Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

Protect
Grow
Innovate

Varieties – What works in WA and what's in the pipeline?

Chickpeas

Brenton Leske, Amanuel Bekuma, Sakura TM, George Mwenda, Marty Harries, Darshan Sharma

GIWA 17th August 2026

Brenton.leske@dpird.wa.gov.au

m. 0473 384 567

X: @BrentonLeske

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GRAINS RESEARCH & DEVELOPMENT CORPORATION

Key messages

1. **CBA Captain** is broadly adapted to WA conditions

2. New **Ascochyta** resistant lines are in the pipeline

3. Pre-breeding research at DPIRD WA is addressing **chilling** and **acid soil** yield constraints

Brenton.leske@dpird.wa.gov.au

Desi chickpeas

- CBA Captain
  - Broadly adapted for both northern and southern regions across Australia.
  - Strong yield stability across seasons. Similar to PBA Striker.
  - Erect architecture, high first pod height and excellent harvestability.
  - Better AB resistance than most southern desi varieties
    - E.g. MS compared to S for PBA Striker
  - Out yielded Genesis 836 and Neelam in NVT (AgZones 1, 2, 3 and 4)
  - Superior grain quality

Source: CBA Captain Factsheet and DPIRD WA Crop Sowing Guide

Desi chickpeas

- PBA Striker
  - Earlier version of Slasher-type adaptation.
  - Better suited to short-season environments.
  - Medium-large seed size.

