Coyote[Þ]

- A higher yielding alternative to Jurien$^{\Phi}$ and Mandelup$^{\Phi}$
- Widely adapted throughout WA lupin growing regions
- High and stable yields across a range of conditions
- Metribuzin tolerant
- Similar maturity to Jurien$^{\Phi}$, slightly later than Mandelup$^{\Phi}$

Breeder's comments

In 2016 AGT took over the responsibility of breeding lupins from the WA Department of Primary Industries and Regional Development (DPIRD). We accepted this challenge because we believe that grain legumes are a critical component of a healthy and sustainable WA farming system.

Coyote® (tested as WALAN2546) is the first narrow-leaf lupin variety to be released by AGT, selected from the advanced germplasm sourced from DPIRD.

Coyote® offers growers high, and most importantly, stable yields. Compared to market leading variety Jurien®, Coyote® has been slightly higher yielding, but we believe its true value is in its yield stability, performing well across a very broad range of soil types, rainfall zones and yield potentials. Yield stability has been a major driver of our decision to release this variety.

In high rainfall environments where sheep graze lupin stubble over the summer, it is advantageous to monitor crops in season for stem phomopsis. Where the risk of stem phomopsis is high, monitor livestock when grazing stubbles or remove grazing livestock completely. Coyote's® resistance to stem phomopsis is lower than Jurien® and Mandelup®.

The naming convention we have selected for our lupin varieties is Western Australian gold mines, with 'Coyote' being a mine located in the Tanami Desert in the state's north-east.

Seed Availability

Commercial quantities of Coyote® may be available through AGT Affiliates, or your local retailer. Please consult the AGT website for AGT Affiliate contact details. Coyote® is able to be traded between growers upon the completion of a License Agreement as part of AGT's Seed Sharing™ initiative.

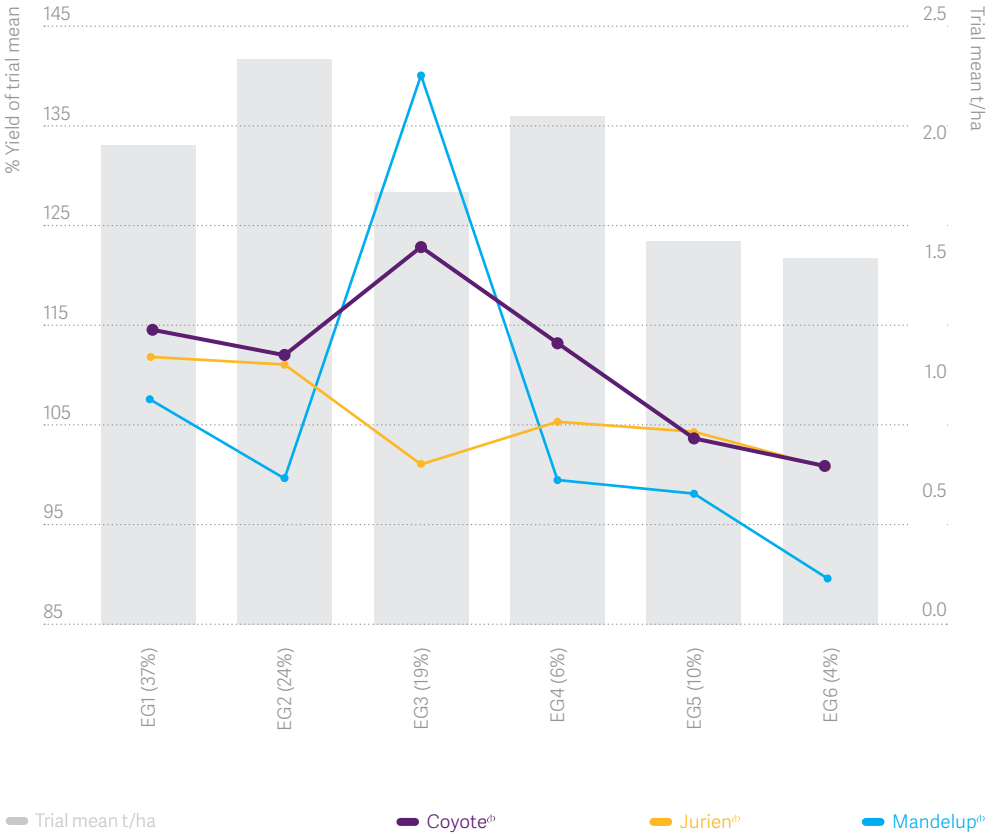
PBR and EPR

Coyote® is protected by Plant Breeders Rights (PBR) and all production (except seed saved for planting) is liable to an End Point Royalty (EPR), which funds future plant breeding. Coyote® growers will be subject to a Growers License Agreement that acknowledges that an EPR of $3.00/tonne + GST has to be paid on all production other than seed saved for planting.

