above the udder's center. It extends down between the two udder halves to form the major support of the udder. A strong medial holds the udder up and out of harm's way. As other areas of attachment weaken over years of many lactations, the medial plays a major role in keeping the udder in the correct position on the body. Teats that point to the side and/or a flat udder floor are indicative of a weak medial.
Udder Depth	The depth of the udder has a large impact on udder health. The udder that reaches the hocks is more susceptible to injury than the udder that is carried higher. Although udder depth relates to capacity, a low hanging udder is not always a productive one. An udder that is carried high with a strong medial and a large area of attachment often produces more milk than one may suspect at first glance. Consider cubic inches of udder when thinking of milk production.
Teat Placement	Teat placement affects milking ease, cleanliness of the teat orifice (a teat that rubs on the leg as she walks cannot stay clean), and susceptibility to injury.
Teat Diameter	Teat diameter affects milking ease. The delineation of the teat affects the proper placement of hands or machine for milking. When it is questionable where the teat ends and the udder begins, damage can be done to the udder by poor placement of the hand or machine cup.
Rear Udder, Side View	1/3 of the udder should be visible in front of the leg and 1/3 behind the leg. A protruding rear udder is susceptible to urine scald. This side view shows udder balance, which affects the weight distribution of the udder on the body. Weight distribution of the udder affects the goat as a whole. Uneven distribution causes strain to the legs, which causes strain to the spine and to the feet. These strains shorten a goat's productive life.