Source: DPIRD WA Crop Sowing Guide

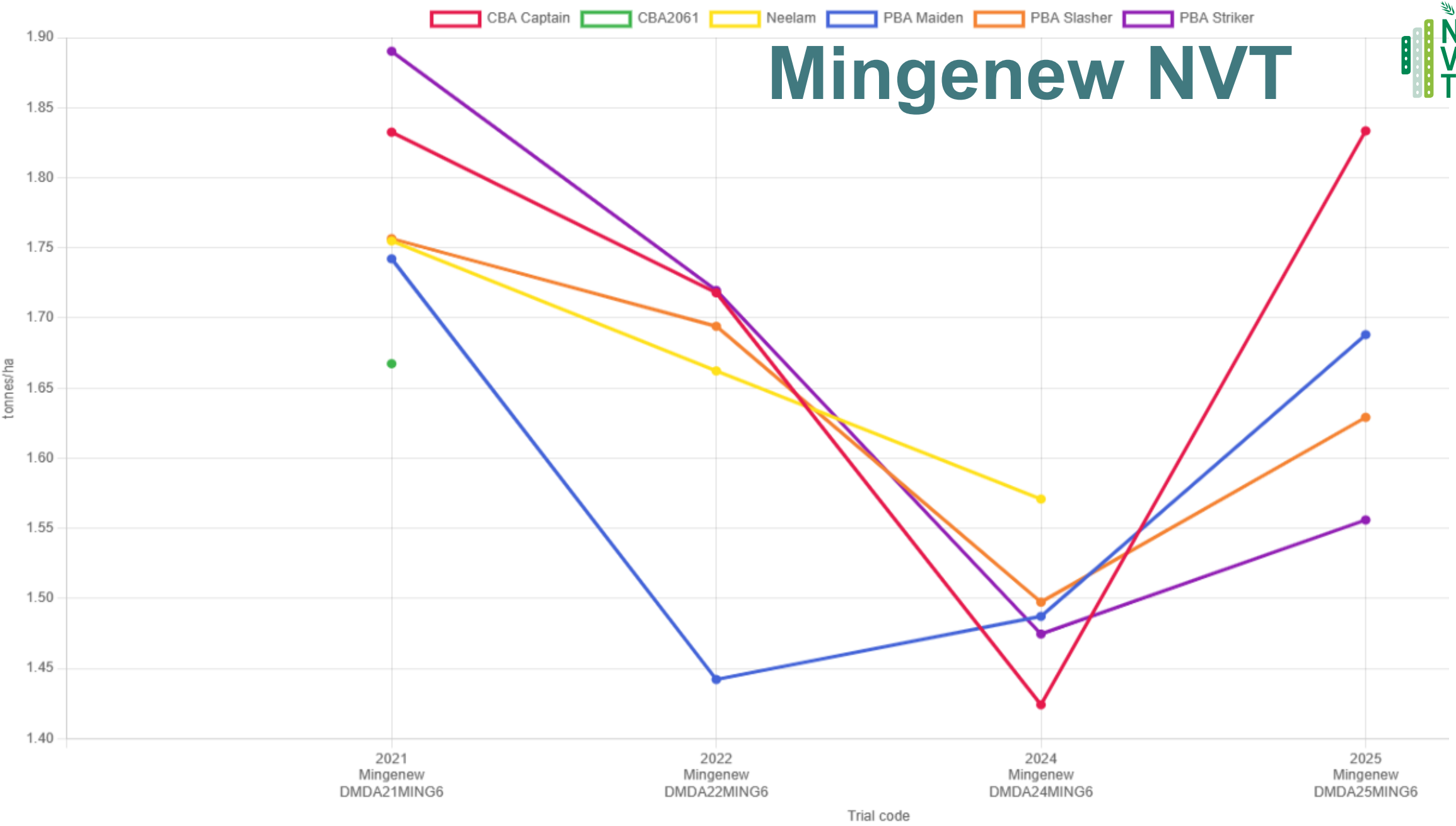
NVT sites x years

Year	2021	2022	2023	2024	2025
North					
Mingenew[1]	X	X	-	X	X
Dalwallinu[2]	X	X	X	-	-
East and Central					
Merredin[3]	X	-	X	X	X
Cunderdin[4]	X	X	X	-	-
South Coast					
~~*Scaddan*~~	*X*	-	*X*	*X*	*X*

