



# final report

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Prepared by: Sally Martin  
Sally Martin Consulting  
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## **RAMPOWER review**

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## Executive summary

Sheep Genetics is a key mechanism for delivery of outcomes from genetics and genomics R&D and genetic improvement for both Australian Wool Innovation (AWI) and Meat & Livestock Australia (MLA). Sheep Genetics is one of the elements that drive genetic change within the sheep industry.

RAMPOWER is currently a free service provided by Sheep Genetics and is used to generate selection indexes for a single group of animals (within mob).

With the momentum of the Sheep CRC's "Ram Select Workshops" and MLA and AWI's Making More from Sheep "Bred Well Fed Well" workshops there is renewed interest for ram and commercial breeders to use a selection indexes to improve genetic gain and on farm productivity.

RAMPOWER has been converted to a web base interface and has been in a pilot phase for 3 years. At present Sheep Genetics staff and a limited number of Service Providers utilise the RAMPOWER website interface to provide RAMPOWER indexes.

RAMPOWER has the opportunity to be a platform to encourage more ram breeders to use MERINOSELECT and for commercial breeders to achieve additional genetic and financial gain by incorporating RAMPOWER indexes for ewe selection and Australian Sheep Breeding Values for ram selection.

Overall there is a general lack of awareness about RAMPOWER and its benefits amongst Service Providers, Fibre Testing businesses and Meat Scanners. There is an opportunity to promote the benefits to these potential users via a number of networks (for example Sheep Connect, MerinoLink) and genetic education programs.

The web interface, turnaround time from submission to report and access to the generic Sheep Genetics selection indexes are seen as key positive attributes for RAMPOWER. Recommendations to update the web site with more detailed explanations and to standardise data headings will improve the commercialisation prospects. A key priority is to maintain the RAMPOWER website as a simple interface.

Targeting and highlighting the benefits of using RAMPOWER selection indexes to ram and commercial breeders and service providers using practical case studies will be essential to promoting a greater uptake and use of the service.

Incorporating RAMPOWER access with the current Sheep Genetics proposal to accredit Genetic Service Providers will ensure that the product is used and interpreted correctly and provide a level of quality assurance.

The pricing model for RAMPOWER will be driven by the extra value subscribers or users see in the end product, ease of use, reliability and support.

## Table of Contents

Executive summary .....	2
Project objectives .....	3
Milestone 1 - Contracts signed 5th February, 2013 .....	5
Milestone 2 and 3 - Environmental Scan and Web Interface Development.....	5
1.0 Current and potential market for RAMPOWER .....	5
<b>1.1 Issues raised by existing users</b> .....	7
<b>1.2 Positives to capitalise on in the future</b> .....	8
2.0 Growth opportunities.....	8
<b>2.1 Opportunities for RAMPOWER – Post June 2013</b> .....	8
<b>2.2 2-3 year target - RAMPOWER</b> .....	11
<b>2.3 Cost recovery options</b> .....	11
3.0 Website and reporting development .....	14
<b>3.1 Getting access to RAMPOWER and user maintenance</b> .....	14
<b>3.2 Uploading Data</b> .....	15
<b>3.3 Tracking Submission web page</b> .....	17
<b>3.4 Reporting</b> .....	18
Milestone 4 – Draft training, support and market material.....	19
4.0 Educational material .....	19
Milestone 5 – Project Report Recommendations.....	20
Appendix A1 – List of Fibre Testers .....	23
Appendix A2 – List of Carcase Scanners .....	25
Appendix B1 – existing RAMPOWER Report (Excel).....	27
Appendix B2 – suggested changes to RAMPOWER Report (Excel) .....	27
Appendix C1 – Example – Why use RAMPOWER?.....	28
Appendix C2 – Sheep Genetics Selection Indexes .....	29
Appendix D – Feedback on Access to OVIS Proposal 12/06/09 .....	30
Appendix E – Discussion paper: service provider access to OVIS for within flock analysis .....	36

## Project objectives

1. Identify and explore the potential Market for the RAMPOWER interface (Environmental Scan).
  - a. Review current progress against potential market space
    - i. Numbers of flocks
    - ii. Numbers of animals
    - iii. Numbers of service providers
  - b. Liaise with:-
    - i. current users
    - ii. potential users
    - iii. OFFM list
    - iv. Scanners list (for LAMBPLAN version)
    - v. Software companies
2. Identify strategies for complimentary growth of RAMPOWER with MERINOSELECT and LAMBPLAN
  - a. Likely targets for next 2-3 years
  - b. Cost recovery options from users
  - c. Per flock / per head / per run /annual subscription
3. Identify and implement changes to the website and reporting interface that is currently being provided by Sheep Genetics.
  - a. Identify areas for improvement or development
    - i. Changes to reports
    - ii. New ways to access the service
    - iii. Opportunities and methods to incorporation into software packages
4. Report strategies and improvements to Sheep Genetics manager and if required, the Sheep Genetics Executive Committee.
  - a. Approval from Sheep Genetics will occur at this point before proceeding to the next activity.
5. *Identify and develop training and support material suitable for Service Providers across Australia to use the RAMPOWER interface to prepare within flock indexes for clients.*
6. *Prepare marketing material to promote the service to Service Providers across Australia.*

## Milestone 1 - Contracts signed 5<sup>th</sup> February, 2013

## Milestone 2 and 3 - Environmental Scan and Web Interface Development

### 1.0 Current and potential market for RAMPOWER

The RAMPOWER brand was assigned to Meat & Livestock Australia (MLA) in August 2010 from Australian Wool Innovation (AWI). Since then Sheep Genetics has been responsible for hosting and managing the RAMPOWER brand on behalf of MLA.

A discussion paper and feedback on access to OVIS was conducted in June 2009 (see appendix D and E for copies of the documents) that gives additional feedback and background to the development of RAMPOWER. Eleven (11) Service Providers provided input. Key findings included maximum price of \$200 charge per year, quick turnaround time for results and consistent indexes.

Over the past three (3) years there have been five (5) Service Providers utilising the RAMPOWER web base interface in addition to Sheep Genetics staff. Table 1 presents a summary of the number of submissions (runs) and the number of animals submitted by the Service Provider that currently have access to RAMPOWER as at the beginning of May 2013. Between September 2010 and May 2013 there has been a total of 61 submissions and 61,824 animals analysed in RAMPOWER to generate a selection index.

**Table 1** – summary of RAMPOWER usage

Financial Year	Number of submissions	Total Number of Animals
2010-2011	8	4,105
2011-2012	23	22,143
2012-2013	30	35,576
<b>Totals</b>	<b>61</b>	<b>61,824</b>

Sheep Genetics staff also utilise RAMPOWER, predominately for stud breeders clients who require selection indexes on commercial ewes they are considering upgrading into their stud. Reports provided by Sheep Genetics staff to clients have been in the current PDF and Excel report templates available from the web interface.

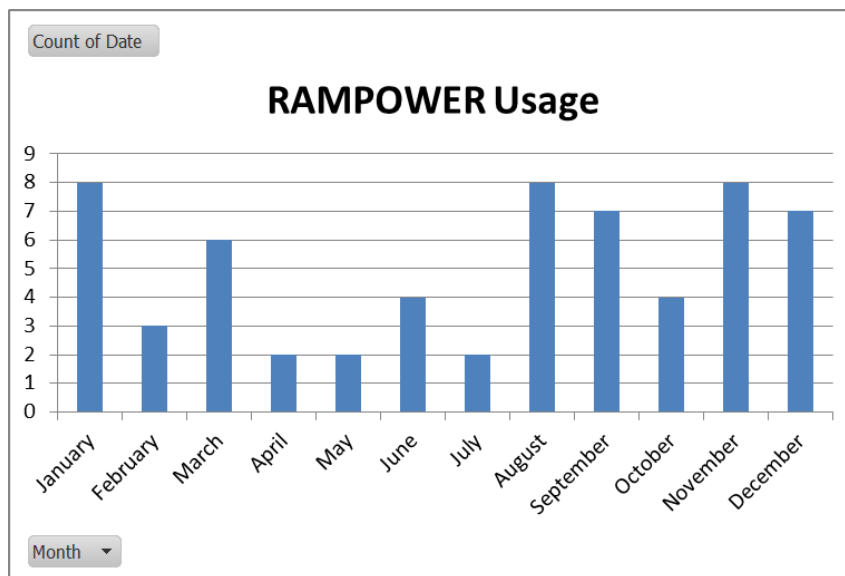
The following Service Providers have had access to RAMPOWER over the past 3 years with a mix of experience and usage. All active Service Providers were given the opportunity to contribute to the RAMPOWER review in addition to potential RAMPOWER users. The Service Providers highlighted in bold and with an \* were the most active users of RAMPOWER over the past four years and are highlighted in Table 2. The current RAMPOWER reporting system does not provide a method for flock identification or any other demographic information, and therefore cannot be reported on in this review.

- Andrew Richie
- Belinda Steers
- **Greg Johnsson\***
- Hamish Chandler
- Mark Ferguson
- **Michelle Cousins\***
- Phil Goddard
- **Sally Martin\***

**Table 2** – Service Provider use of RAMPOWER 2010 to 2013

Row Labels	Number	Ave Animals	Min Animals	Max Animals	Total Animals	%
Greg Johnsson	13	914	15	6102	11879	19
Hamish Chandler	1	384	384	384	384	1
Michelle Cousins	11	557	55	1602	6125	10
Mark Ferguson	4	337	45	1146	1347	2
Sally Martin	32	1358	196	8570	42089	68
<b>Totals</b>	<b>61</b>	<b>1030</b>	<b>15</b>	<b>8570</b>	<b>61824</b>	<b>100</b>

RAMPOWER tended to be used seasonally with a peak period between August and January.



