Australian Report

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Business Development Consultant

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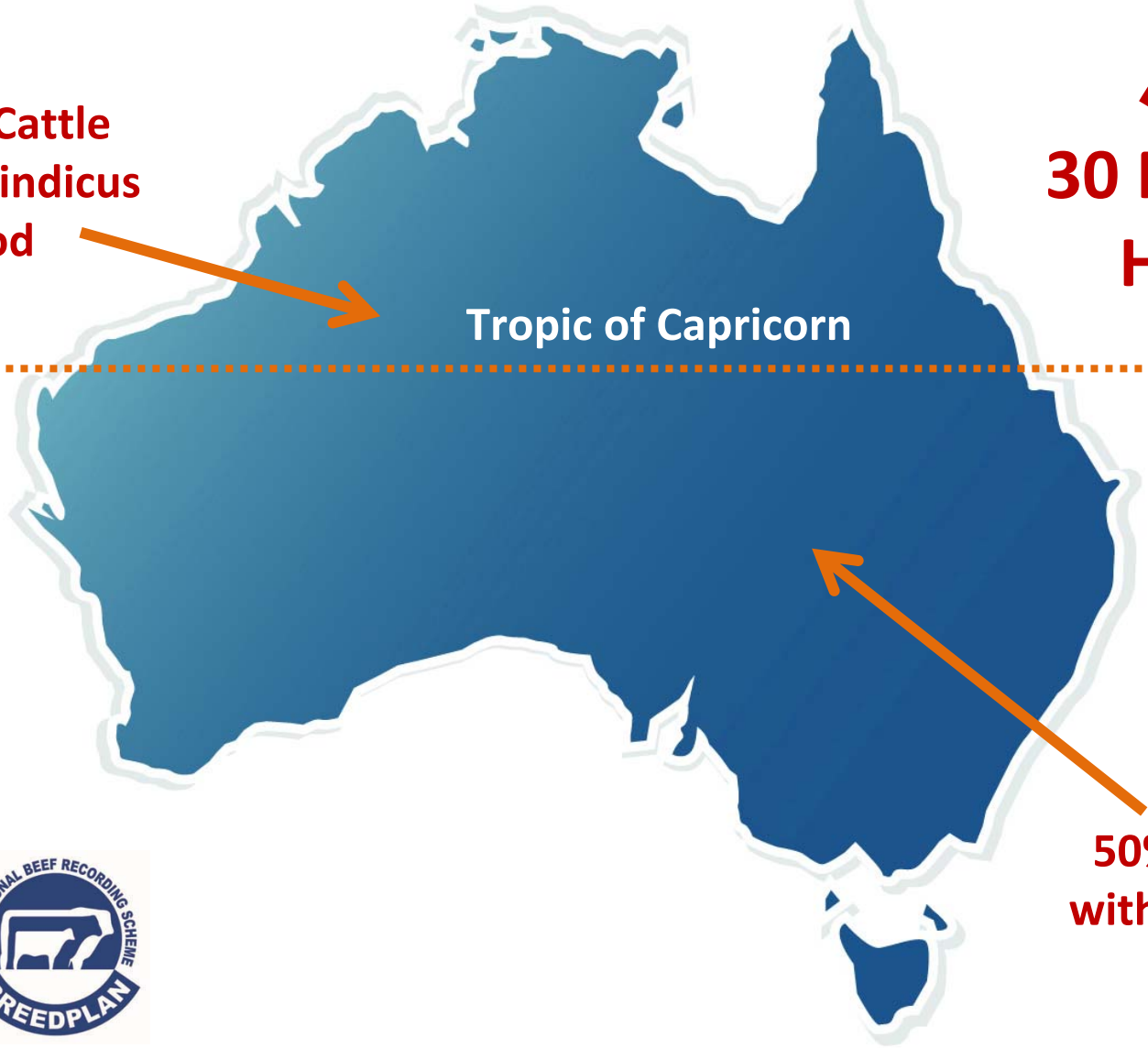
Australian Cattle Population