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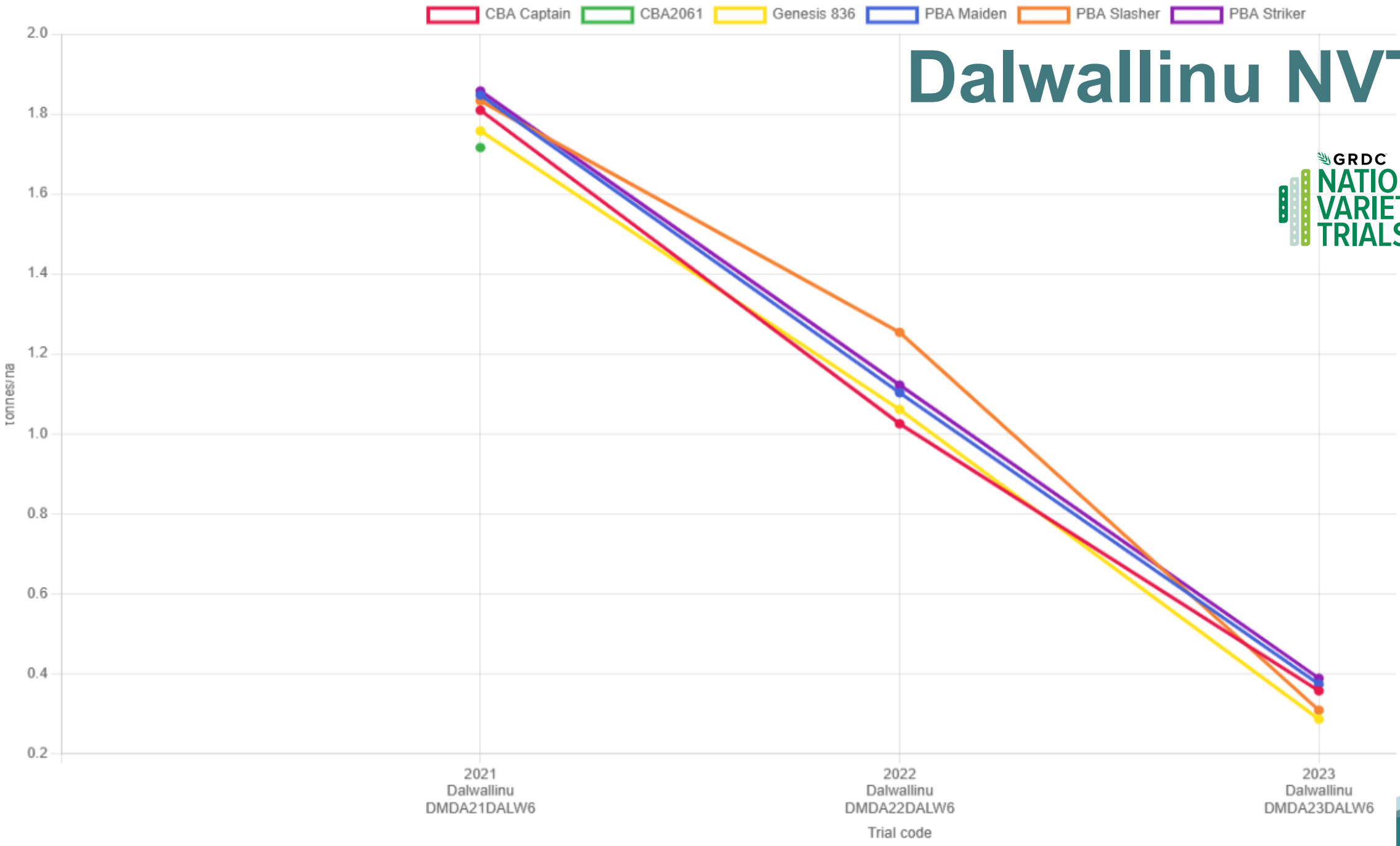
[1] The Mingenew NVT in 2023 had very low yields, so results were withheld
[2] There was no NVT at Dalwallinu 2024 and 2025
[3] The Merredin NVT in 2022 had very low yields, so results were withheld
[4] There was not NVT at Cunderdin in 2024 and 2025