Yield and Adaptation

Coyote® has performed consistently well across a number of environments (Figures 1 and 2) and has out-yielded Jurien® and Mandelup® in these data sets. While not the highest yielding performer in every environment, Coyote® has offered more stable yields relative to Jurien® and Mandelup®. Yield stability is a highly sought after trait in a lupin variety, helping to lower the impact that seasonal variability has on profitability.

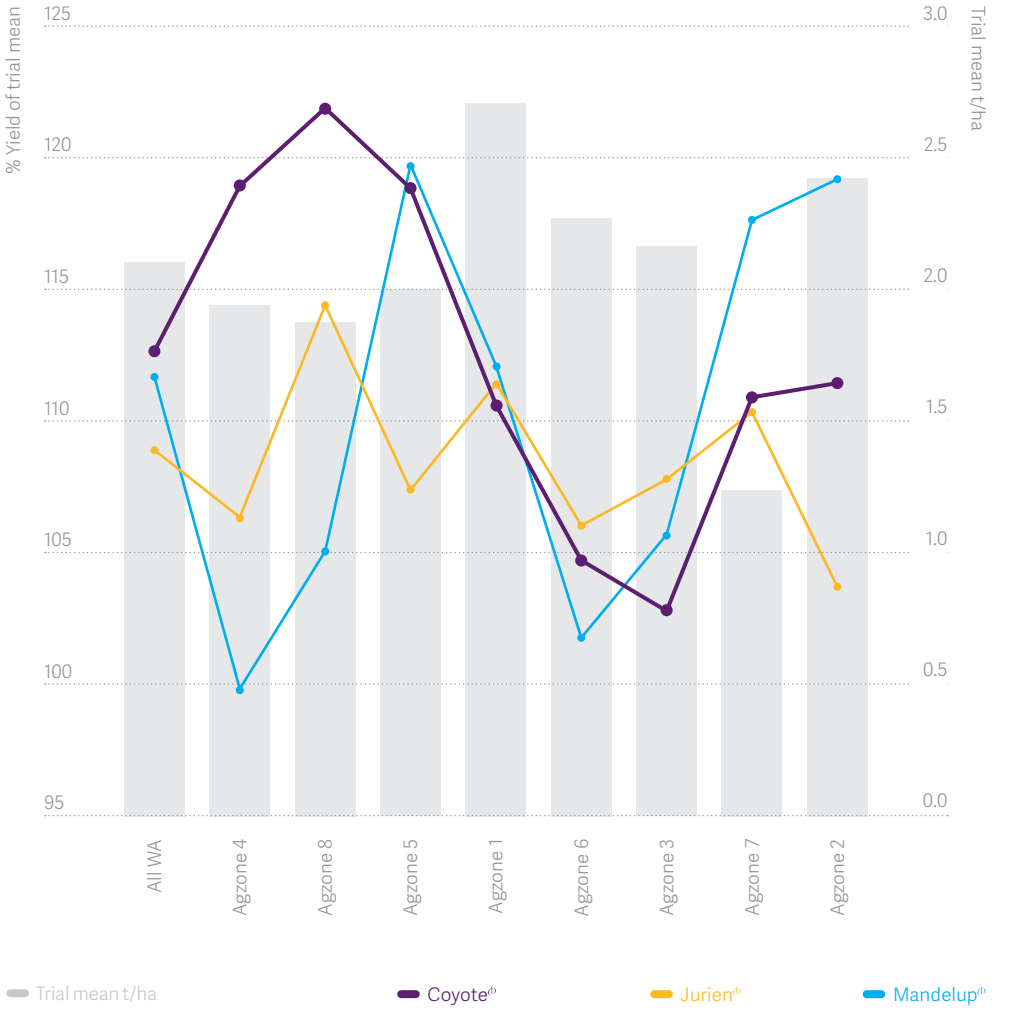
Figure 1 Predicted yield of Coyote® across a range of WA growing conditions



Source / NVT long term MET analysis 2014-2018
EG = Environmental Group, a statistical correlation of performance across 68 trial sites and seasons (2014-2018) where single experiments are grouped based on relative performance of varieties within those trials.
% of trials attributed to each EG in brackets.

EG1 — heavier textured soils, terminal drought. EG2 — deep acid yellow sands, wetter than average finish. EG3 — duplex soil types, mild seasonal conditions with a drier than average finish. EG4 — mixed soil types, average seasonal conditions. EG5 — mixed soil types, wetter than average conditions at sowing and mild seasonal conditions. EG6 — unknown influences on performance.