The **main uses** for RAMPOWER selection indexes have been predominantly for:-

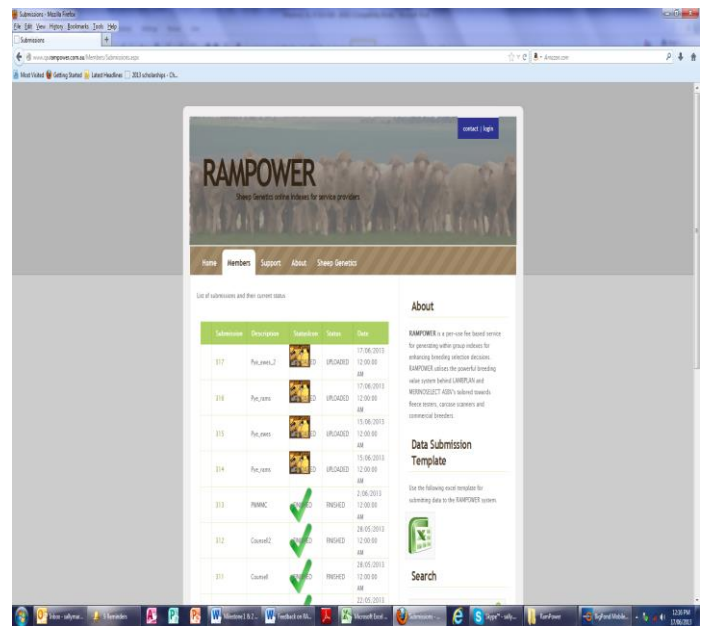
- **Merino ram breeders** exploring the use of selection indexes prior to entering data in to MERINOSELECT. RAMPOWER gives ram breeders the opportunity to use selection index technology in a non-threatening way while progressing to Sheep Genetics Try Before You Buy program. See Section X for more details.
- **Commercial Merino breeders** using a selection index when classing and selecting replacement ewe hoggets in addition to or instead of a wool value (\$/head). The majority of commercial breeders using RAMPOWER indexes have either been exposed to it previously via a Service Provider or Fibre Testing operation or more recently have been introduced to it via their service provider testing the new web interface.
- **Ram breeders** who mate large numbers of ewes to syndicates of rams, and are looking for a simple index to assist in the selection rams and replacement ewes as well as marketing rams for sale. RAMPOWER indexes offer similar index calculations and the same terminology (index names) as MERINOSELECT and provide continuity between products.

- **Commercial Merino wether selection** to be retained for wool production growers want to be able to identify the most productive wethers based on body weight, fibre diameter and fleece weight. There are a number of Sheep CRC decision support tools that can be used to assist in this decision making process, RAMPOWER can be used as one of the selection tools, predominantly focussing on Fibre Production index.

## 1.1 Issues raised by existing users

Issues raised by Service Providers currently using RAMPOWER includes:-

- There is **no feedback mechanism** via email or the web if an uploaded file is unable to be processed and analysed. Currently if the analysis does not progress the “working cogs” icon remains on the screen. When the analysis is successful a “green tick” appears.
- There were repeated reports of the analysis getting “**stuck**” and the Service Provider having no way of knowing what or why this has happened. This is very frustrating and one of the key reasons why Service Providers would stop using the web based RAMPOWER and move to an in-house analysis using old versions of the RAMPOWER (BVEST) software.
- RAMPOWER selection indexes require data to be uploaded and results interpreted. At present there are no data validation processes in place. To ensure meaningful selection indexes are generated data validation checks should be included in the automatic results report. For example data exclusions.
- Not all traits used by Sheep Genetics to generate ASBVs are included in the RAMPOWER input sheet. Examples of this include eye muscle depth and worm egg count. This is seen as an issue, as the current MERINOSELECT “Plus” indexes include additional traits in the calculation of index values. See Appendix C2 for index details.
- The recent RAMPOWER update (February 2013) included a sire function. The sire function enables sire pedigree to be included in the data upload and then a summary index for each sire based on their progeny results. To date this function has not worked and requires reviewing.
- The current PDF reports are inconsistent in their presentation and are missing headings, not reporting all indexes selected. See section 3.4 for suggested changes to output PDF and Excel reports.



## 1.2 Positives to capitalise on in the future

- The turnaround time between data submission (upload) and access to the analysis results is currently within 10 minutes. This is seen as a very positive attribute for RAMPOWER.
- The range of indexes available to be run simultaneously (current maximum 3) is a positive development. A clear explanation on the website on how this function works would also add value to this attribute.
- The web interface allows updates to be made to the analysis and indexes. The index names and parameters are consistent with the results generated by MERINOSELECT. Having a common language across the industry for both ram and commercial breeders is seen as a positive attribute.

## 2.0 Growth opportunities

### 2.1 Opportunities for RAMPOWER – Post June 2013

Promote the use of RAMPOWER via the developing Service Provider Network, working with the network as a vehicle to extend RAMPOWER to ram and commercial Merino breeders via RamSelect and Bred Well Fed Well workshops.

#### 2.1.1 Fleece Testers

Six (6) Fleece Testing services were interviewed and RAMPOWER demonstrated or explained. Feedback from the fleece testing operators included:-

- The data upload and report templates need to remain consistent, current Fleece Testing data management programs could be used to feed data into RAMPOWER, and then report the RAMPOWER selection indexes to clients in a relatively seamless operation (once systems had been developed and set in place).
- Turnaround time was very important and a positive selling point for potential users.
- Many of the Fleece Testing services had not heard of RAMPOWER or had few clients wanting indexes.
- Operators using the OFDA 2000 have two indexes already inbuilt in the systems and had very few clients utilising this information.
- There was a mixed response to paying for the service:-
  - Operators who see value in supplying indexes to clients or already have a demand indicated they would be happy to pay for the service if it was well maintained and reliable.
  - Operators who did not have demand from clients felt they needed to see the “value add” to their business before they would commit.
  - Other operators would only use the service if it remained free and these operators didn’t have clients asking for the service.

See appendix A for a comprehensive list of Fibre Testers in Australia as potential RAMPOWER users.



### **2.1.2 Meat Scanners**

Four (4) Meat Scanners (LAMBPLAN accredited) were interviewed and RAMPOWER demonstrated or explained. The general outcome was that they do not see value in the RAMPOWER product as the majority of their clients submit data direct to LAMBPLAN for Australian Breeding Values (ASBV's) and do not require RAMPOWER selection indexes. This response was predominantly because at the time of the review the LAMBPLAN indexes had been removed from the RAMPOWER index options and carcass traits (EMD and FAT) are not included on the upload template. The Meat Scanners interviewed felt the current LAMBPLAN system was what their clients wanted and didn't see a need for RAMPOWER even if LAMBPLAN indexes were available.

1 STOCKSCAN users was interviewed and RAMPOWER explained. The STOCKSCAN operator didn't see a need to use RAMPOWER as they currently have a STOCKSCAN Meat Index that takes into consideration EMD width, EMD depth and FAT depth for each kilogram of liveweight. STOCKSCAN places higher emphasis on EMD width as a relationship to body shape and leanness.

### **2.1.3 Software companies**

It was a general consensus from Service Providers interviewed that an independent web interface should be maintained where data can be uploaded and RAMPOWER selection indexes obtained outside commercial software data management packages. This allows independence and use of RAMPOWER with readily available computer packages such as Microsoft Excel.

Software companies were approached who service the sheep industry regarding the possibility to incorporate RAMPOWER upload/download functions in their current software packages. Overall there would be interested in pursuing opportunities if the level of demand warranted the development resources.

### **2.1.4 Service Provider Network**

The recent Service Provider Training program(s) delivered by Sheep Genetics and the Sheep CRC has stimulated the opportunity to develop a Service Provider Network and potential accreditation of Genetic Service Providers to Sheep Genetics. Promotion of RAMPOWER to "accredited" Genetic Service Providers is a logical target market and feeds in to the financial incentive currently being developed by Sheep Genetics to move clients from Try Before You Buy to MERINOSELECT members. RAMPOWER can be a stepping stone for ram breeders considering using selection indexes and estimated breeding values and a positive way to further extend the impact of genetic selection with commercial breeders

### **2.1.5 Wool Brokers**

There are a number of independent wool brokers moving to provide a wider range of services and advice to clients in addition to their current wool marketing platform. This group, in particular the Inland Wool Brokers Association, provide an opportunity to promote the existence of RAMPOWER and encourage clients to access the service via the Service Provider Network and/or Fleece Testing houses.

### **2.1.6 Wether Trials**

Wether trials provide another source of genetic benchmarking information. The results from the recent Peter Westblade Memorial Merino Challenge (PWMMC) 2013 shearing were compared to the same data being processed through RAMPOWER. The results indicate that there is a moderate correlation between the wool value and

net profit per hectare calculations to the RP Fibre Production + index. There was a high correlation between the sheep value (combined wool and meat values) to the RP Merino Production Plus and RP Dual Purpose Plus selection indexes.

**Table 3** Correlations between Merino Challenge Results and RAMPOWER Indexes

	<i>Wool Value</i>	<i>Carcase Value</i>	<i>Sheep Value</i>	<i>\$ Net Profit/ha</i>
<b>FP+</b>	<b>0.58</b>	-0.10	0.28	<b>0.56</b>
<b>MP+</b>	0.37	<b>0.66</b>	<b>0.80</b>	0.24
<b>DP+</b>	0.18	<b>0.89</b>	<b>0.89</b>	0.04

### 2.1.7 Merino Ram breeders

RAMPOWER can form a natural progression for **Merino Ram Breeders** who are not currently submitting data to Sheep Genetics (MERINOSELECT). RAMPOWER provides a non-threatening “dip your toe in the water” experience.

Recent genetic extension programs, RamSelect Workshop and Bred Well Fed Well, supported by the Sheep CRC, Australian Wool Innovation and Meat and Livestock Australia have been promoting and demonstrating the benefits ram breeders and commercial sheep breeders can achieve by using estimated breeding values and indexes as part of their ram selections. As a result commercial sheep breeders have started demanding this information from their ram source.

Below is an example of how a ram breeder can use RAMPOWER as part of a progression to submitting meaningful data into Sheep Genetics (MERINOSELECT).