Mingenew NVT



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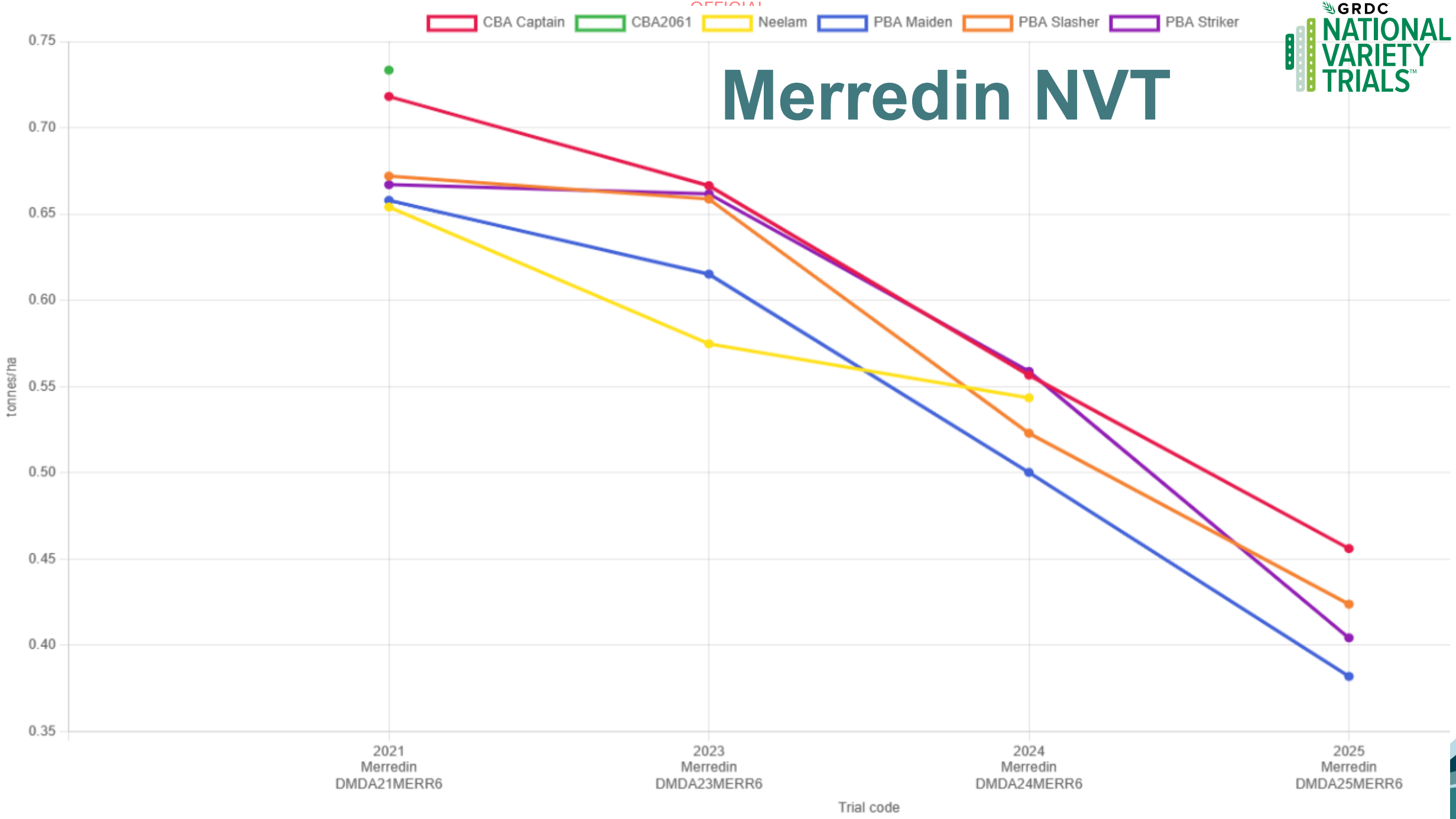
Dalwallinu NVT



