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Soybean production into the future

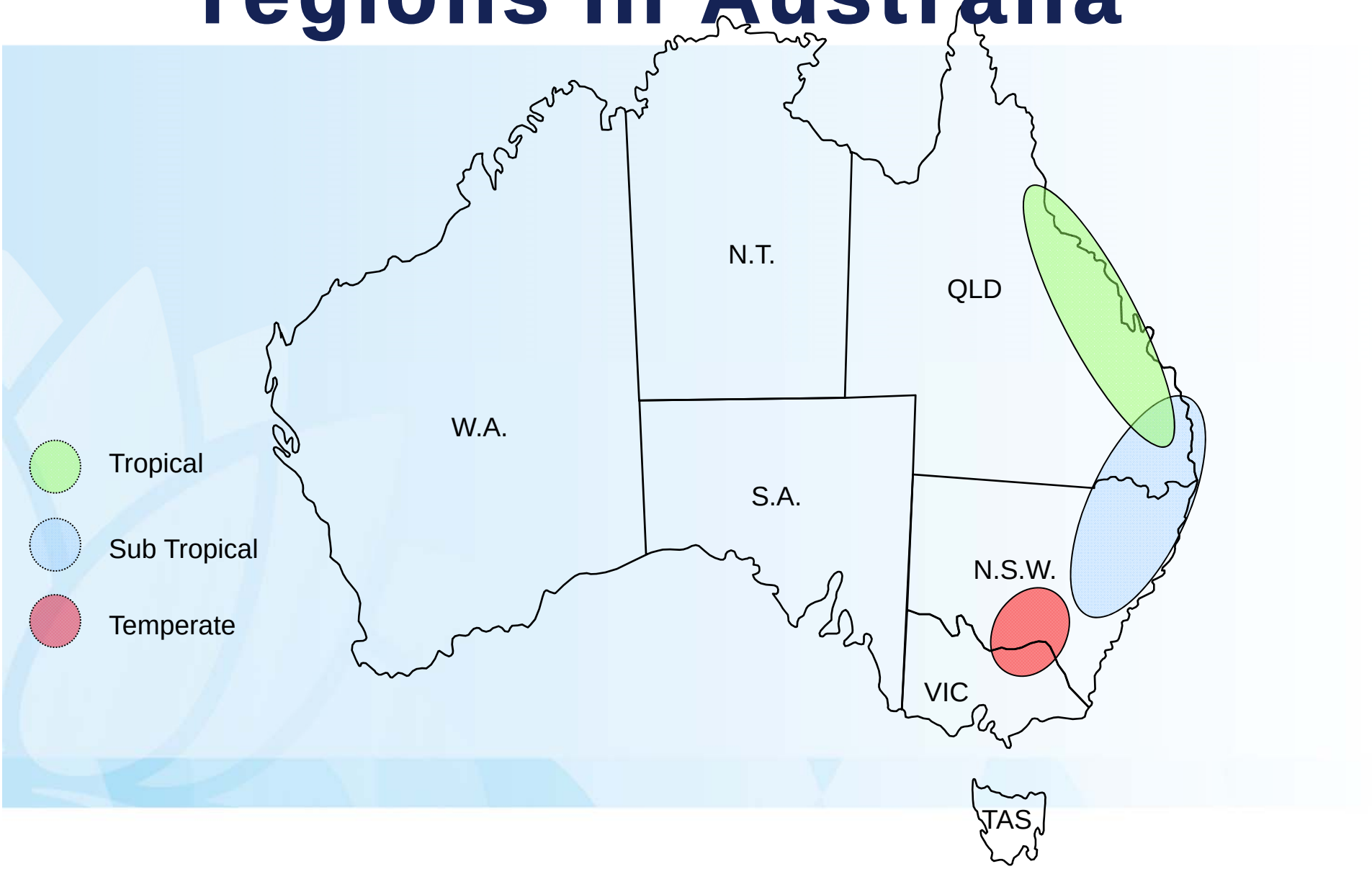
Mathew Dunn

Soybeans

- Production in Australia
- Breeding in Australia
- Varieties in the southern growing region
- Agronomy research in the southern growing region

