

## **CENTRE PLUS, BREEDING FOR THE CUSTOMER OF THE 21ST CENTURY**

**R. Mortimer**

“Devondale” Tullamore, NSW 2874

### **SUMMARY**

Centre Plus is a group of farmers who joined together to increase profits from their commercial sheep flocks. This involves a process of assessing potential customer requirements and setting breeding objectives to produce them. Monitor and benchmark the success of the breeding program. Re-examine the various customer requirements and adjust breeding program to target areas that have the most potential to increase profit.

**Keywords:** Centre Plus, customers, objectives, profit

### **INTRODUCTION**

The Centre Plus breeding program began as a simple Open Nucleus in 1981 joining the Australia wide AMS three tiered Group Breeding Scheme. The Centre Plus Flocks genetic base is founded on the sheep which evolved in this very large breeding group.

### **THE BREEDING PROGRAM**

**Table 1. Traits that are Selected for or Monitored**

---

Greasy Fleece Weight, Ewes are selected on GFW. (Selected)
Clean Fleece Weight, Rams are selected on CFW. (Selected)
Fibre Diameter, Ewes two tests. Rams every year. (Selected)
Standard Deviation of Fibre Diameter, (Selected)
Coefficient of Variation of Fibre Diameter, (Selected)
Body Weight, All animals every year, (Selected)
Wool Colour, (Selected)
Wool Style, (Selected)
Fibre Alignment, (Selected)
Staple Length, (Monitored)
Fertility, Cull non-rearing and dry sheep. (Selected)
Ease of lambing, (Selected)
Body Length, Measured shoulders to pin bone. (Monitored)
Faecal worm egg count, (Selected)
Scrotal Circumference, (Monitored)
Body Conformation, (Selected)
Growth Rate, (Selected Lamb Plus)
Milking Ability, (Selected)
Eye Muscle Area, (Selected Lamb Plus)
Fat Depth, (Selected Lamb Plus)
Teat Number, (Monitored – Selected)

---

At its peak it involved over 1,200 farmers and 3,000,000 breeding ewes. All sheep being selected on measured performance under paddock conditions. In 1989 Centre Plus moved to a more advanced breeding program, where with the use of pedigree recording we are able to produce BLUP EBV's on all the traits we measure and score. The most accurate measure of a traits genetic merit. By 1999 we have moved to using the LAMBPLAN Total Genetic Resources Management (TGRM) program, to assist in achieving the maximum mating potential.

### THE CENTRE PLUS BREEDING OBJECTIVE

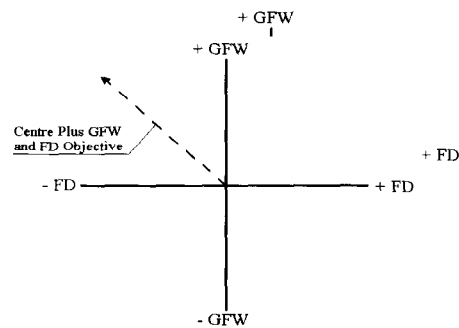
The Advanced Breeding Services have taken information on how many sheep are culled and what they are culled for. This visual culling is then combined with the measurement culling. From this they are able to work out what culling emphasis we are putting on each trait in a percentage term, which is shown in Table 2.

**Table 2. Selection pressure for each trait expressed as a percentage**

Traits in the Objective	Relative Emphasis %
Fleece Weight	25
Micron	17
Wool Style, Fibre Alignment	12
FI/Rot Resistance, Low CV fd	10
Reproductive Performance	12
Body Size	16
Conformation and Body Type	8

**The relationship between GFW & FD.** In the Centre Plus Index the selection pressures for Micron and fleece weight are the same (Figure 1) even though micron has less emphasis placed on it. This is possible because of the fact that micron has a higher heritability rate and can therefore achieve the same results as fleece weight with less selection pressure.

The Projected Response From This Objective Over Ten Years. Clean Fleece Weight up 0.34 Kg, Fibre Diameter down 0.8 microns, Body Weight up 3.3 Kg and Fibre Diameter C of V down 0.1 CV%.



**Figure 1. Relationship between GFW & FD.**

### BREEDING & MARKETING

Breeding and Marketing are combined in benchmarking your product against your competitors in the industry. The same information can be used to make decisions about, assessing outside genetics and adjusting selection weighting on traits, marketing your products and giving production expectations compared with your competitors.

**Benchmarking your Product.** As CENTRE PLUS sheep are dual purpose our products are wool, terminal dams, and wether lambs. We are linked to both National Databases for wool and body traits.

In Merino LAMBPLAN using a Dual Purpose Index CENTRE PLUS has 9 sires in the top 30 out of 800 sires with over 100,000 animals and 12 Studs in the data base. In Merino Benchmark using a 12%MP+BW index CENTRE PLUS has 8 sires in the top 30 out of over 1,000 sires also with over 100,000 animals and 15 Studs in the database.