- ✓ **Step 1** - RAMPOWER selection indexes (within mob) - no pedigree is required; RAMPOWER indexes can be done on a mob basis rather than a flock basis; Step 1 can highlight the use of selection indexes and ranking. Step 1 gives the Service Provider the opportunity to look at the management and data collection calendar to work towards having better quality data to submit to the TBVY program.
- ✓ **Step 2** - Try Before You Buy (within flock) - submitting data to Sheep Genetics for a test analysis to gain feedback on linkage and data structure. TBVY helps to identify data collection and data management areas to address prior to becoming a MERINOSELECT member.
- ✓ **Step 3** - MERINOSELECT (across flock) – issues addressed in Step 1 and 2 help to ensure the ASBV's and MERINOSELECT indexes provided have improved accuracy and relevance to the ram breeder.

### 2.1.8 Commercial Merino breeders

Commercial Merino breeders are another potential growth market. RAMPOWER has been predominantly used to rank ewe hoggets to identify replacements to capitalise on balancing key profit driving traits, fibre diameter, fleece weight and body weight. The indexes selected by the commercial breeder often reflect the same index used by their ram source.

Commercial breeders who breed their own replacement rams would also benefit by using RAMPOWER and progressing to Steps 2 and 3 mentioned in section 2.1.7.

Promotion to commercial Merino breeders via existing genetic workshops such as RamSelect and Bred Well Fed Well, a message to use Australian Sheep Breeding

Values and indexes to select rams as well as RAMPOWER selection indexes to select replacement ewes. The current messages are often limited to ram selection and the added benefits (genetically and financially) should be promoted.

## 2.2 2-3 year target - RAMPOWER

Merino breeders and their Service Providers are the most obvious target audience to grow the use of RAMPOWER in its current form. Since 2010-2011 the number of additional submissions has increase by 65% in 2011-2012 and again by 23% in 2012-2013. An increase of animals being processed by RAMPOWER has increased by 81% and 38% respectively without any active promotion of the services.

**Table 4** Increase use of RAMPOWER

Financial Year	% increase submissions	% increase animals
2010-2011		
2011-2012	65%	81%
2012-2013	23%	38%

At a recent Service Provider Training program in Melbourne (May 2013) RAMPOWER was demonstrated. Of the Service Providers present who are not current users of RAMPOWER there were an additional 4 people who are interested in utilising RAMPOWER for their clients.

As indicated in section 1.0 there are three main users for RAMPOWER at present. To increase the uptake of RAMPOWER the suggested targets and approach is recommended.

- **12 month target 2013-2014** – increase the number of registered RAMPOWER users by 6 (total 9 users), with an increase of 20,000 records.
- **2 year target 2014-2015** – increase the number of RAMPOWER users to 16 (additional 7 users) and an increase of 40,000 records.
- **3 year target 2015-2016** – increase number of RAMPOWER users to 20 and an increase of 80,000 records.

To achieve these targets, Sheep Genetics needs to encourage other Service Providers to deliver the RAMPOWER service to their clients (and/or potential clients). One way to do this could be to champion a Service Provider in each state to assist in the delivery of this program.

## 2.3 Cost recovery options

The pricing of any service needs to be realistic. The main issue of price revolved around the number of clients a Service Provider would likely use RAMPOWER for. Fewer clients means a lower service price point. Some Service Providers felt that any additional cost to existing clients for within mobs indexes above current data collection and management charges would not be tolerated by the client and could shy away from recording all together.

There are a number of costing models that could be used and have been discussed. From previous feedback and feedback from this review, the following pricing scenarios have been explored:-

- a. Annual subscription – prices investigated were \$200 and \$500 per year
  - This model would operate on as an annual subscription based on either a calendar or financial year.
  - The logistics of administering this model would be limited to a month of sending out and receiving invoice payments.
  - Subscriber database would be easy to manage.
  - Issues to consider is a subscription application coming in within the year where a pro-rata system may be required.
  - This model relies on the number of users not the number of submissions or volume of data for income.
  
- b. Per flock or run fee – prices investigated were \$30 and \$50 per run
  - This model would operate on either a flock or run fee. To enable a flock fee to be charged a flock number would need to be allocated or alternative a Property Identification Code (PIC) could be used.
  - The administration of this model would be more demanding than option a. unless an automated accounting system could be implemented.
  
- c. Cost per animal/record - <1000 21c/head; >1000 48c/head (*June 2009 feedback report*)
  - This model would operate on a per animal basis, similar to Sheep Genetics current costing model.
  - The administration of this model would be similar to option b.
  - Option c. would predominately deliver a higher income base than the other two options.

Based on the estimates provided from Sheep Genetics, RAMPOWER has cost approximately \$32,000 in development time, this includes creating and improving the web based interface to the OVIS analytical engine and to enable RAMPOWER to run outside the weekly OVIS analysis runs (summarised in Table 5).

The estimated maintenance time for Sheep Genetics is one hour per month, or \$1,800 per year. Table 6 shows four scenarios to cover total set up costs or maintenance costs with annual subscriptions using an annual fee of \$200 to \$500 per year. For example, based on a simple model to cover maintenance costs, RAMPOWER would require a minimum of 9 Service Providers paying an annual subscription of \$200 per year compared to 4 paying \$500 per year.

Generally most Service Providers were happy to pay for a product if it added value to their business and client's data. Table 7 simulates cost structures using the current RAMPOWER usage for example if a subscriber has less than 7 submissions per year, the cost per run model is more economical for the end user.

From a cost recovery perspective the annual subscription of \$200 to \$250 appears to be more sustainable in the short term while building market presence. Service Providers interviewed indicated \$200 per year was the nominated starting price point. If demand for RAMPOWER increases consideration could be given to increasing the price to cover development and maintenance costs in the future.

**Table 5** Estimated development and maintenance costs (source Sheep Genetics)

Item	Time	Cost/unit	Total cost
Initial web development	6 weeks	\$800/day	\$24,000
Initial OVIS development	2 weeks	\$800/day	\$8,000
SG time (maintenance)	1 hour/month	\$150/hour	\$1,800
<b>Overall Development</b>			<b>\$32,000</b>
<b>Maintenance</b>			<b>\$1,800</b>

**Table 6** Cost recovery

Scenario	Fee	Number of subscribers required
# SP to cover maintenance costs	\$200/year	9
# SP to cover maintenance costs	\$500/year	4
# runs to cover maintenance costs	\$30/run	60
# runs to cover maintenance costs	\$50/run	36
# SP to cover development costs	\$200/year	160
# SP to cover development costs	\$500/year	64
# runs to cover development costs	\$30/run	1067
# runs to cover development costs	\$50/run	640

# SP = Number of Subscribing Service Providers

# runs = Number of runs

**Table 7** Cost scenarios – submission/annual subscription/per head

	# Submissions	# Animals	Cost/Mob		Annual Subscription		Cost/head \$0.21
			\$30	\$50	\$200	\$500	
<b>User 1</b>	<b>13</b>	<b>11879</b>					
2010-2011	4	1166	\$120	\$200	\$200	\$500	\$245
2011-2012	3	1115	\$90	\$150	\$200	\$500	\$234
2012-2013	6	9598	\$180	\$300	\$200	\$500	\$2,016
<b>User 2</b>	<b>1</b>	<b>384</b>					
2010-2011	1	384	\$30	\$50	\$200	\$500	\$81
<b>User 3</b>	<b>11</b>	<b>6125</b>					
2010-2011	2	1876	\$60	\$100	\$200	\$500	\$394
2011-2012	4	2000	\$120	\$200	\$200	\$500	\$420
2012-2013	5	2249	\$150	\$250	\$200	\$500	\$472
<b>User 4</b>	<b>4</b>	<b>1347</b>					
2011-2012	2	135	\$60	\$100	\$200	\$500	\$28
2012-2013	2	1212	\$60	\$100	\$200	\$500	\$255
<b>User 5</b>	<b>32</b>	<b>42089</b>					
2010-2011	1	679	\$30	\$50	\$200	\$500	\$143
2011-2012	14	18893	\$420	\$700	\$200	\$500	\$3,968
2012-2013	17	22517	\$510	\$850	\$200	\$500	\$4,729
<b>Totals</b>	<b>61</b>	<b>61824</b>	<b>\$1,830</b>	<b>\$3,050</b>	<b>\$2,400</b>	<b>\$6,000</b>	<b>\$12,983</b>

### 3.0 Website and reporting development

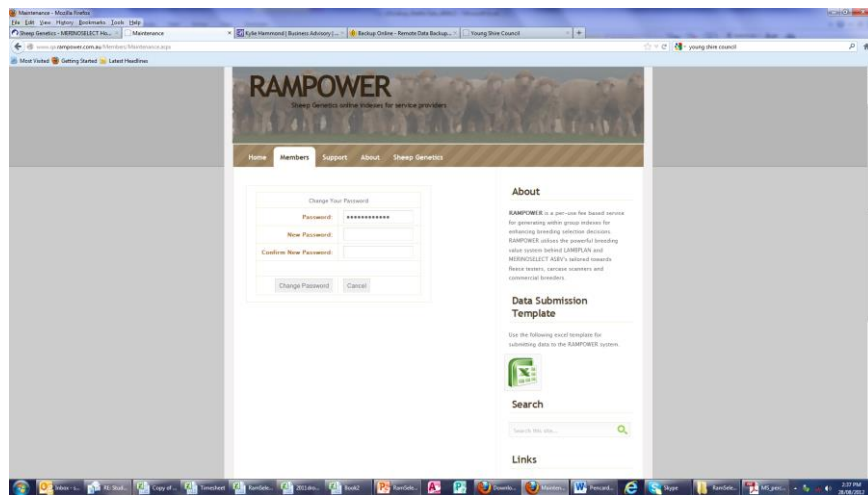
The functionality of the website is an excellent interface to upload and receive selection index reports. Issues may arise for Service Providers who do not have good internet access or speed where a stand-alone system would be preferable; however in this review this was not raised. Section 1.1 summaries key issues raised by Service Providers.