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INTERNATIONAL BEEF RECORDING SCHEME BREEDPLAN

Where Output Goes

700,000* Live Cattle Exports

736,000 tonnes CWT Local Consumption **(35%)**

1,366,850 tonnes CWT Export Beef **(65%)**

* *115,000 exported for breeding*
585,000 exported for value adding & slaughter

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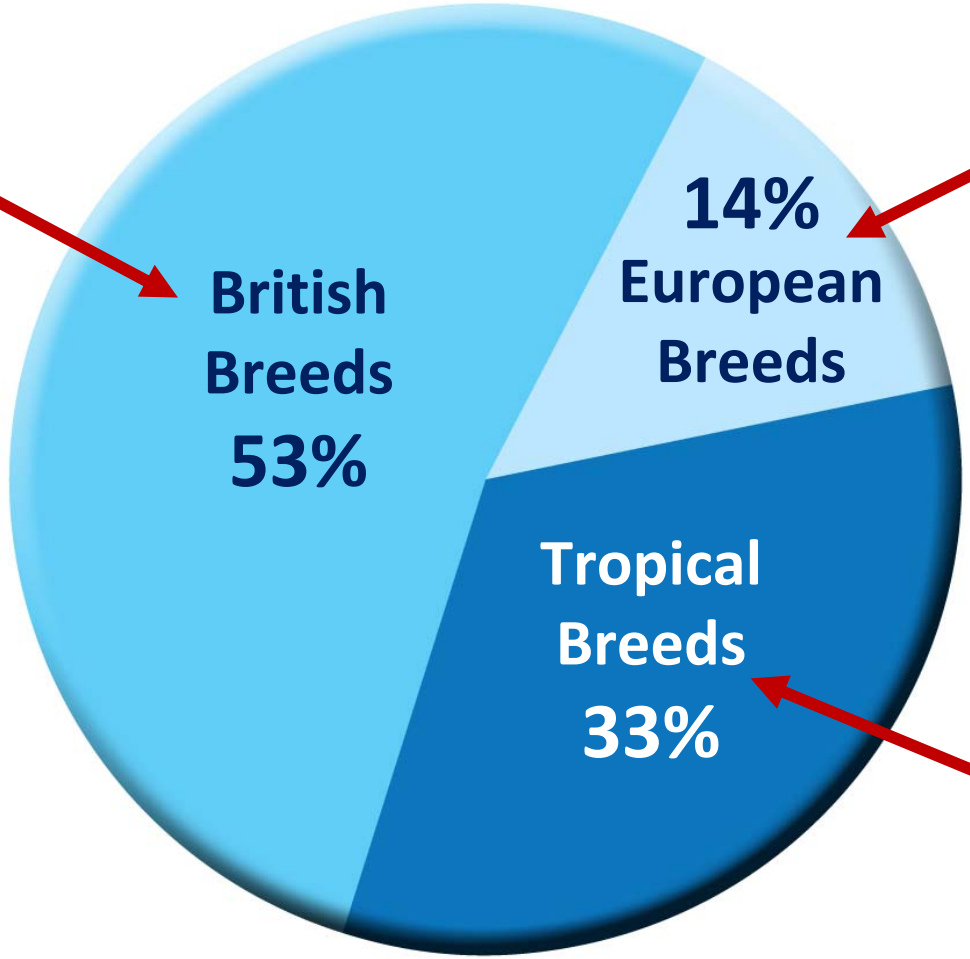
Breed Distribution of Seedstock Herd