For our terminal dam product we formed an alliance with the PLG White Suffolk group to organise a PIRD Funded Industry Trial to compare our product against our main competitor. This trial ran over two years at two different sites. The objective of the trial was to compare CENTRE PLUS ewes against Border Leicester, Merino 1<sup>st</sup> Cross ewes. It was anticipated this trial would show whether the Wool value of the merino ewes would more than cover for the slower growth rates and poorer carcass of the 1<sup>st</sup> Cross lamb when compared with 2<sup>nd</sup> Cross lambs. The results of the trial came as a surprise to us (Table 3) showing that the milking and growth rates of lambs from our ewes was comparable with 1<sup>st</sup> Cross ewes. This result being valuable breeding information for us and at the same time assures our terminal dam customers of the value of our product.

**Table 3. Gross margin of prime lamb enterprises at Wellington & Condobolin, with averaged ewe & lamb data over both years**

Data	Wellington Site		Condobolin Site	
	Centre Plus	First Cross	Centre Plus	First Cross
Joining weight (kg)	61.8	58.1	44.95	46.55
Marking % to ewes joined	146.5	134.0	97.5	134.5
Weaning % to ewes joined	144.5	133.0	96.0	130.5
Greasy Fleece weight (kg)	5.4	4.6	6.5	5.3
Fibre diameter (um)	21.5	29.1	20.5	28.9
Fleece value (\$/hd)	28.08	18.94	18.80	12.10
Lamb last live/wt (kg)	49.66	48.44	41.6	40.9
Lamb growth rate (g/day)	104.85	100.95	98.00	87.00
Lamb value (\$/hd)	53.98	53.99	45.88	45.43
Gross Margin/DSE	29.96	26.45	23.73	20.81

**Market Signals from our Customers.** There are strong signals from our potential customers that they have identified the performance of terminal dams as the major component in determining their profit level. They are looking towards a contracted supply of animals with known performance. Having a breeding program aimed at producing a product to meet their requirements we are in an excellent position to form vertical alliances.

#### **CUSTOMER, PROFIT POTENTIAL**

Research carried out by Neal Fogarty (Fogarty May 1997) shows that Prime Lamb Producers, have the potential to dramatically increase the profits of their enterprise. Purchasing terminal dams of much higher fertility can do this. To look at overall efficiency of production the yearly feed intake to produce lean lamb meat can be partitioned into that required for growing ewe replacements, ewe maintenance, gestation/lactation and that for lamb maintenance and growth. The major portion of the feed is consumed in maintaining the breeding flock (typically >70%) and this feed cost is fixed regardless of lamb turn off rate. Profitability per unit feed increases by 50% as lamb turn off

increases from 90% to 120% and doubles going from 90% to 150% even after accounting for the reduced number of ewes that can be run.

**Using Market Signals.** The response in our breeding program to these market signals, has been to set up another trial to see if we can speed up the genetic improvement of our product by evaluating outside dual purpose sires. Our Lamb Plus Trial is again being run in an alliance with the PLG group using an MLA PIRD grant to evaluate the results. The Sire-breeds being evaluated are; 1. Australian Finnsheep (200% Lambing), 2. Waridale (150% lambing), 3. South African Meat Merino (150%+ lambing), 4. Rambouillet Merino (150% lambing), 5. Leahcim Merino, 6. Merinotech Mid-North, 7. Pastora Merino. These sires are large framed with potential to improve fertility, milking, and growth rate. We have a hope that genetics from this trial may help our breeding goal, explained in Table 4.

**Table 4. Centre Plus's current phenotypic position & future goals.**

Traits/Products	Current Position	Future Goals
Fleece Weight	6.5 Kg	6.0 Kg
Fibre Diameter	19.5 mic	19.5 mic
Body Weight	55 Kg	55 Kg
Lambing	120 %	150 %
Milking	equal to 1 <sup>st</sup> cross ewes	equal to best 1 <sup>st</sup> X ewes
Ewe Sale Price	Between merino & 1 <sup>st</sup> cross ewes	equal to best 1 <sup>st</sup> X ewes
Wether Weaner Price	Good merino price	Prime Lamb type price

#### **PROFIT PROGRESS**

		<b>GM Ewe</b>	<b>GM Hec</b>
The original Gross Margin for CENTRE PLUS	was	\$27.59	\$82.78
The existing Gross Margin for CENTRE PLUS	is	\$52.62	\$152.60
The projected target Gross Margin for CENTRE PLUS	could be	\$69.89	\$190.44

#### **REFERENCES**

Fogarty, N. (May 1997) – Dynamic Dams Newsletter