technical brief

"The effect of Maturity Type on the growth and fattening pattern of feeder steers"

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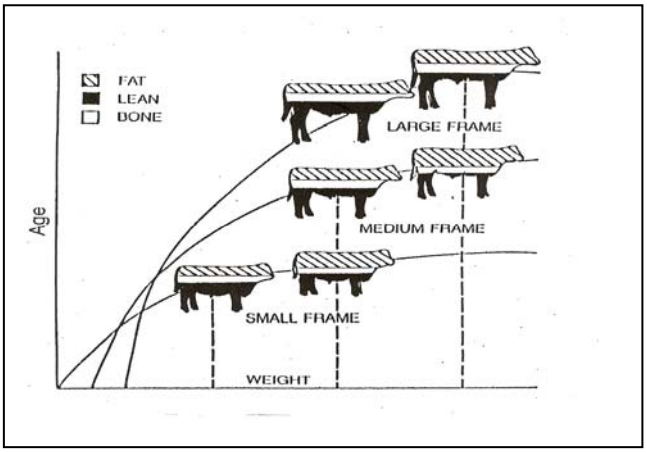
Cattle follow a pre-determined growth and fattening pattern – a genetic blueprint that whilst able to be modified by environmental factors such as nutrition, sets the boundaries of weight and fatness that the animal will conform to as it matures.

The growth pattern in cattle is characterised by fast lean growth during the juvenile stage, a slowing down of growth and the onset of fat deposition as it reaches physiological maturity (at around 60% of its ultimate mature weight) and the cessation of lean tissue growth and the rapid deposition of fat as it progresses towards it mature weight.

Optimum efficiency of growth, feed conversion and carcase yield is realised if the animal is slaughtered at around its point of physiological maturity.

Slaughter beyond this point Leads to declining efficiency and increased fatness.



Objective measurement of maturity type is based on the system of Frame Score measurement developed by US universities in the early 1960's – an index based on the animal's hip height relative to its age.

The resultant frame score predicts the ultimate mature weight or size of the animal.

Experienced stock persons have learned to relate frame score to a visual maturity type that reflects the weight at which an animal will reach physiological maturity , with animals of small frame being early maturing, larger framed animals being later maturing and, those of medium frame type being intermediate.

The effectiveness of using frame/maturity type reflecting feedlot performance was clearly demonstrated in a feedlot trial where a line of 120 Hereford feeder steers were drafted into early, mid and late maturing types by visual appraisal.

The resultant performance of these steers over a 150 day feeding period is shown in below. The early maturing steers gained less weight than the later maturity type contemporaries but deposited considerably more subcutaneous fat.

Maturity type	**Fat deposition** mm/day	**daily gain** kg/day	**Fat deposition** mm – 150 days	**Total gain** Kg -150 days
Early	0.08	1.03	12.6	150
Medium	0.06	1.07	9.8	160
Late	0.03	1.10	5.6	165

Such differences are more pronounced if steers are fed out to export weights where it becomes critical to select later maturing type of steers if over-fatness is to be avoided.