A key priority is to maintain the RAMPOWER website as a simple interface. A generic landing page that then directs people to either log in or find service providers who can access the RAMPOWER product is recommended. Incorporating the Sheep Genetic themes in the website were not considered as important as a functioning reliable service.

#### 3.1 Getting access to RAMPOWER and user maintenance

There is currently no clear pathway for prospective Service Providers to get access to RAMPOWER. The web interface would be enhanced by having;

- An application form to be a subscriber to RAMPOWER linking in with the “Service Provider Accreditation” program currently being developed by Sheep Genetics.
- Improved contact details for Sheep Genetics (for example David Rubie) and appropriate links included on the Sheep Genetics and RAMPOWER HOME page.
- Allow current RAMPOWER users to update their contact details - for example, update their email, phone or address information in addition to the existing password.
- User access to archive files after they have been uploaded and reports retrieved. This function would help tidy up the web interface.



### 3.2 Uploading Data

Uploading data is relatively straight forward, however there is a requirement to cut and paste into an excel spread sheet which poses issues with data integrity. Changing headings on an existing file is also an option, however if the heading is different or has additional column headings to the exiting template, data will be overlooked and not included. If this is the case the report sheet is empty without any explanation.

Table 8 shows the current Excel format where data is copied, pasted and uploaded to RAMPOWER. Table 9 shows the current descriptions used for each column heading. At present no carcase or parasite traits are included. The Sheep CRC recently contracted Marion Gibbin to look at a standard reporting system for fleece testers and meat scanners to streamline the input of this data to commercial software packages.

**Table 8** Example of data upload excel file

TAG	WT	GFW	FD	CFW	FDCV	FSD	FCF	YLD	SS	SL	CEM	CURV	SIRE
104	37.0	3.5	17.9	1.7	15.17	2.66	99.8	49.8	10	82		106.72	1
107	40.0	4.3	15.6	2.2	19.23	3.03	99.7	51.7	25	90		111.08	1
108	47.0	4.0	15.6	2.3	14.74	2.32	99.85	57.4	25	79		106.83	1

**Table 9** Current description of data headings

Excel Heading	Description
TAG	Unique animal number, usually the ear tag
WT	Body Weight at fleece measurement in kilograms (kg)
GFW	Greasy Fleece Weight in kilograms (kg)
FD	Fibre Diameter in microns
CFW	Clean Fleece Weight in kilograms (kg)
FDCV	Fibre diameter CV (Coefficient of Variation) as percentage
FSD	Fibre diameter SD (Standard Deviation) as micron
FCF	Fleece Comfort Factor as percentage
YLD	Fleece yield as percentage
SS	Staple Strength as N/ktex
SL	Staple Length as millimetres
CEM	Fibre Coarse Edge measurement as percentage
CURV	Fibre Curvature as degrees/millimetre
SIRE	A unique identifier for each sire used, leave blank or use a * for missing values

**Requests from current and interested RAMPOWER users to improve the upload process include:**

- Input files are currently required to be in .xls format, if files are not submitted in this format the upload is rejected. Having a number for file formats for example .xlsx or converting over to a .csv format may assist in addressing this issue as new software versions come on to the market.
- Include a data check report in the analysis report to provide feedback on data quality.
- Some service providers would like to see additional information included to enhance the analysis for example :-
  - Sex
  - Age at shearing; length of wool at shearing
  - Birth type and/or rear type
- Can multiple sample dates be accommodated? Often the shearing, wool sampling and body weight dates are not the same.

**Data submit web page requires additional information and explanations in the following areas:-**

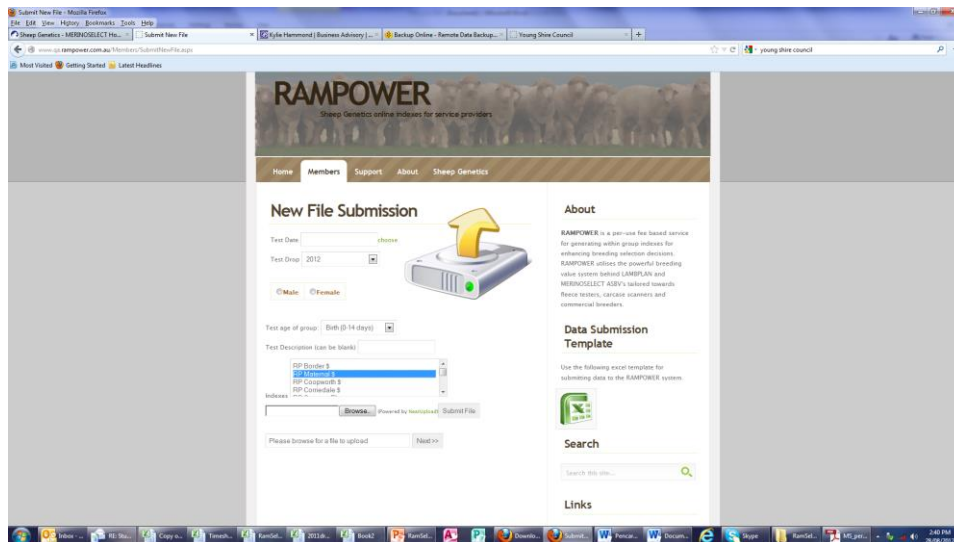
- a. **Test date** – the date that the most recent test was carried out. How do Service Providers deal with multiple test dates for example a greasy fleece weight collected on 1<sup>st</sup> June, fibre diameter collected on 1<sup>st</sup> May and body weight collected on 1<sup>st</sup> July?
- b. **Test drop** – self explanatory
- c. **Sex** – if two sex groups, then required to run separate analysis for the two mobs. Can RAMPOWER accommodate males and females in the same run?
- d. **Test age** – age of the group when the data was collected.
- e. **Test description** – self explanatory



- f. **Indexes** – currently RAMPOWER has the ability to select up to three indexes. There is a need for a clear explanation on how to achieve this for example Ctrl + indexes selected.
- g. **Submit process** – self explanatory

#### Data submit web page additional suggestions:-

- a. Property Identification Code or ram breeder flock number
- b. Commercial or ram breeder – tick a box



### 3.3 Tracking Submission web page

The tracking submission web page is a good feature of the current web interface allowing monitoring of analysis progress, however not all of the table is visible at one glance.

#### Suggested improvements to the Tracking Submissions web page include:-

- a. **Submission number** - self explanatory
- b. **Description** – as entered when data is submitted
- c. **Status Icon** – self-explanatory; however there is no icon or explanation why the analysis gets stuck – the cogs keep turning – an alert should be emailed to the Service Provider and Sheep Genetics when the analysis is taking more than 15 minutes. Current turnaround time is approximately 10 minutes. The “error” report sent should specify why data or run was rejected or why it gets “stuck”, this will enable RAMPOWER users the opportunity to improve their submission process if data issues exist. The report response could be automated with if continued issues persist to contact Sheep Genetics.
- d. **Status** – self-explanatory – same response as point c.
- e. **Date (submitted)** – the date works well, however the time is always showing 12:00AM. It would be helpful to have the exact time that the submission was made. This would allow checking by the Service Provider and Sheep Genetics.

- f. **Test Date** – self explanatory
- g. **Drop** – self explanatory
- h. **Sex** – self explanatory
- i. **Site** - Service Provider Number

The screenshot shows a web browser window displaying the RAMPOWER application. The main content is a table titled "List of submissions and their current status". The table has columns for Submission ID, Description, Status, and Date. The status column contains green checkmarks for "FINISHED" and red "X" marks for "REJECTED".

Submission	Description	Status	Date
181		FINISHED	8/08/2012 12:00:00 AM
179	WPK 7%	REJECTED	1/07/2012 12:00:00 AM
178		REJECTED	1/07/2012 12:00:00 AM
175	Woodbark_10h	REJECTED	24/06/2012 12:00:00 AM
174	Woodbark_7DP	REJECTED	24/06/2012 12:00:00 AM
173	Woodbark_7DP	FINISHED	21/06/2012 12:00:00 AM
172	Woodbark_rams	FINISHED	21/06/2012 12:00:00 AM
171	bc sample	FINISHED	21/06/2012 12:00:00 AM
160	Wattledale_ah_2	FINISHED	24/05/2012 12:00:00 AM
159	Wattledale_ah	FINISHED	24/05/2012 12:00:00 AM

The right sidebar contains an "About" section, a "Data Submission Template" section with a download icon, a "Search" section with a search box, and a "Links" section with links to Home, Sheep Genetics website, and Meat and Livestock Australia.

### 3.4 Reporting

Feedback from RAMPOWER users would like to see the following reporting improvements:-

- Include the file name of the input file in the results file
- Instead of having a copy of the raw data uploaded the report could present deviations for the phenotypic traits. For example instead of 17.1 micron have - 1.2.
- Some PDF reports are missing titles, headings and do not report all the indexes selected.
- Service Providers would like to see RAMPOWER provide a similar report that was produced by the Old RAMPOWER software including index, index rank and estimated breeding values.

An example of the current Excel report and proposed change can be seen in Appendix B1 and B2.

## Milestone 4 – Draft training, support and market material

### 4.0 Educational material

#### Support material for Service Providers

Existing Service Providers have been using old versions of RAMPOWER and BVEST to generate within mob and within flock indexes and didn't feel they required additional training to use the current web based interface of RAMPOWER.

New users indicated that they were used to the old indexes and “need convincing” to move over to the newly developed MERINOSELECT indexes. This could be addressed through further education to RAMPOWER providers. For example, a recent presentation to the Australian Merino Sire Evaluation Association showed the correlation between new and old indexes, shown below, and provides confidence for both Service Providers and breeders to upgrade to the new indexes.

