

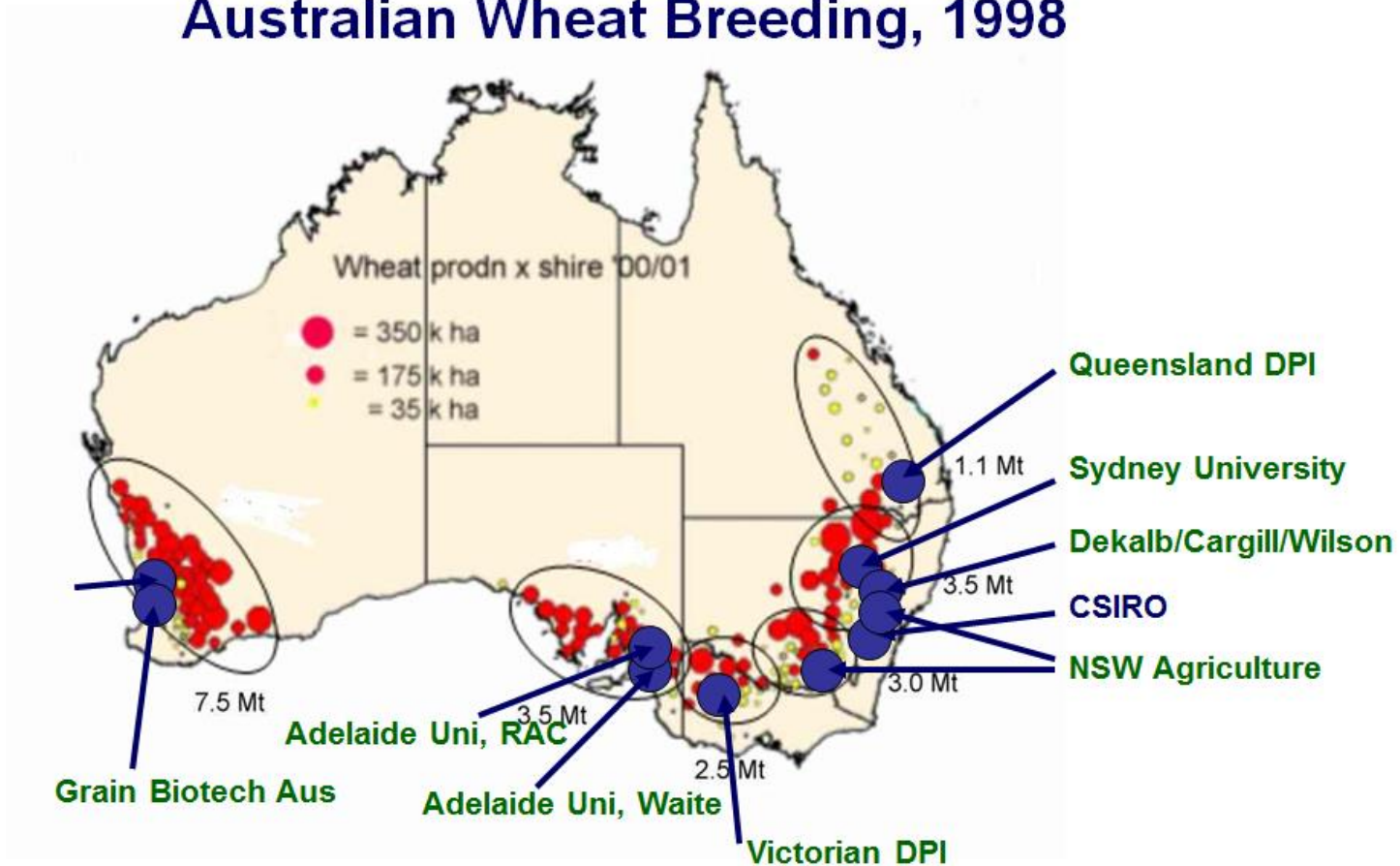


Wheat Breeders' Perspectives – how EPR's
have changed the funding of breeding

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Australian Grain Technologies Pty Ltd

- The evolution of cereal breeding in Australia
- The need for change in cereal breeding
- Introduction of End Point Royalties (EPR)
- AGT a new commercial wheat breeder

Australian Wheat Breeding, 1998



- Historically almost entirely public sector funded – overall decline in public investment
- Plant Variety Rights Act enacted in 1987 – initially little impact in broadacre due to FSS
- 1991 UPOV convention extended IP protection to harvested material and products
- PBR legislation amended in 1994 – allows breeder to capture return on investment at **ANY** single point in the use of the variety

What has Australia done about this?



- Grower led introduction of End Point Royalty (EPR) system in 1998 – Silverstar/Goldmark
- Royalty is paid on production from the variety not on the purchase of seed – breeder and grower share the risk
- Royalty mostly collected at point of sale

- Wheat breeding is now 100% funded through EPRs or shareholder (private equity) investment
- Barley breeding is now 45% funded through EPRs or shareholder investment and set to increase
- Canola breeding now funded 100% from either hybrid seed royalties, EPRs, or shareholder investment
- Large majority of Australia growers are supportive of the EPR system

How does the EPR system work?



- Grower purchases seed from a distributor
- Breeder licenses grower to use the variety
- In the license agreement the grower agrees to pay an EPR and provide transaction data, or allows others to provide data
- Traders/buyers are contracted to deduct EPR's from growers payments
- Traders/buyers contracted to provide transaction data to allow direct invoicing of growers for EPR's

Packaging



SEEDS FOR SUCCESS



VARIETY:

TREATED WITH:

WEIGHT: **40kg NET**

DISTRIBUTED BY:

CAUTION: SEED TREATED WITH FUNGICIDE. NOT FOR HUMAN CONSUMPTION - DO NOT REUSE BAG.

