



## **How the Optimal Sheep will Save the Industry**

**(Defining the Optimal Animal is the Key to Success) 10 02 2009**

By implication, the above title implies that the New Zealand sheep industry is under threat both economically and genetically. If this is so, then prior to discussing a solution, we must establish if this assertion is correct and clarify the cause and effect scenarios' that may have influenced this situation.

The following thumb nail history sketch will highlight a time line of animal selection techniques that have dictated sheep genetics as we find them today.

For many decades, man, without modern aids, observed animals and their behaviour as influenced by the environment, topography, climate, functionality and abilities concerning reproduction and maternal traits. Stock judgment was a learned skill acquired from tending animals in a practical and natural manner. Scientists with real time interest refined farmer observations and gut intuition to a reliable form that attained creditability so that farmers could use these findings with confidence.

In recent times emulating a trend created in America and Australia geneticists in New Zealand developed a best unbiased linear prediction (BULP) model to monitor and direct genetic gain in sheep and beef animals. Based on single trait advocacy in a theoretical time line of genetic analysis, this system has dictated to breeders and breed societies and by default to all farmers in New Zealand. No consideration is given to longevity, structural correctness or functionality of an animal.

Following a lifetime of practical farming and 25 years of intense focus on a reliable solution for the sheep and beef industry, the author has practiced with and studied numerous breeder and commercial flocks throughout the country. The methodology of assessment of the Falkirk Index System of livestock appraisal was developed in the King Country to merge the important aspects of livestock measured traits and main trait heritability's. The prudent use of Ultrasound technology was implemented to accurately measure the physiology of an animal to provide a system with robust genetic and financial outcomes.

The logic of the Falkirk methodology to assess the genetic progress of a flock is to create within flock mobs A, B and C. The A mob is defined as being more optimal from which replacements are retained. The B mob has all progeny terminated to sale inclusive of gender due to structural, composition and fleece deficiencies. The C mob is sold to cash flow, due to high cost input requirements and low productivity. This criterion is constant across flocks and provides an astute measure of productivity and subsequent financial return.

The benefits of focusing on the more optimal animal are many fold inclusive of a high tolerance to internal parasites, birthing ease, mothering abilities, higher survival and heavier weights of progeny at weaning, longevity which enhances lifetime productivity in climatic adverse prone regions with greater sale value at auction and slaughter to retail marketing.

With the wide acceptance of the Falkirk System of animal selection in New Zealand and the ability to trace breeder genetics through to recipient farmer clients a library of knowledge has been established to judge the level of genetic ability of flocks that have been influenced by former systems. The escalation of genetic wastage is evident, posing serious implications for those farmers without a corrective solution.

Many commercial flocks have had from only 40% to 60% of females retained as breeders, with Stud breeder flocks constantly experiencing 20% to 30% of breed inspected females being rejected as considered unsuitable for supplying seed stock to producers. This assessment is based on the ability of animals to function and produce on natural pasture and to efficiently produce progeny that are suitable to match retail specification and consumer satisfaction.

The Falkirk client base data highlights that in many cases the evidence is clear that the unbundling of genetics in New Zealand is escalating and posing a financial threat to producers through the declining value of capital livestock and the inability to produce to expectation to maintain a viable farming business. The estimation that 50% of meat and wool products are not effectively marketable is the core problem to establishing a sustainable pricing regime at the farm gate. This imposition holds significant business and social impacts on the well being of rural New Zealand. This phenomena is not unique to New Zealand, it is also being experienced within Australia and South Africa.

**An ethical conflict between the commercialization of science and science that is accurate is being reported. This debate is required to be concluded to assist the entrance of a new era of agricultural sensibility.**

The pedantics of creating a monolithic marketing entity was never the answer to the industries woes. Quality product to client market specification interfaces with true commerce and genders long term relationships that is required to sustain agriculture. This will maintain viable farming businesses with producers alone managing the inherent risks that agricultural production poses.

The Falkirk system of livestock assessment as practiced in New Zealand, Australia and South Africa has been configured over a 25 year period. The central driver of this system is to isolate the optimal productive animal. To then logically follow through to a value based payment system (yield grading) that credits a quality audit of livestock and resulting product.

The system is the only one of type that can successfully assess live animals for genetic merit and market use and worth in commercial terms. The ability to reach across specie and breed and to be able to service every producer in the Tri-Nations, who holds aptitude to recognize optimal systems, is unique and “bankable”. Clients enjoy a more profitable farming regime.

This system is supported by a data base / recording system, “Global Animal Link”, which is currently being loaded with back data and preparation for commercial usage is being finalized. The Falkirk System has been developed, privately, with the support of a “brains trust”, Falkirk Scientific Foundation, which comprises twelve personnel representing Science, Technology, Agricultural Systems, and Legal and Administrative expertise. These people were invited to participate because of their leadership and decision making capabilities and people skills, inclusive of lifetime vocations with science and commerce.

**The Falkirk Index System is a proven holistic method of animal selection that determines the genetic value and commercial worth of an animal. The Falkirk Index is based on accurate measurement of the physiology of an animal to establish the actual bone-fat-meat ratio (carcass composition) relative to mass (weight). This data is interfaced with main trait heritability to produce an individual Index to rank stock from superior ratings to those of least genetic ability. This system is predicated to preparing farmers flocks and herds for value based payment (yield grading) and direct retail marketing to the consumer.**

**Additionally wise stock judgment is applied to rate skeletal configuration of an animal to consider implications that influence secondary traits, animal health and the functional well being of livestock. These factors influence productivity by significant differentials. Commercial data validates this time proven system which negates the outcomes of synthetic farming practices. Commercial reality is a discipline that drives the Falkirk business plan.**

**Falkirk team members are coached as livestock assessors, inclusive of the fundamental of extracting reliable measured data. The methodology has a proven reach into commercial breeder production operations which is highly beneficial to seed stock breeders through progeny test analysis. The System is administered in New Zealand by Falkirk Index New Zealand Ltd.**

The lifetime agricultural and specifically the genetic experience of the founder and Principal Director, Mr. Ian Walsh, Piopio, New Zealand is fundamental to the required technology use and standard setting for function of operations. A dedicated career producer and breeder of 49 years he was greatly influenced at an early age by his paternal Grandmother who was a profound judge of livestock and reliable genetic material. Ian, a self taught innovator holds a reasoned understanding of all aspects of agriculture that has cleared the vision for defining optimal genetics and systems that provide serious financial outcomes.