#### Updating the RAMPOWER website to include:-

- Background information on the development of RAMPOWER.
- An explanation on how to use and where to use the RAMPOWER index products.
- Case study on the benefits of using RAMPOWER
  - Ram Breeder – using RAMPOWER selection indexes in syndicate and multiplier flocks and as a step process to entering data into MERINOSELECT.
  - Commercial Breeder – the financial and genetic benefits from utilising RAMPOWER selection indexes to select replacement hogget ewes in addition to selecting rams with ASBV's.
- An explanation on how to use RAMPOWER (refer to Section 3.)
- Links to relevant sections on the Sheep Genetics website.

More detail on “how to use RAMPOWER” and potential power point slides to incorporate in existing genetic workshops are located in Appendix C.

#### Correlations Between Indexes

The following correlations between indexes have been calculated on all sires published in Merino Superior Sires (website not hardcopy).

	DP+	MP+	FP+	DP35	DP7	M7	F10SS	F10SSWEC	M14SS	F20SS
DP+	1.00									
MP+	0.90	1.00								
FP+	0.60	0.82	1.00							
DP35	0.94	0.77	0.37	1.00						
<b>DP7</b>	<b>0.96</b>	0.87	0.56	0.96	1.00					
M7	0.79	0.89	0.79	0.71	0.79	1.00				
<b>F10SS</b>	0.61	<b>0.80</b>	<b>0.90</b>	0.46	0.62	0.93	1.00			
F10SSWEC	0.61	0.77	0.92	0.47	0.61	0.86	0.91	1.00		
<b>M14SS</b>	0.57	0.81	<b>0.95</b>	0.37	0.57	0.82	0.94	0.88	1.00	
F20SS	0.27	0.58	0.87	0.05	0.30	0.58	0.81	0.75	0.93	1.00

## Milestone 5 – Project report recommendations

The review of the current RAMPOWER web interface has identified a number of opportunities, issues and areas to improve the service to enable its commercialisation. The following recommendations will improve the commercialisation of RAMPOWER website interface to a wider group of Service Providers and potential clients.

1. Sheep Genetics to articulate the purpose and objectives of the RAMPOWER web interface:-
  - a. Is it to cover all costs?
  - b. Is it to work with ram breeders in a step wise process to get greater uptake of MERINOSELECT and LAMBPLAN services?
  - c. Is RAMPOWER a vehicle to encourage greater adoption of genetic technologies (breeding values and indexes) at both a commercial and ram breeder level?
  
2. For RAMPOWER to a fee for service, it is recommended that an introductory annual fee for the first year of \$200 be offered to Service Providers with a review in 12 months (June 2014) of uptake and volume of data being processed through RAMPOWER with an option to increase the annual fee from \$200 to \$500 per year. The introductory annual fee could be offered to all new subscribers as a way of increasing RAMPOWER exposure. To cater for low volume users the options below may be considered.
  - a. Low volume users could have an option of a per use charge - \$30-\$50 per submission.
  - b. Alternatively, low volume users could be put in contact with existing registered Service Providers who could provide access to RAMPOWER as part of an additional service to their existing business.
  
3. Accreditation of RAMPOWER operators in line with the current Sheep Genetics proposal to accredit Genetic Service Providers.
  - a. Minimum training requirement for data being submitted and interpretation of reports used by Service Providers.
  - b. Include a list of accredited RAMPOWER operators who can access or supply RAMPOWER indexes for commercial and ram breeders be included on the Sheep Genetics website and a link from the RAMPOWER website.
  
4. A key priority is to maintain the RAMPOWER website as a simple interface. A generic landing page that then directs people to either log in or find service providers who can access the RAMPOWER product is recommended.
  
5. The recent RAMPOWER update (February 2013) included a sire function. The sire function is designed to enables sire pedigree to be included in the data upload and then a summary index for each sire based on their progeny results. To date this function has not worked and requires reviewing and updating.
  
6. Annual feedback opportunity for RAMPOWER users to maintain the website interface and relevance to the industry. The feedback can be in the format of

an online survey, sent out each 12 months following the peak usage period, February each year.

7. Ongoing support and training opportunities to be included in existing genetic training activities such as Service Provider Training, Service Provider Network, RamSelect workshops and Bred Well Fed Well.
8. A Feedback email loop is required when data is not accepted or does not get analysed within the 15 minute turnaround time. This feedback would alert the submitter and host (Sheep Genetics) that the uploaded data has been rejected or the analysis is “stuck”.
9. A review of the way data can be uploaded to RAMPOWER. The current format is in excel .xls format. Can the system be adapted to take .csv and .xlsx and .txt file formats.
10. A review of the number of traits to include all traits used in the major indexes. For example carcass traits. This will be essential if other breeds other than Merinos are going to use RAMPOWER.
11. A review of the data headings to be consistent with the Sheep CRC Data Standard Project headings. The table below shows the existing headings and suggested heading changes.

<b>Exiting headings</b>	TAG		WT			GFW	FD	CFW	FDCV	FDSF	FCF	YLD	SS	SL	CEM		CURV	SIRE
<b>Suggesting headings</b>	TagID	EID	WT	FAT	EMD	GFW	FD	CFW	FDCV	FDSF	FCF	YLD	SS	SL	CEM	FDSF	CURV	SireTag

12. A review of the data that can be included in the RAMPOWER analysis to include all traits used in the index calculations. For example carcass traits.
13. A review of the RAMPOWER website is required to meet commercial demand with the following design suggestions:-
  - a. Links from Sheep Genetics website to RAMPOWER, highlighting when and where you would use RAMPOWER for example commercial breeders wanting to index replacement ewe hoggets; ram breeding wanting to index syndicate mates.
  - b. RAMPOWER subscriber – how to access; accreditation requirements; fee structure.
  - c. RAMPOWER subscriber (Service Providers) login section to access the functions of RAMPOWER (currently exists).
  - d. Links to Sheep Genetics website pages and sections for example to the Service Provider page listing those who have access to RAMPOWER
14. Review the report template to include deviations of the traits in addition to the original data uploaded.
15. Monitoring and evaluation - Currently there is no mechanism to record the number of flocks or origin (commercial or ram breeding) uploading information to RAMPOWER. This could be overcome by using a Property Identification Code (PIC) and/or a flock number (as currently used in Sheep Genetics) and a tick box for commercial or ram breeding flock when submitting data.

16. RAMPOWER use targets – to reach suggested targets Sheep Genetics could consider a part time contract to active Service Provider(s) to mentor and champion RAMPOWER to other Service Providers and the sheep industry for example a Service Provider Champion in each state to promote and assist in the delivery program, utilising existing groups and networks could also be approached to partner to promote RAMPOWER and its benefits.
17. Promotion material highlighting the benefits of using RAMPOWER selection indexes at the
  - a. Ram breeder level, for example using at the multiplier level to select ewes and market syndicate mated ram progeny
  - b. Commercial breeder level, for example using to select replacement ewe hoggets and the financial and genetic gains above other selection options.
  - c. Fleece testing houses, for example value adding to their business and benefits to their clients (as above for commercial and ram breeders).

## Appendix A1 – List of Fibre Testers

OFFM – Fibre Testers								
Name	Company	Services	Address	Location	State	PCod e	Phone	Email
Andrew Benn	National Grazing Services - NSW	Fleecescan	PO Box 382	Dubbo	NSW	2830	(02) 6882 5477	vickyl@nationalgrazing.com.au
Bill Harris	Laserwool	Fleecescan	"Moss Rose", 276 Gostwyck Rd	Uralla	NSW	2358	(02) 6778 4593	laserwool@gpo.com.au
Brendan van Rensburg	Australian Wool Testing Authority	Laserscan and OFDA100	PO Box 190	Guildford	NSW	2161	(02) 9892 7048	brendon.vanrensburg@awta.com.au
Don Chad	Chad Wool Pty Ltd	Laserscan & Fleecescan	Lot 1 Purvis Lane	Dubbo	NSW	2830	(02) 6882 2587	chadwool@tpg.com.au
Kim Cartwright	Southern Tablelands Fibre Testing	OFDA2000	"Thalaba Downs"	Laggan	NSW	2583	(02) 4837 3210	kimcartw@activ8.net.au
Pat Byrne	Western Wool Marketing	Fleecescan	PO Box 130	Parkes	NSW	2870	(02) 6862 1344	patbyrne@westernwool.com.au
Paul Cocking	Riverina Wool Testers Pty Ltd	Laserscan and Fleecescan	12 Cheshire St	Wagga Wagga	NSW	2650	(02) 6925 1407	rwt@wooltesters.com.au
Rod Mephram	Goddard Wool Marketing	Laserscan & Fleecescan	PO Box 393	Inverell	NSW	2360	(02) 6722 1888	goddard@schutebell.com
Ross Christie	Fibre Intelligence New England	OFDA2000	Willowburn Partnership	Tenterfield	NSW	2372	(02) 6737 5482	rossbin@halenet.com.au
Timothy Beaumont	New England Fibre Testing Pty Ltd	OFDA100	5-7 Hamilton Street (PO Box 5)	Walcha	NSW	2354	(02) 6777 2122	tim.beaumont@neft.com.au
David & Kathy Rolfe	Australian Fibre Testing	Laserscan	PO Box 20	Morven	QLD	4468	(07) 4654 8183	aft_qld@bigpond.com
Gus McGown	WOOLPAX Pty Limited	OFDA2000	'Jhelum Plains'	Bollon	QLD	4488	(07) 4625 7381	gusmcgown@bigpond.com
William Goodrich	Bracker Australia Pty Ltd	OFDA2000	C/- Warroo Station	Inglewood	QLD	4387	(07) 4652 4148	warroo@bigpond.com
Bill & Rose Walker	Classings Ltd	OFDA2000	25 Sturt St	Murray Bridge	SA	5253	(08) 8532 3065	classing@lm.net.au
Ian Bradtke	CH Bradtke & Son	Fleecescan	PMB15	Peterborough	SA	5422	(08) 8665 2011	lazerline@cirruscomms.com.au
Paul & Michelle Cousins	Cousins Merino Services Pty Ltd	OFDA2000	6 Hill St	Burra	SA	5417	(08) 8892 2108	cousinsms@bigpond.com
Alistair Calvert	Roberts Ltd	Laserscan and OFDA2000	15 St John St	Launceston	TAS	7250	(03) 6391 8633	wooloffice@roberts.com.au
Alistair Calder	TopFlock Sheep Services	OFDA2000	"Wareek", 89 Woodlands Road	Maryborough	VIC	3465	0427 260 177	mailto:calderalstair@hotmail.com
Joyce Gordon	Bullawyn Pastoral Company	OFDA2000	149 R Gordons Road	Dunkeld	VIC	3294	(03) 5574 9236	bullawyn@activ8.net.au
Julianne Nicholls	Riverina Fleece Testing Service	OFDA100	PO Box 1472	Sale	VIC	3850	(03) 5146 8333	
Norman Howell	NJ & PJ Howell	OFDA2000	"Noram"	Mirranatwa	VIC	3294	(03) 5574 0232	noram@activ8.net.au
Russell Pitcher	RD & RL Pitcher	Fleecescan	407 Mt Emu Settlement Road	Mt Emu	VIC	3351	(03) 5340 2297	rochelle@skymesh.com.au