1) Angus
2) Hereford
3) Shorthorn



1) Charolais
2) Limousin
3) Simmental

Annual Registration 190,000

1) Brahman
2) Droughtmaster
3) Santa Gertrudis

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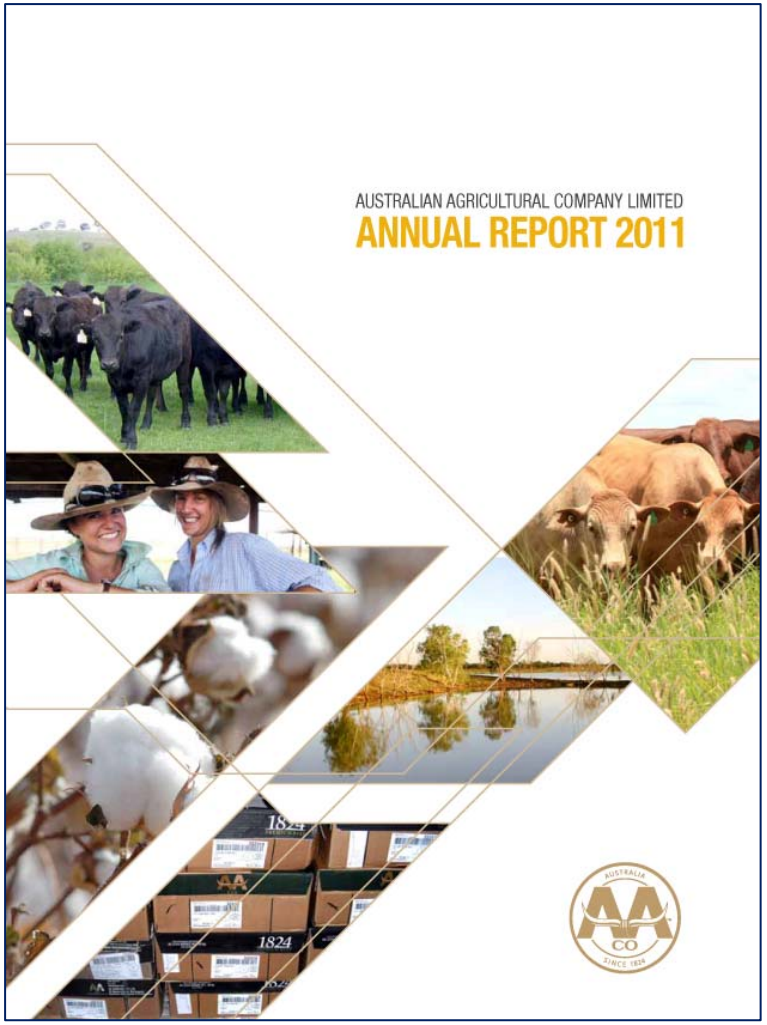
Australian Agricultural Company



No. of Properties	**23**
Feedlots	**5**
Area	**7.2M hectares**
(Almost the same size as Ireland)	
No. of Cattle	**660,000 hd**

Breeds:	
Wagyu	**60,000**
Angus	**65,000**
Gulf Composite	**105,000**
Barkly Composite	**160,000**
Brahman Composite	**270,000**
TOTAL	**660,000**

BREEDPLAN® Genetic Evaluation

- BREEDPLAN® is the world's most widely used genetic evaluation system for beef cattle
- Developed in Australia
- Used by: - 44 breeds
  - 100+ breed associations
  - across 15 countries
- Growth, carcase and fertility EBVs are evaluated together in a multi trait model + calving ease + others
- Database over 40 million animals