Soybean Production in Australia

Soybean growing regions in Australia

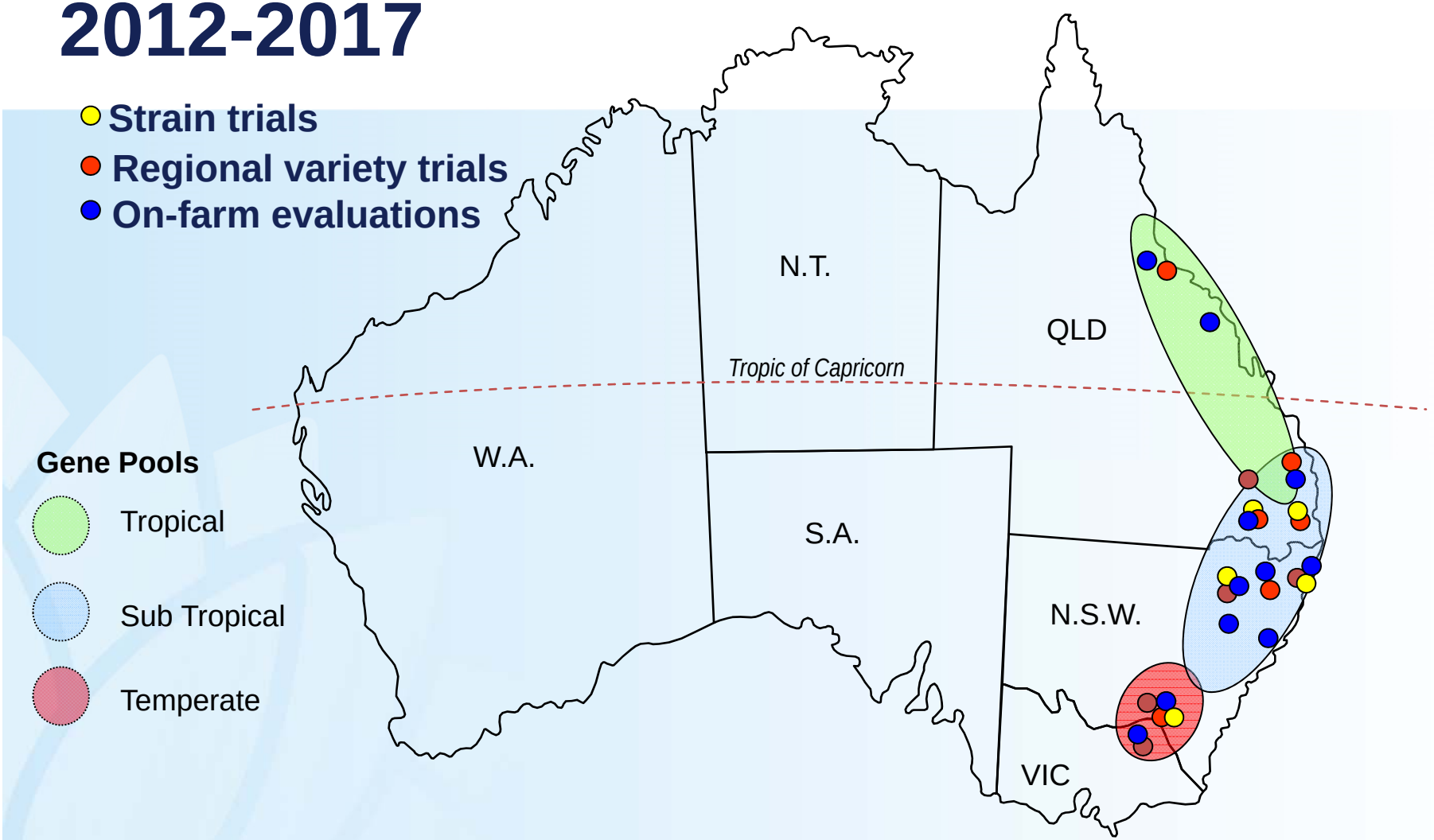


The benefits of soybeans in farming systems

- Nitrogen fixation
- Allows for double cropping
- Pest and disease break

Photograph: Dirceu Gassen, University of Kentucky

Australian Soybean Breeding Program 2012-2017



Andrew James, CSIRO (Breeder)

Natalie Moore, NSW DPI (Agronomist)

Mat Dunn, Luke Gaynor, NSW DPI (Agronomist)

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Australian Soybean Breeding Program 2012-2017 target traits

Maintenance traits

- Yield & superior agronomic traits
- Maturity
- Weathering tolerance
- Shattering resistance

<u>Disease resistance traits</u>

- Bacterial blight
- Downy Mildew
- Phytophthora root rot
- Sclerotinia stem rot

<u>Soymilk, tofu and flour traits</u>

- Hilum colour
- Seed size
- Seed protein
- Milk yield
- Tofu gelling

Current traits

- Leaf rust resistance
- 11sA4 nulls
- Broader adaption to latitude
- Higher value culinary/ industry traits

Future traits

- Removal of allergens
- Sucrose accumulators
- Protein globulins
- Aphid resistance
- Sulfonylurea tolerance

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Hilum colour

11sA4 null

Sulfonylurea tolerance


Photograph: Mike Cowbrough, OMAF


Photograph: Mike Cowbrough, OMAF

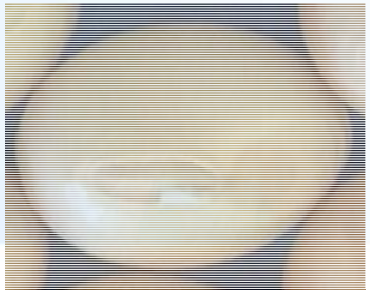
Soybean varieties in Southern Australia

Djakal

- High yielding
- Lower protein
- Brown hilum

Snowy

- Lower yielding
- High protein
- Clear hilum



N005A-80

Benefits over Snowy:

- 22% higher grain yield
- 1.5% higher protein
- 6.5% larger seed
- Stronger lodging resistance
- Slightly quicker to mature


Djakal
N005A-80

Soybean Agronomy research in Southern NSW

- Optimising time of sowing
- Optimising seeding rates
- Powdery mildew disease management
- Overhead irrigation

Thank you for listening

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