OFFM – Fibre Testers								
Name	Company	Services	Address	Location	State	PCode	Phone	Email
Timothy Steere	Australian Wool Testing Authority	Laserscan and OFDA100	PO Box 240	North Melbourne	VIC	3051	(03) 9371 2100	tim.steere@awta.com.au
Hayley Norman	CSIRO Floreat Park	OFDA2000	CSIRO Livestock Industries	Floreat Park	WA	6014	(08) 93336426	hayley.norman@csiro.au
Ivan Pritchard	Challenger TAFE Murdoch Campus	OFDA2000	Murdoch Dr	Murdoch	WA	6150	(08) 92298435	ivan.pritchard@challengertafe.wa.edu.au
Lorraine Hewett	Australian Fibre Testing	Laserscan	RMB 2008	York	WA	6302	(08) 96412111	aft@bbnet.com.au
Peter Young	Great Southern TAFE	OFDA2000	Anson Rd	Albany	WA	6330	(08) 9892 8840	peter.young@gstafe.wa.edu.au
Rob Hallion	Australian Wool Testing Authority	Laserscan & OFDA 100	PO Box 1546	Bibra Lake	WA	6965	(08) 94180206	rob.hallion@awta.com.au
Wayne Marshall	Micron Man	OFDA100 and OFDA2000	PO Box 1423	Bibra Lake	WA	6965	(08) 9418 1733	microman@iinet.net.au
Wendy Russell	Russell's Sheep Husbandry Service	OFDA2000	2518 Katanning Nyabing Rd	Katanning	WA	6317	(08) 9822 1586	clifden@bigpond.com
	Genstock Fleece Testing		PO BOX 21	Kojonup	WA	6395	(08) 9834 1038	info@genstock.com.au





## Appendix A2 – List of Carcase Scanners

<i>Name</i>	<i>Location</i>	<i>Telephone</i>	<i>Email</i>
Alan Luff	Cowra NSW	Ph: (02) 6342 3708	<a href="mailto:luffalan@westserv.net.au">luffalan@westserv.net.au</a>
Trevor Pearce	Young NSW	Ph: (02) 6383 3330 Mobile:0428.993.061	<a href="mailto:tpss@activ8.net.au">tpss@activ8.net.au</a>
Bill Pearce	Manilla NSW	Ph: (02) 6785 1389 Mobile: 0429 433 522	<a href="mailto:alexia.73@bigpond.com">alexia.73@bigpond.com</a>
Tim Lawrence	Guyra NSW	Mobile: 0419 147 419	<a href="mailto:timlawrence1974@gmail.com">timlawrence1974@gmail.com</a>
Stefan Spiker	Hamilton VIC	Ph: (03) 5573 3201 Mobile: 0427 733 201	<a href="mailto:als@anson.com.au">als@anson.com.au</a>
Steve Milne	Hamilton VIC	Ph: (03) 5578 6327 Mobile: 0428 786 327	<a href="mailto:sjdimilne@bigpond.com">sjdimilne@bigpond.com</a>
Ian Kyle (Provisionally accredited)	Barnsdale VIC	Ph: (03) 5157 7579 Mobile: 0407 846 016	<a href="mailto:ian@primescanaustralia.com.au">ian@primescanaustralia.com.au</a>
Ian Bradtke	Peterborough SA	Mobile: 0407 729 341	<a href="mailto:ian@lazerline.com.au">ian@lazerline.com.au</a>
John Lehmann	Mt Bryan SA	Ph: (08)8893 4034 Mobile: 0428 934 034	<a href="mailto:john@pollville.com.au">john@pollville.com.au</a>
Greg Fitzgerald	Binnun SA	Ph: (08) 8764 2074 Mobile: 0427 944 625	<a href="mailto:gregfitz@westnet.com.au">gregfitz@westnet.com.au</a>
Rachel Chirgwin (Provisionally accredited)	Saddleworth SA	Mobile: 0428 600 265	
Brad Rundle (Provisionally accredited)	Katanning WA	Ph: (08) 9821 0050	<a href="mailto:rundle@wn.com.au">rundle@wn.com.au</a>
Tamesha Gardner	Kojonup WA	Mobile: 0408 001 353	<a href="mailto:stocksmart@westnet.com.au">stocksmart@westnet.com.au</a>

<i>Name</i>	<i>Location</i>	<i>Telephone</i>	<i>Email</i>
Peter Moore	Williams WA	Ph: (08) 9885 1461 Mobile: 0427 176 332	<a href="mailto:smoore@westnet.com.au">smoore@westnet.com.au</a>
Mike O'Neil	Northam WA	Ph: (08) 9622 5583 Mobile: 0409.684.332	<a href="mailto:micviconeill@bigpond.com">micviconeill@bigpond.com</a>

Appendix B1 – existing RAMPOWER Report (Excel)






Run Date	Test Date	Test Drop	Sex	Description
21/05/2013	26/03/2013	2012	M	WP_2012_Y_sire

Row	Tag	Index Name	Index Value	Rank	Index Name 2	Index Value 2	Rank 2	Index Name 3	Index Value 3	Rank 3	WT	GFW	FD	CFW	FDCV	FDSD	FCF	YLD	SS	SL	CEM	CURV
1		RP 7%	108.27	168		-1.00	1		-1.00	1	62	5.7	18.9	-1	18.52	3.47	98.67	-1	-1	-1	-1	94.55
2		RP 7%	94.14	603		-1.00	2		-1.00	2	47.2	4.1	18.28	-1	18.58	3.42	99.67	-1	-1	-1	-1	85.35

Appendix B2 – suggested changes to RAMPOWER Report (Excel) in **Blue**

Run Date	Test Date	Test Drop	Sex	Description	Upload File Name
21/05/2013	26/03/2013	2012	M	WP_2012_Y_sire	c:/owner/data/

*Row	Tag	Index Name 1	Index Value 1	Rank 1	Index Name 2	Index Value 2	Rank 2	Index Name 3	Index Value 3	Rank 3	WT%	GFW %	FD Dev	CFW %	FDCV DEV	FDSD Dev	FCF Dev	YLD	SS	SL	CEM	CUR V
1		RP 7%	108.27	168		-1.00	1		-1.00	1	62	5.7	18.9	-1	18.52	3.47	98.67	-1	-1	-1	-1	94.55
2		RP 7%	94.14	603		-1.00	2		-1.00	2	47.2	4.1	18.28	-1	18.58	3.42	99.67	-1	-1	-1	-1	85.35

\*Row number not required

## **Appendix C1 – Example – Why use RAMPOWER?**

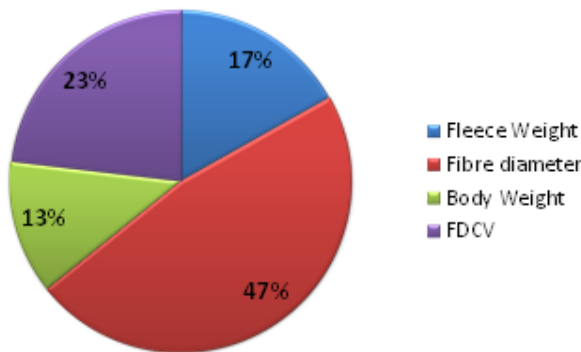
Educational material – how to use RAMPOWER; Contacts; Tips and Tools

Topic areas to cover in education and support material

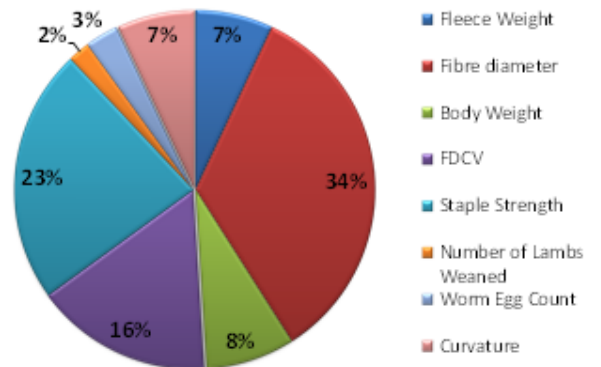
- 1) **What genetic improvement is possible** when purchasing superior rams using MERINOSELECT indexes; ASBV's and using RAMPOWER indexes to select commercial replacement ewes
- 2) **How ram breeders could use RAMPOWER**
  - a) As a three staged progression from 1. RAMPOWER (RP Index); 2. Try Before You Buy (FBV); 3. MERINOSELECT (ASBV)
  - b) Utilising the RP Index in multiplier tier for the ram breeding operation; ability to rank on index; selection of replacement ewe hoggets; selection and marketing for grade/flock rams
- 3) **How commercial breeder could use RAMPOWER**
  - a) Ranking ewe hoggets to select replacement ewes
  - b) Using the same index as the ram source for ewe replacements – what are the financial and genetic benefits; how much quicker are you making progress as opposed to just relying on ram selection?
  - c) What traits do you need to be collecting to generate useful information, for example fibre diameter, fleece weight and body weight?
- 4) **How service providers can value add to their business and clients businesses**
  - a) Using the examples outlined in points 1, 2 and 3.
- 5) **How to become accredited to access RAMPOWER**
  - a) Sheep Genetics accreditation process; contact; costs
- 6) **Examples of uploading data**
  - a) Full description of how the upload function works
  - b) What all the headings mean?
  - c) What format is required?
  - d) What to do if it does not work? Who to contact?
  - e) Reasons why the analysis may stall or be rejected?
- 7) **Examples of reports**
  - a) How to use the report information?
  - b) Ways to utilise the information – where it fits with in the genetic tool kit