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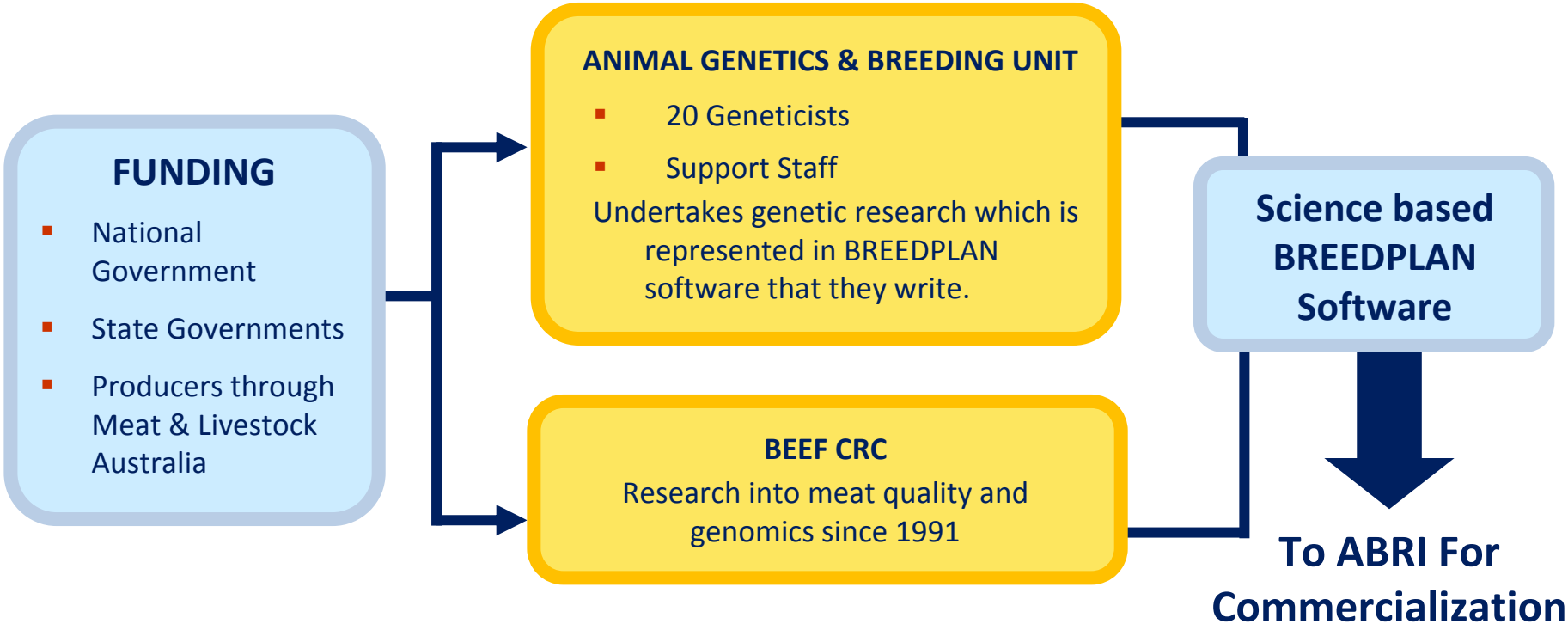
BREEDPLAN® Research Component



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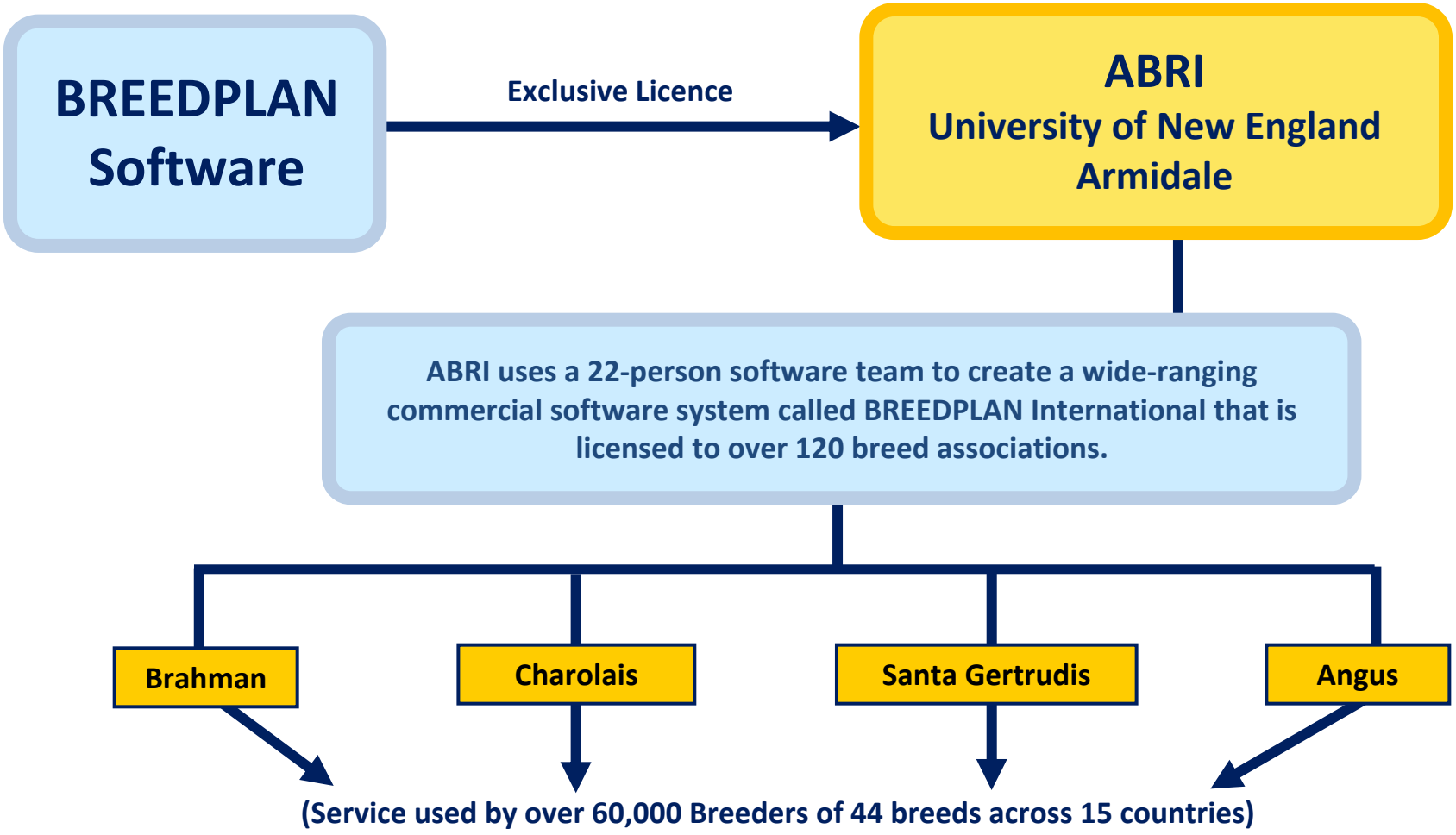
Commercialization Model