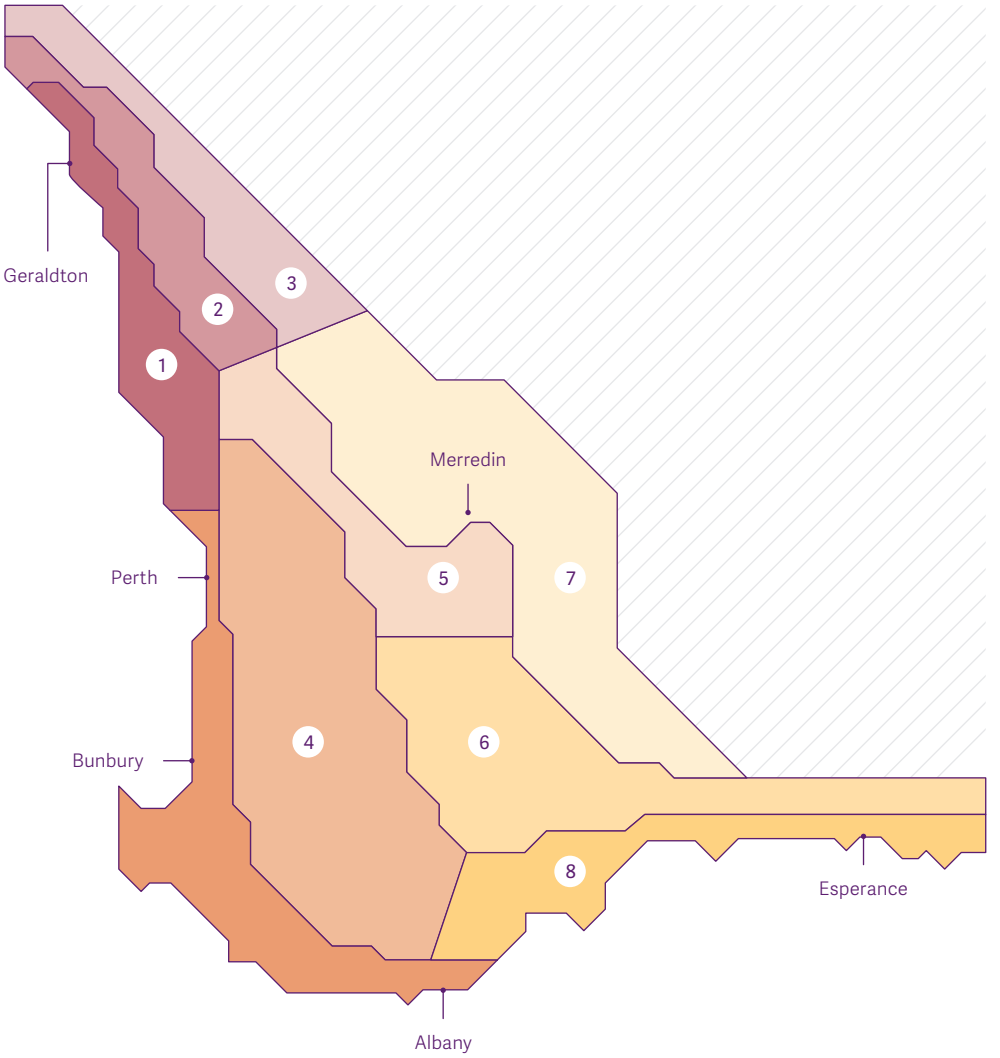
*Figure 2 Predicted yield of Coyote® across WA Agzones**



Source / NVT long term MET analysis 2014-2018.
Note / Results ordered by Coyote's® relative performance against competitors.

* Refer to Figure 3 for locations.

Figure 3 Lupin Agzones



1 High Rainfall — North

2 Medium Rainfall — North

3 Low Rainfall — North

4 High Rainfall — Central & Great Southern

5 Medium Rainfall — Central

6 Medium Rainfall — Great Southern & South Coast

7 Low Rainfall — East

8 South Coast

Lupins not recommended

Source / Department of Primary Industries and Regional Development (DPIRD), 'Producing Lupins' 2008.

Table 1 *Coyote® agronomics*

Maturity	Early, similar to Jurien®, slightly later than Mandelup®
Metribuzin tolerance	Tolerant, similar to Mandelup®
Pod shatter	Data for this trait to be sought in the 2019 harvest
Alkaloid content	Acceptable level, similar to Mandelup® and Jurien®
Protein achievement	Similar to Mandelup®

Table 2 *Disease resistance comparisons*

	Coyote®*	Jurien®	Mandelup®
Anthracnose	R	R	MR
Stem *phomopsis*	MS	R	R
Beet Yellow Mosaic Virus	MRMS	MR	MS
Cucumber Mosaic Virus	MR	MRMS	MR
Grey Spot	R	R	R
Brown Spot	MS	MS	MS

R Resistant
MR Moderately Resistant
MS Moderately Susceptible
S Susceptible
VS Very Susceptible
* Provisional ratings

Source / NVT and AGT data.

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Alana Hartley, Marketing Manager, WA 0417 919 299

Matt Aubert, Lupin Breeder 0408 137 922

End Point Royalty Office (08) 7111 0201

agtbreeding.com.au