**Appendix C2 – Sheep Genetics Selection Indexes**

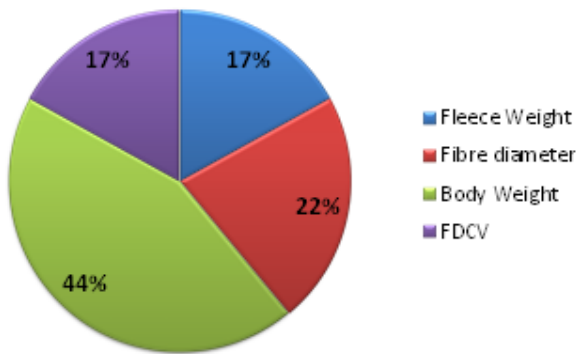
**Fibre Production**



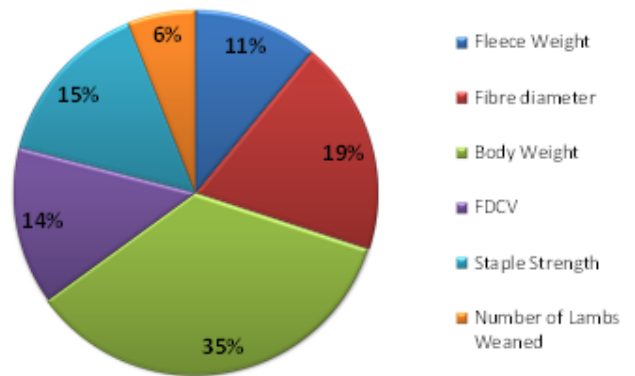
**Fibre Production +**



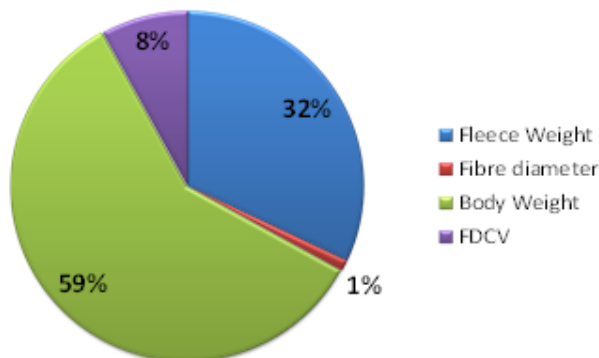
**Merino Production**



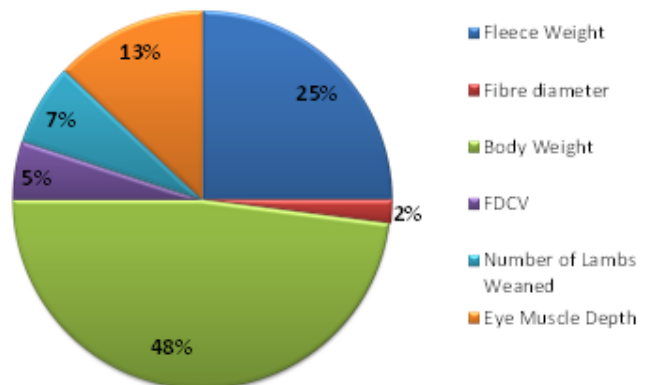
**Merino Production +**



**Merino Dual Purpose**



**Merino Dual Purpose +**



**Appendix D – Feedback on Access to OVIS Proposal 12/06/09**

A total of 11 Responses were received with most people extremely supportive of the concept. The majority would be happy to have a simple OFFM indexing service provided for \$50 based on a same day service. For an FBV job opinions varied, possibly a \$200 charge would be the maximum price that could be paid, with an approximate 2 day turn around.

A number of people commented that they currently provide simple indexing services for free or low cost. As such, it would be very challenging to persuade these parties to pay for the service and change index. A benefit needs to be clear and highlighted – for some it might be access to indexes that consider carcass attributes – for others it might be access to an index with style components.

Further, a number of Service Providers offered some useful comments that Sheep Genetics is urged to consider.

**Feedback**

<b>Concept – 8/12 Supportive</b>
Would support the concept.
Makes sense as, if I am right, it would tie the different indexes together. That has to be a good start.
Fantastic and just what is needed, should hopefully encourage involvement and enable service providers to actively promote.
Yes it probably would be good to have a universal index, if that is what you are asking.
Concept is appealing
Yes supportive of having universal indexes
Yes
100% supportive of overall concept
Supportive
Not sure
Supportive of the concept.
<b>Turn Around Time</b>
5 days - with the opportunity to get the data back earlier if needed.
Same day? Depends on how data is presented. If all good shouldn't be long at all. However I have had to on occasions send data back or ask for clarification a number of times and this is very time consuming and for first timers almost guaranteed that some issues will arise.
2-3 days – will vary
2 weeks? Depends on the complexity and presentation of data
1-2 hrs for OFFM index 3 day maximum turnaround on FBV
1 day would be fine
1-2 hours for OFFM Index 1-2 hours for FBV Same day service (within reason)

<b>Fees</b>
<p>Not sure about the proposed fee structure.                      We currently charge \$40 and the process is very simple – click of button. The OFDA 2000 has Virtual Raceside Classer + Bodyweight index &amp; also the Merino Select index built into the software.                      Would need to be sold on the benefits!</p>
<p>Not sure.                      The proposed wholesale fee is perhaps what I would look at charging straight out, but maybe we just have really scungy clients!!</p>
<p>Provide indexes for free.                      If our clients were asked to pay those fees I can't see us picking up any business. In fact if we were required to pay these fees we would opt to do what we are presently doing.</p>
<p>I could live with the \$200 charge for &lt;1000 as obviously we would continue to get access to the technical upgrades in the Ovis software whereas the Rampower program I am using is at least 10 years old (and I am not sure it has been upgraded anyway).</p>
<p>\$50 option might work with current clients – but need incentive to get them to pay for a service that is already free.</p>
<p>Pricing may be cost prohibitive. \$200 might be OK for more complex jobs.</p>
<p>\$50 for OFFM index is OK                      FBV Index \$200 for 0-1000 and \$500 for 1000+ would result in costs to my clients being much higher than they currently are. I don't think they would be happy about this. Where pedigree is involved the greatest cost is in preparing the data, not in running the analysis, so adding a larger analysis cost to cost of data preparation would increase total costs significantly.</p>
<p>Never low enough ! ( we are talking wool growers)                      Main issue is what it will cost the service provider to do their component of the work eg data prep and reporting as this cost will be added to the end fee. With both SGA and service provider fees added together = ??? Is this fee acceptable to achieve the uptake we/you require?</p>
<p>OFFM Index fees seem reasonable.</p> <p>OVIS FBV Service, I do not understand why "&gt;1000" animals costs more to run than "&lt;1000", and so much more. From my understanding of the analysis all things being equal more animals will mean the analysis will run a fraction longer but not enough to increase the price by 150%.</p> <p>Worst Case, Case study                      Stud "A" 950 animals to be analysed = 21cents per head                      Stub "B" 1050 animals to be analysis = 48cents per head                      I doubt there would be any difference in the analysis for these two studs.</p> <p>I doubt we would have many users if the cost was \$500 in addition to the time we charge for preparation and reporting. Considering a Bvest or Rampower analysis is likely to take less than 20 minutes, \$200 will be a substantial increase in cost.</p>
<p>My clients wouldn't pay \$50.</p>
<b>Other comments</b>
<p>Would need to be compatible with existing data software systems - and be available in formatted reports.</p>
<p>Need data to be sent back in a format that is easy to import into SP software.                      Could there be basic OFFM system like Rampower for accredited service providers to run in house. This would only be for limited amount of operators which show a high degree of competence in this field.</p>

<p>If the client has been using a certain index for a number of years &amp; is comfortable with it, &amp; also comfortable with the fee (nil), it will be hard to get people to shift.</p>
<p>My only other comment would be that there is a real need for some simple data collation software that is cheap and user friendly. It was interesting to hear comments the other day at the online meeting regarding debate over pedigree wizard. We have had a number of clients use commercial software for this and found them very complicated and difficult to use - okay for those that are computer savvy, but not many farmers are perhaps in that category. We do find the IWG production plus excellent for this, however it needs some updating for use with 16 digit numbers etc. I know that discussion was occurring through the Sheep CRC with software companies regarding this and was wondering if there was any outcomes. In trying to promote the use of more extensive data collection then it is really important that tools are available for producers to collect, collate and manage data independently.</p>
<p>With the pregnancy scanning side of our business we now have a large number of clients who are using alternative breeds, ? will be able to offer flock analysis for them? (haven't had anyone ask, but always a possibility).</p> <p>I would envisage if this goes ahead (and I hope it does) then we would need to consider our pricing structure and look to develop and promote this side of our business more. It should be remembered that sheep producers are notorious for not being the most free with cash and pricing will need to be seen as cost effective.</p> <p>I would perhaps like to have some training/QA in place firstly to make sure that it is all done correctly, good update for us and a reassurance to clients. ? if this could be worked into the wholesale pricing.</p>
<p>If our clients were asked to pay those fees I can,t see us picking up any business. In fact if we were required to pay these fees we would opt to do what we are presently doing. I can't see why the AWI and MLA shouldn't fund some of these projects from the levies producers pay.</p>
<p>Would need to sell to clients that there is a benefit – more traits comfort factor, or curvature Need to include something haven't had before – eye muscle, fat, - but this wont appeal to commercial – appeals to studs</p>
<p>Good idea</p>
<p>I currently work with a small number of commercial producers who have their own ram breeding nucleus flocks.</p> <p>Currently the progeny from the fully pedigreed nucleus ewes are analysed through SG and Ovis but when we come to ranking the commercial derived ewes I do that through Rampower (we used to put all of the ewe drop through Ovis but we were having issues with lowered accuracies in the upper tier progeny due to no pedigree in the commercial tier progeny and were advised to pull those records out so since that time I have been running the 2 analysis structure).</p> <p>I have always been concerned that we are not comparing apples with apples and the idea of consistency of analysis across the tiers in the flock is appealing. I think I could live with the \$200 charge for &lt;1000 as obviously we would continue to get access to the technical upgrades in the Ovis software whereas the Rampower program I am using is at least 10 years old (and I am not sure it has been upgraded anyway).</p> <p>One of the issues that interests me is that of promotion of ewes from the commercial tier in to the ram breeding tier. At the moment this becomes difficult from an analysis viewpoint because any ewe that is promoted has no history in Ovis and therefore her progeny accuracies are low and her progeny appear to be somewhat disadvantaged. If we were able to run the commercial ewe hoggets through Ovis and generate FBVs and subsequently put the best few of those ewes up in to the nucleus tier, would that mean that there would be a record for the ewe retained in the database to improve the EBV estimates on her progeny when they are analysed through SG in later years? If so, then this would definitely be a good selling point to my clients to have them pay for the within flock analysis for their commercial ewes and would once again open up the whole ewe</p>



