Plant Variety Protection and Technology Transfer: the Benefits of Public-Private Partnerships

Use of Plant Variety Protection by National Research Centres as it pertains to Grasslanz Technology Limited in New Zealand

Jenn James

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Today’s Presentation

- Grasslanz Technology overview
- Role of NZ Government-owned R & D
- Impact & use of PVR
- Importance of PVR to Grasslanz as a commercialising agent of a National Research Centre
  - conventional species
  - fungal endophytes
- Issues and perceptions surrounding publicly funded research
Government Research & Development

- Pre and post 1992
- Research and financial focus shift

Grasslanz Technology Ltd

*World leading agricultural company*

*Subsidiary of AgResearch Ltd*

*We fund research & development then license plant technologies for commercialisation*
What are we famous for?

Team Grasslanz
Development of plant and endophyte technologies

AgResearch Science

Other Science Providers

Funding $$$

Technology Licence

Royalty $$$

COMMERCIALISATION
Unique

- Outsource
- Not exclusive
- Invest with the best– not the cheapest
- Product and technology delivery focus
- High level cost benefit

Plant Variety Development

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<th>Primary Driver</th>
<th>Opportunity identified</th>
<th>Product Created</th>
<th>Ownership secured</th>
<th>Inventory build-up</th>
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Project Contributions:
- **AgResearch**: Plant Breeding and innovation, education
- **Grasslanz**: Plant Variety Protection, nucleus seed, finance, project coordination, stewardship.
- **Seed Company**: Seed production and processing, marketing, finance, royalties, knowledge transfer.
Grasslanz’s Success

- Product development focus
- Match up suitable partners
- Clear path to market
- Tight-knit small team
- Access to multidisciplinary research

Plant Variety Rights in NZ

- NZ member UPOV 1981
- Signed 1991...
- Confidence for breeders & funders
- Supports principles of partnerships
Importance of PVR to Grasslanz as commercialisation agent of a National Research Centre

- Licences
- Royalties
- Completes the cycle

PVR & Grasslanz

- Full time Intellectual Property Manager
- 100s of PVRs

Grasses
- Perennial ryegrass
- Italian ryegrass
- Hybrid ryegrass
- Cockshut
- Tall fescue
- Phalaris
- Prairie grass
- Brome
- Timothy
- Browntop
- Cotula
- Dogstail

Legumes
- White clover
- Red clover
- Strawberry clover
- Alsike clover
- Lotus
- Birdsfoot trefoil
- Lucerne
- Serradella
- Sulla
- Vetich
- Kura clover

Others
- Herbal Ley
- Chicory
- Plantain
PVR & Grasslanz

- Full time Intellectual Property Manager
- 100s of PVRs
- Close relationship with NZ Office
- Testing
  - Australasia, USA, Europe
- Endophytes

Mutualistic relationship
What are they?

Fungus (endophyte) + grass plant

Endo = within - Phyte = plant
Fungal Endophyte

Cross section of a perennial rye grass tiller. The endophyte strands, cut at right angles, appear as green dots. The red color comes from chlorophyll.

Wild type Endophyte

TALL FESCUE GRASS IS POISON FOR CATTLE

By I. J. CUNNINGHAM, Superintendent, Department of Agriculture Animal Research Station, Wallaseville.
Wild type Endophyte

Ryegrass Staggers

Endophyte infected  Endophyte free
PVR of Fungal Endophytes

- World leaders
- Close relationship with NZPVRO
- DUS testing
- Big role in pastoral farming
  - Ryegrass in NZ
  - Fescue in USA

Grasslanz Endophytes
If PVR did not exist...

- Breeders?
- Seed Companies?
- Farmers?
- Grasslanz’s ability to add value across all groups

Perception & issues

- Publicly funded science to fill pockets of private companies
- IP ownership of AgResearch varieties

➡️ Education
➡️ Integrity
Summary

• Industry required to adapt
• Link between science and market
• Cyclic interlinked system
• **Plant Variety Protection essential**

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