Milk Production

Milking ability is related to mature size that larger animals have the inherent ability to consume more feedstuffs that may be used for milk production. This does not mean that all large breeds are heavy milkers or that all small breeds are light milkers. Selection for or against milk production within a certain mature size is an effective tool. Cattle selected only for increased milking ability, without consideration for other factors, tend to increase in body size with some reduction in muscle expression.

The main reason for increasing milk production in a beef cattle operation is to increase the weaning weights of calves. However, there are several reasons why very high milking ability could be undesirable. Heavy milking cows often produce milk at the expense of other body functions. If nutrition is insufficient, heavy milkers may become thin. Research has shown that thin females are less likely to come into heat and are harder to settle than those in good flesh. There is also evidence that heavy milkers may be slow to cycle even when heavily fed. This lengthens the breeding interval and reduces general reproductive efficiency.

泌乳量

泌乳能力與成熟體型有絕對的關係，因為體型較大的動物有能力進食較多專門刺激泌乳量的飼料。但這並不意味著所有大體型品種必定擁有高泌乳量或所有小體型品種必定是低泌乳量。相同性成熟體型動物的泌乳量多寡是選擇牛隻品種的一種有效方式。但一般來說，如果只考量要高泌乳量的牛，則業者往往會增胖牛隻但產精肉量相對就不理想。

在肉牛產業中，提高泌乳量主要的原因是去增加犢牛斷奶時的體重。然而，高泌乳量也有其缺點。因為高泌乳量代表動物其它身體機能會衰退。若營養不足，高泌乳量的牛可能會變得相當瘦。研究顯示，瘦母牛比體型正常的母牛更難發情和懷孕。還有證據顯示，即使大量餵食，高泌乳量的牛種生產週期還是會比一般牛種慢。這會造成繁殖期的間隔延長，降低繁殖效率。

Muscle Expression

As the emphasis on the percentage of lean in slaughter cattle continues to increase, the importance of a breed's muscularity also increases. Most breeds that are ranked above average in muscle expression are also above average in size. This indicates that there is less of a difference between breeds in muscle-to-bone ratio than in body size. There is also little difference between types of cattle in the distribution of muscle (relative percentage of desirable versus undesirable carcass parts).

One concern of beef producers is that muscularity appears to affect reproductive efficiency. Very heavily muscled cattle are associated with calving difficulties, but producers can combat calving problems through selection at breeding. A bull that is large and muscular should be used with caution as a sire, particularly on small to medium size cows.

精肉的產量

由於現在業者愈偏好精肉率高的屠體，所以品種的肌肉發達指數也相對重要。多數產精肉量較高的品種體型大於一般。這代表著各品種肌肉相對骨頭的比率差異不似體型差異來得大。至於肌肉的分佈與牛種之間的關聯也不大（就屠體產精肉率多寡而言）。

牛肉生產商關切的問題是肌肉發達度會影響動物的繁殖能力。肌肉愈發達的牛隻可能會有難產的問題，但生產商可以透過育種篩選來解決難產的問題。利用大體型的公牛當做種牛時應相當謹慎，尤其選擇其與中小型母牛交配時。

Age at Puberty

In cattle, age at puberty is related to body size, milking potential, genetic classification, and environment factors. Smaller cattle and cattle with higher milk yield have been known to mature earlier. Cattle exposed to harsh environmental conditions, whose nutritional requirements are not being met, reach puberty later. Age at puberty is important because cattle that reach puberty at an earlier age conceive at an earlier age. These cattle have the potential to have a longer productive life, which is economically important to cattle producers.

性成熟月齡

在各個牛種中，性成熟期與體型大小、泌乳量、基因遺傳和環境因素有關。體型較小和泌乳量較高的牛種一般較早熟。而暴露在惡劣環境中的牛隻若營養攝取不足，則會較晚發育。牛隻性成熟時間點在牛種選擇中相當重要，因為越早熟就可即早懷孕，可繁殖小牛的期間亦愈長，這對牛隻生產者來說很重要，因為如此才愈具繁殖效率和經濟價值。

Cutability and Marbling

Cutability is the percentage of lean in a slaughter animal and is directly affected by an animal's muscle expression. Cutability is evaluated in slaughter cattle as an USDA Yield Grade and is dependent upon the amount of fat, muscle, and bone. The relative amount of fat varies greatly in cattle, while the amount of bone is least variable. When comparing slaughter animals, it is assumed that similar breeds and genetic types have similar nutrition levels, but in all probability they do not. A producer can directly affect or alter cutability through nutrition.

Marbling, or intramuscular fat, is often referred to as "taste fat." Marbling is used to determine USDA Quality Grades, which are indicators of palatability. Marbling increases with age until cattle reach physiological maturity, which normally occurs prior to thirty months of age. Cattle that are early maturing and have high milk yields are usually high in marbling. Bos indicus and heavily muscled, low milking types are normally low in marbling.

屠體產精肉率和大理石花紋

屠體產精肉率是屠體裡瘦肉的百分比，動物的肌肉量會直接影響其值。牛隻的產精肉率就是美國農業部所制定的產精肉率評級，其取決於屠體的脂肪、肌肉和骨頭的比例。每隻牛相對脂肪量大不相同，而相對骨頭量則是最接近。在進行屠體比較時，一般會假定類似的品種和基因類型會有相似的營養需求，但事實並非如此。一個生產者能藉營養分配直接影響或改變屠體的產精肉率。

大理石花紋，或肌內脂肪，通常被稱為“口味脂肪”。大理石花紋是用來鑑定美國農業部所制訂的質量等級標準，也是可口性的指標。隨著牛齡增長，大理石紋脂肪含量會隨著增加，直至完全性成熟為止，這個時間點通常是在牛隻30個月月齡。早熟並具有較高泌乳量的牛種通常大理石紋脂肪含量較多。印地卡斯牛系和肌肉發達、低泌乳量類型的牛種通常大理石花紋量較少。