Traits For Which BREEDPLAN EBVs/EPDs Are Produced

Growth	Fertility/Birth	Carcase	Other
Birth Weight Growth: ▪ 200 Day ▪ 400 Day ▪ 600 Day Maternal (Milk) Mature Cow Weight	Scrotal Size Days to Calving Gestation Length Calving Ease ▪ Direct ▪ Daughters	Carcase Weight Eye Muscle Area Fat Depth: ▪ Rump ▪ Rib Intramuscular Fat Retail Beef Yield	Docility Net Feed Intake Flight Time Shear Force Structural Soundness

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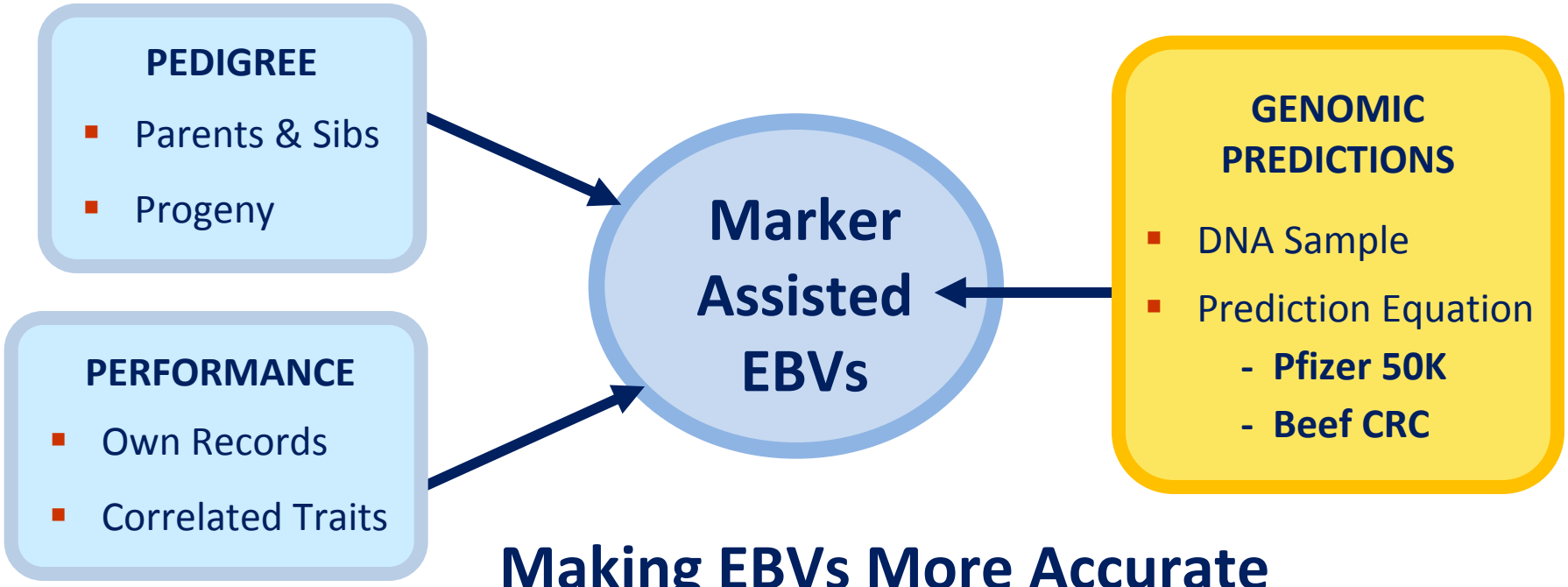
BREEDPLAN Is Producing Marker-Assisted EBVs



