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Pasture Variety Testing Schemes



Current Status

- APPEC (Australian Plant Performance Evaluation Committee) disbanded
- No recommended lists in Australia as in Europe
- Free market access to approved imported species
- Improved plant genetics through sound breeding and selection are mixed with branding of out-dated material
- Some private seed company trials - 250-300 trials in East
- Inconsistent and maybe biased marketing of information

Issues for Producers & Advisors

- No consistency in private trialing or information format
- Difficult to know which are better options based on genetic integrity, compared to livestock EBVs
- Livestock industry well aware of Lambplan & Breedplan
- Retail advice often linked to margin not performance
- Producers & advisors do not know the right questions to ask
- Information available often does not provide suitable product selection and management advice – pastures fit for purpose



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Issues for Industry

Australian Seed Federation (ASF)

- Desire for QA in trial process and marketing claims
- Re-build confidence in the industry

RDC's

- Return value from producer levies used for plant breeding
- Drive better returns from matching best plant & animal genetics

Retail and advisory sector

- Confidence in making better recommendations to producers
- *Pastures fit for purpose*



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Pastures Australia Initiative

Pilot NVT program,

- Supported by many commercial seed companies
- Heritage, PGG Wrightson, Seedmark, Seed Force,
- Vic Seeds, DLF Seeds
- 3 sites in Victoria: Shepparton, Camperdown, Outtrim
- Perennial ryegrass - 29 entries at 2 sites
- Italian ryegrass – 18 entries at 2 sites
- Annual ryegrass – 27 entries at 2 sites



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MLA Initiative – 2010/11

Audit & Accreditation program,

- Link from PA program has enabled trust to proceed further
- Has engaged commercial seed companies
- Develop acceptable trial protocols for key species
- Utilise commercial trials as well as independent trials
- Accredite trial managers
- Audit trial sites
- Central data storage, analysis and certification of results



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MLA Initiative – 2010/11

Data Analysis,

- Can we get more information from existing pool of data
- Multi site x multi year trials



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Objectives of initiatives

A well informed market place – enabling producers and their advisors, to make better purchase decisions around pastures that meets their business needs.

- Improve pasture measurement skills in industry
- Demonstration of process integrity
- Objectivity and increased accuracy of results
- Greater understanding of extra value from improved genetics
- Potential increase in rate of pasture improvement



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What is missing?

- National Variety Testing is only focussed on dry matter
- Pastures are not the end product, livestock production is
- Need a better measure of performance
- Need links to animal performance
- EBV approach, similar to livestock genetics
- Producers & their advisors know Lambplan & Breedplan
- Also need selection and management process and advice



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Relative Forage Ratings

Example of Seed Force program,

- Large numbers of replicated cultivar trials
- Currently available for annual, italian & hybrid ryegrass
- Measure key characteristics of yield and quality

Animal Performance Calculator™ - *patented model*

- Link Nutritional model to Gross Margin Analysis
- Feed in assumptions on price, costs, utilisation, etc
- Develop Relative Forage Ratings for cultivars



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RFR Assumptions

- Relative ratings have been undertaken by comparing all yields as a percentage of control cultivar **Tetila**
- Feed quality data undertaken prior to each of 6 grazings July - December 2008 at Seed Force 's Gundagai research base
- Feed quality analysis undertaken by NSW DPI Feed Quality Service at Wagga Wagga
- Meat and milk values estimated using Seed Force's Animal Performance Calculator™
based on the following assumptions:
 - Meat at 65% feed utilisation, based on 300kg steer with 44MJ for maintenance and 45MJ/kg lwg at \$1.70/kg
 - Milk at 75% feed utilisation, based on 600kg cow with 100MJ for maintenance/ exercise/pregnancy and 5.5MJ/litr at \$0.35 per litre
 - All growing costs and retail seed price by variety included in the Gross Margin analysis
 - Meat and milk values are differences in Gross Margins relative to control cultivar **Tetila**



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Relative Forage Ratings

-annual ryegrass example

Cultivar	<i>ploidy</i>	winter yield	spring yield	total yield	Flowering Tetila = 0	ME MJ/kgDM	CP %	NDF %	Extra Meat Value	Extra Milk Value	no. of trials
Tetila	<i>early tetraploid</i>	100	100	100	0	10.53	23.95	48.67	\$0	\$0	19
SF Sprinter	<i>early tetraploid</i>	111	111	113	+4 days	10.68	26.12	48.33	+\$129	+\$247	23
Winter Star II	<i>mid tetraploid</i>	103	116	111	+8 days	10.75	23.52	47.83	+\$134	+\$273	23
SF Adrenalin	<i>mid tetraploid</i>	111	119	116	+9 days	11.07	25.80	45.67	+\$293	+\$632	23



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The Value Proposition

- Quantification of the differences in value from the various options available?
- Confirmation that an investment in improved plant genetics will be of economic benefit to the producer?
- Quantification of the extra value from better management:
 - Increased sowing rates
 - Better fertility
 - Better grazing management, etc



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Possible Future Selection Process

1. **Pasture Picker** – which are the most appropriate species for my particular paddock – **PA Existing**
2. **Species Evaluator** – requires basic seasonal yield and quality data across species – **possible co-funded project**
3. **Cultivar NVT** – objective relative assessment of agronomic characteristics – **current MLA A&A Project**
4. **Relative EBV rating** – modelling yield and quality data into animal performance outcomes – **possible modelling project**



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Possible Future Selection Process

1. **Pasture Picker** – *I could plant perennial ryegrass, tall fescue, cocksfoot or phalaris in this paddock*
2. **Species Evaluator** – *tall fescue offers me the best option for live-weight gain with good management, esp in summer*
3. **Cultivar NVT** – *I need a cultivar with some winter activity but best summer yield for my needs*
4. **Relative EBV rating** – *Of the cultivars with those agronomic traits, this one has best quality and meat performance value*



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What are the key questions to ask now?

1. Not just growing pasture, but growing it for a purpose!
2. **Pastures fit for purpose** – animal production, natural resource management, business sustainability;
specifics such as winter feed, finish lambs over summer, etc
3. What is the best species, cultivars for my needs?
4. Is there a pool of trial (incl. local) data to compare cultivars?
5. How will I be able to get the best profit outcome from use of this product? – **better agronomy, animal health, management**



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Summary

1. Industry desire (by most) to overcome current issues
2. RDC investment in plant breeding now shifting into developing processes and tools for better decision making
3. Seed industry is being engaged in the process
4. New tools are being developed
5. Work to do on developing better link to animal performance
6. Advisors need to be skilled up developing more precision in pasture decisions – ***developing pastures fit for purpose***



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