AUS



SEEDS FOR SUCCESS

Seed Testing – Purity & Germination Standards

The integrity of this seed has been confirmed by independent inspections as part of the SureSeed™ Program – a quality assurance based seed program developed by Seed Services Australia (PIRSA) and AGWEST Plant Laboratories (DAFWA) and met the following standards at the time of release.

Cereals, Pulses & Canola Crops	
Minimum Pure Seed	All Species 98%
Minimum Germination	Cereals & Canola 85%
Maximum Other Seeds	Pulses 5 per kg
Maximum Other Cereals	In Cereals & Pulses 2 per kg

(A Seed Testing Statement of Analysis is available on request)

ATTENTION

CONDITIONS OF SALE AND USE

Upon purchasing this product and opening the bag, you agree to be bound by the conditions set out below.

Do not open this bag unless and until you read and accept the conditions. If, before opening this bag, these conditions are not acceptable to you, this product is to be returned in its original condition, unopened to the place of purchase immediately, together with proof of purchase, to obtain a refund.

You agree that:

You are bound by the terms and conditions of the "AGT Seeds Grower Licence Agreement" and you acknowledge that you have read, understood and accept those terms. You agree to pay any End Point Royalties applicable under that Agreement on the grain produced of this variety.

AGT Seeds does not represent or warrant that the product inside this bag is fit for a particular purpose. You must satisfy yourself that this product is fit for the purpose for which you intend to use it.

All warranties, conditions, liabilities or representations in relation to the product, whether expressed or implied, are excluded by AGT Seeds to the extent permitted by law. Without limiting any of these terms, if you chemically treat the product in this bag, then any warranty applicable to this product automatically becomes void and AGT Seeds has no liability whatsoever to you or to any other person.

In any event, it is expressly agreed that AGT Seeds liability to the buyer or others for any loss (whether such loss results from breach of condition, warranty, contract or from negligence) shall be limited solely to the amount of the purchase price of the seed. The remedy hereby provided shall be the exclusive and sole remedy of the Buyer and all other persons for such loss. In no event shall AGT Seeds be liable for any consequential or incidental damages sustained by the Buyer or any other person. By acceptance of the seed the Buyer acknowledges that the limitations and disclaimers herein set forth are conditions of the sale and constitute the entire agreement between parties regarding warranty or other liabilities and the remedy therefore.

This variety is registered in Australia under the Plant Breeders Rights Act 1994. The seed in this bag is marketed by AGT Seeds. Any unauthorised commercial production or reproduction, conditioning for propagation, offering for sale, export, import or stocking of propagating material is an infringement under the Plant Breeders Rights Act 1994 (Cth) and could result in legal action.



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Key Terms of the License Agreement



- Agree to pay the appropriate EPR on all grain produced from the variety except that retained for seed
- Agree to provide information on quantities produced, saved for seed, and/or sold/used, and the details of that sale or use
- Agree that authorised seed distributors may pass on details of seed sales to breeder
- Agree that any entity that stores, warehouses or sells grain that you produced from the variety may be required to pass on details to breeder

- 95% wheat breeding in the year 2000 was in the public sector – GRDC initiative to establish 3 wheat breeding companies
- Year 2014
 - * 100% wheat breeding in private sector
 - * 6 wheat breeding Companies
 - * AGT at least 4 times bigger than any one of previous public programs

Wheat Breeding in Australia 2014

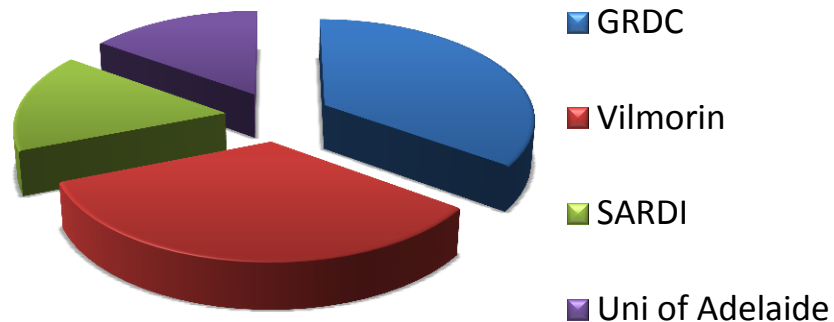


Breeder	Owners	Estimated market share*
AGT	GRDC, Limagrain , SARDI, University of Adelaide	32.9%
Intergrain	GRDC, Department of Agric. and Food WA, Monsanto	7.4%
Longreach Plant Breeders	Pacific Seeds, Syngenta	5.7%
Advantage (HRZ)	Dow , CSIRO, Crop & Food	1%
Bayer	Bayer	0%
Other – Grainsearch, Heritage Seeds, Seed Force etc.	Various	<1%

A quick overview of AGT



AGT established: 2002



Activities: wheat, barley, triticale, and durum breeding, genetic and agronomic R&D, commercialisation and royalty collection

Staff: 45 permanent >60 seasonal staff based at 6 mostly regional centres

Market Share (2013/14): 33%

- Since taking over the majority of the public breeding programs AGT has:
 - * Reduced germplasm cycling time by 4 years
 - * More than doubled effective population size
- AGT have retained and recruited some of the best plant breeding talent in Australia
- AGT have invested heavily in upgrades to plant, equipment and breeding systems
- AGT is now fully funded from EPR's

- 45 locations around Australia
- ~220,000 yield plots each year
- 65,000 new potential varieties each year
- 15,000 early generation quality tests
- 1,500 mid/late generation quality tests
- Summer nurseries
 - * breeders lines
 - * advanced lines

An efficient and effective EPR system is essential to the survival of Australian cereal breeding and the ongoing delivery of productivity gains and quality critical to the future of the Australian grains industry.