drop as potential nucleus ewe replacements rather than those just derived from the nucleus itself.

Thank you for the opportunity to participate in the recent Webinar. I wish to further explain my position as a service provider. I do not depend greatly on the provision of services for data inclusion in Sheep genetics but I have a number of clients in my artificial breeding service that would like to make more use of performance breeding data. I see this as an extension of my main service and part of my aim to provide animal breeding services in general.

Re: Discussion Paper

Service provider access to OVIS for within flock analysis

If I understand this proposal correctly, a Service Provider (SP) having corrected the raw data, submits it to Sheep Genetics (SG) for analysis, the data is then returned to the SP along with an appropriate fee. In other words the SP does the ground work and simply provides the means by which a client can have a within flock analysis done by SG but SG does not provide SP with the means to analyse the data themselves and charge for the complete service. The SP then derives income from a "retail" mark up fee on top of the SG "wholesale fee" plus any other relevant time charges.

Since I have had requests from a number of breeders who either do or don't currently submit data to SG, to provide analysis within flocks and/or within test groups, I am aware there is a need for this service. At present only a within test group index can be provided using one of the index choices available in RamPower. The latest version of this software was released in 2000 and thus has obvious limitations for the needs of today's breeding objectives.

The primary aim is to get sheep breeders to use objective measurement to assist them in genetic improvement based on the heritability of factors of economic importance. As we all know this means different things to different people so flexibility is critical. Traditional stud breeders in particular, remain very wary of Merino Select because of the need to submit measurement data to an outside "unknown" source whether or not this source agrees not to publish the results. Most prefer to do things in house initially and over time they begin to wonder how they stack up against everyone else. It has to be said that their trusted private service provider will be far more effective in achieving this initial approach than a government or quasi government body because they can explain the means by which this "new" idea can fit into their existing breeding plan and provide direct personal support.

A classic example is the rather poor uptake of Electronic tag Identification (EID) in the sheep industry in general even though within Victoria the DPI has heavily subsidised both the tags and hardware required to make use of them. Other than this instance EID tags and associated hardware is sold almost exclusively through nominated stock agents who have no expertise in the use of the tags or hardware and do not provide any support services. It then falls back on the commercial service providers to solve the problems. I believe this is a major reason the EID tag system has not become more popular in the sheep industry. There is simply no incentive for private SP to supply and support the use of electronic tags and hardware. While at least one tag supplier has attempted to address this issue, the service provider takes a very modest retail mark up having purchased the product wholesale through the stock agents and the end price is fixed any way so again not much incentive.

I am afraid a similar problem is occurring regarding the use of SG.

Why should service providers encourage breeders to actively participate in the national scheme?

What's in it for them?

Where do they obtain an income?

If the success of SG is somewhat dependent on the assistance of the industry service providers then it needs to be acknowledged with the premise that the uptake of breeding technology must rely on a viable private service provider sector and the challenge is how

to ensure this viability.

I made mention of this fact in the recent webinar. When SG are reviewing and modifying their business model much of which depends on the support of SP then they must consider the viability of SP within this model. It is indeed quite unusual that a business would seek the assistance of other service providers to ensure its viability and then use this avenue to be an active competitor. Unless this basic concept is understood then I can't see how either sector can be viable or compatible.

So where is the income for Service Providers? If they provide a service such as carcass scanning and/or fleece testing then income is derived in this way but this is independent of involvement with SG. If they supply a data management service then a couple of hours to straiten out data submitted by breeders prior to submission to SG provide the only form of income. They can then assist the breeder to download this analysis to a software program of their choice so they can make use of the data themselves. Most breeders choose Pedigree Wizard (PW) since it is a free ware program so the gross income for service provider is a couple of hours data work.

It is claimed that Pedigree Wizard is a very basic program but upon inspection of the latest program offered, it is difficult to see what other software the average breeder would require given the extent of recording and reporting available in PW. Providing users of SG with a means of reviewing individual animals and generating basic reports for practical use in the yards such as animals in rank or tag order, is I think necessary. However I don't believe such a program needs to be more than a read-only access whereas PW goes way beyond this level and there is no denial PW will continue to be developed which means that all other software providers might as well stay out of the market unless they provide only an add-on program such as those supplied by Fairport Technologies and Practical Systems.

I can only speak of the software programs with which I am familiar but as far as I am aware only TopStud and WoolPak are dedicated sheep breeding software programs offered within Australia whereas other software programs such as Stock Book and PAM IAR are offered as part of a large range of agricultural software and are principally add on components to either other existing livestock or farm management programs. Other software products such as Pinnacle which is a basic livestock recording program is under further development.

Many data managers and breeders require further development of the commercially available software programs. Very little has been done in the last 5 years or so in the way of further development and it is understandable why this is the case when dealing with a very small market and one competing against software supplied free. It is simply not feasible to develop and market software for the exclusive use of sheep breeding industry when a comparative program is offered and marketed free of charge and furthermore is copyrighted as a competitive program. The common response when suggested to breeders is "why buy a program when I can get one for free that will do most of what I want to do".

If we are to accept that SG will continue to develop and provide PW free of charge, then they simply cannot expect support from the commercial software people. The current situation is without precedent and is doomed to failure as SP's must turn to other means of generating income.

If SG really wants to make a difference to the industry they should consider providing the OVIS software to service providers for a minimal fee that includes training, updates and support and begin either begin charging for pedigree wizard as an optional addition to the annual submission fees to SG or downgrade the program to a very basic read-only download version.

The issue of Pedigree Wizard appears to crop up quite often and there is no doubt that many breeders do not see a need for the provision of software services because they

have free access to Pedigree Wizard. This of course reduces the sale opportunity of software and then the ongoing support services income and the ability to be an all round data manager. People simply want us to "fix" there data so it can be submitted to SG and then download the results to PW. Don't quite know how anyone could make a viable business from this. Further there is no incentive or indeed finance for ongoing software development if competitive packages are offered free of charge.

It seems that SG requires the assistance of service providers in order to be viable and expects to compete with them as well. I don't know any industry where a business helps a competitor compete against them.

It is a top priority that SG clearly and defines its intentions and position within the industry such that they allow for the viability of commercial service providers.

## Appendix E – Discussion paper: service provider access to OVIS for within flock analysis

### Discussion Paper:

#### Service Provider Access to OVIS for Within Flock Analysis

### Background

Currently in the Merino industry, across-flock analyses are run using the Sheep Genetics OVIS engine. However, within-flock genetic analyses for Merinos are being conducted using a number of different analysis engines (Ovis; BVEST; Rampower). Each of these engines has a number of small but significant differences in their genetic analysis methodology, such as different heritabilities, genetic correlations and/or analysis models. These differences result in small but significant changes to the breeding values reported. This is evident when comparing results from similar sets of data that are analysed through different engines. These small differences are then multiplied when the breeding values are combined into a single selection index.

A system that produces indexes and breeding values from the same engine will minimise industry confusion and, in turn, increase confidence in the use of these breeding tools.

### Proposal

The proposal is to provide access to the OVIS engine for Service Providers, providing standard results throughout the sheep industry. Two types of product would be offered reflecting the different requirements for genetic information throughout the sheep industry. Access would be through an internet portal, with data files of a fixed format uploaded, checked and then analysed. Time taken would be dependent on the product used and the complexity of the data supplied.

Detail	OFFM INDEX	FBV
Type of analysis	Within mob / group only	Within flock, across years
Pedigree	Primarily syndicates	Mixed (Full/sire only/syndicates)
Output	Index / colour grade	FBVs and index
Turn around time	1-2 hours	Dependent on data structure

The fee structure needs to accommodate a range of job complexities. Jobs will range from OFFM operators providing indexes on non-pedigree datasets - to pedigreed across year analyses. Sheep Genetics proposes that a wholesale price be charged to service providers using this service to maintain a small level of cost recovery. Sheep Genetics would no longer offer within flock analyses.

### Proposed wholesale pricing

Service	Volume	Wholesale Fee
OVIS FBV	0-1000 animals	\$200
	1000+ animals	\$500
OFFM INDEX	Per group	\$50

### Service Provider Feedback Request (*Feedback collated on Thursday the 11<sup>th</sup> of June*)

**Concept** – are you supportive of the overall concept?

**Turnaround time** - what is a reasonable turnaround time from data submission?

**Fees** – what are reasonable fees for within flock analyses?

**Any other comments/suggestions?**