Making EBVs More Accurate

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Routine Across-Country Evaluations

Analyses are run on combined datasets

- Australia and New Zealand*
- South Africa and Namibia
- Pan American Hereford - USA, Canada, Uruguay and Argentina
- Murray Grey - Australia, NZ, USA, Canada and UK

Comparable EBVs/EPDs to identify and more

Readily use the elite genetics

** Commenced in 1990*

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Suite of Genetic Improvement Tools

A number of complementary decision making tools can be interfaced with BREEDPLAN

- **BreedObject**
- **TakeStock**
- **MateSel**
- **Quality assurance products**
- **GeneProb**
- **Internet Solutions**

A selection index tool for formalising breeding objectives to assist in breeding more profitable animals

Creates a Selection Index to maximise PROFIT

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INTERNATIONAL BEEF RECORDING SCHEME
BREEDPLAN

TakeStock™

- Evaluates the **genetic progress** of a herd for a particular Selection Index
- **Benchmarks the progress** of the herd against the breed
- Identifies **Key Performance Indicators** (KPIs) that explain significant differences in the rate of genetic progress between herds

Genetic Benchmarking Tool

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- **Mating selection** tool
- **Optimise genetic progress** with constraints -
  - candidate animals
  - breeding technology (AI/ET)
  - genetics (EBVs & MVPs)
  - inbreeding
  - genetic conditions

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Quality Assurance Products

- **Data Audit**

  evaluates data quantity and quality

- **Completeness of Performance**
  - Provides information on data submitted to BREEDPLAN
  - Two components:
    - Completeness of Performance Reports
    - Star Rating System

GeneProb

- calculates probability of animal being a carrier for a particular genetic condition based on DNA plus pedigree
  - Genetic disorders
  - Horn/poll
  - Coat colour

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Internet Solutions

Internet information system that provides access to:

- **Animal/Member Enquiries**
  - Animal lists (with sort criteria)
  - Pedigree display with photos/images
  - Performance information
  - Progeny lists
  - Graphs of performance
  - Membership details
- **Entry of registrations/inventory updates/performance data**
- **Mating prediction service**
- **Download electronic files/reports**

3 Million Pages Per Month

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Technical Support

Services Include

- On-Farm visits
- Workshops
- Field Days
- Webinars
- Newsletters
- Technical Tip Sheets
- Consultation to Breed Association Boards & Technical Committees
- Training Breed Association Staff
- Industry interface with research groups

Cofunded by:
ABRI
Breed Associations
Meat & Livestock Australia

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Conducting Genetic Evaluations in 15 Countries

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INTERNATIONAL BEEF RECORDING SCHEME BREEDPLAN

BREEDPLAN International Summary

- Used by 100+ breed associations
- 44 breeds
- 15 countries serviced
- 60,000 users
- 460,000 beef registrations per year
- EBVs/EPDs produced on 22 traits
- Does across-country evaluations routinely
- Internet information system - 3 million pages per month
- DNA data included in marker-assisted EBVs
- Total database exceeds 40 million pedigree cattle
- R&D budget A$12M - $20M pa in period 2001 - 2011

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