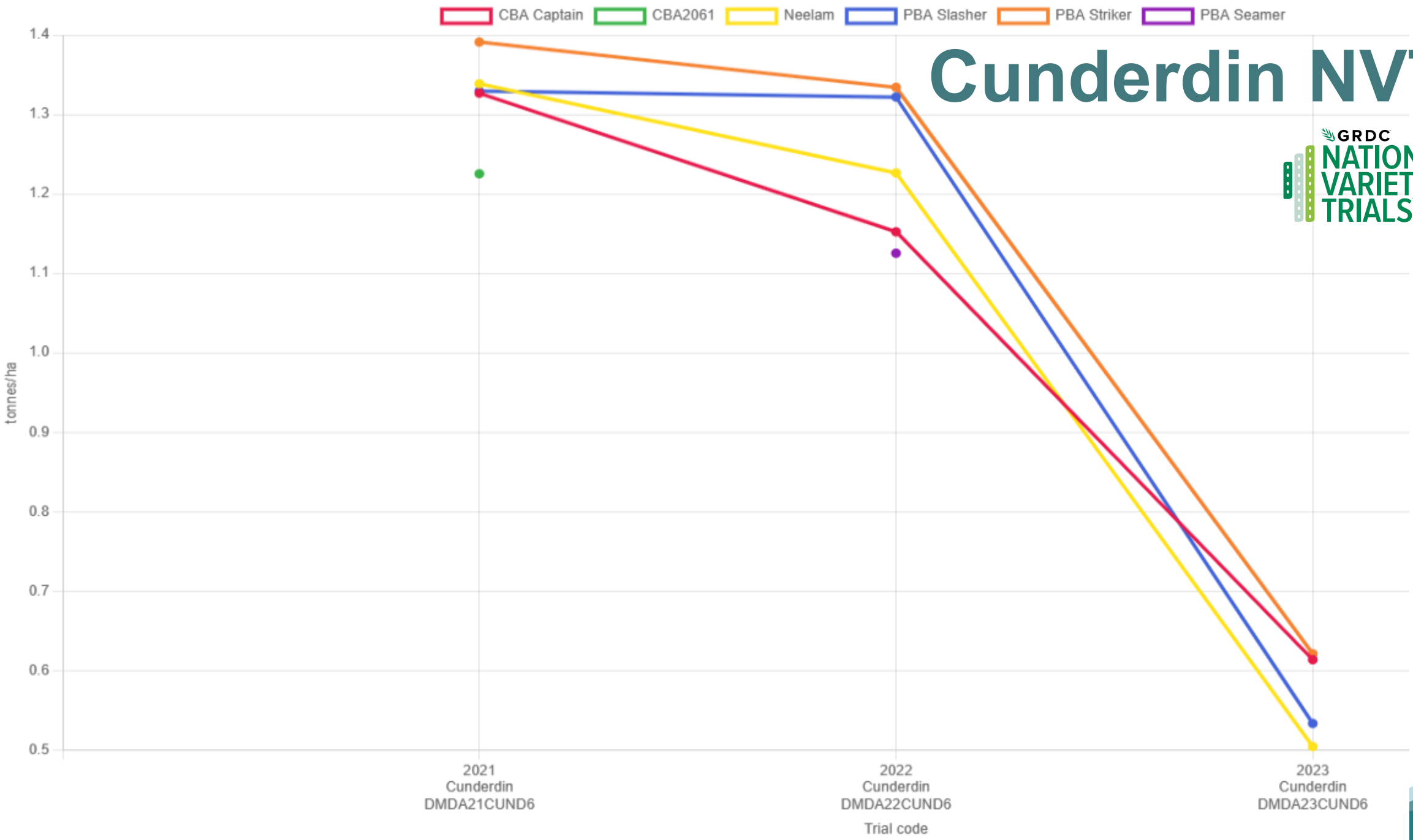
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Merredin NVT



Cunderdin NVT



What do growers want?

- Geraldton Port Zone
  - Most grow CBA Captain, a few Neelam
  - Wants:
    - Now: harvestability, ascochyta resistance and yield
    - Medium: the struggle for long term yield improvement pre ascochyta outbreak
    - Future: cold tolerance for earlier planting

What do growers want?

- Merredin, Southern Cross
  - Most grow CBA Captain
  - Wants:
    - Now: cold tolerance.

      Heat and terminal drought limit yield with late planting.
    - Medium: salinity
    - Future: more yield…



George Mwenda, DPIRD Northam

Chickpea breeding in WA

- AGT has taken over chickpea breeding from CBA
- There is some exciting genetics in the pipeline!
  - Herbicide tolerance
  - More adapted germplasm to WA (ongoing focus)
  - CBA Captain is probably the best option for WA grower



Kristy Hobson – CBA & NSW DPIRD

Adam Norman
Pulse, Eastern Wheat, and Bioinformatics Coordinator

Imi tolerance

- CBA2061
  - 1st imi tolerant chickpea variety!!
  - Released later in 2026 (Eastern states)
  - Slightly lower yield
  - On label for imi spray in NNSW & QLD

Adam Norman
Pulse, Eastern Wheat, and Bioinformatics Coordinator

Pre-breeding research

Abiotic stress

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Chickpea acid soil tolerance - Merredin 2023

Tolerant genotype: dark green leaf, high biomass, longer/more root



Sensitive genotype: yellowish leaf, low biomass, short/less root

DAW2205-004RTX – Darshan Sharma, Sharon Westcott, Lee-Anne Mcfawn, Jenifer Bussanich, Hina Kaklottar, Sakura TM, Yong Jia and Chengdao Li

Acid soil tolerance of Australian cultivars

- **PBA Slasher**
- PBA Drummond
- Genesis 836
- Genesis 090
- Almaz
- **CBA Captain**
- **PBA Pistol**
- Genesis Kalkee
- PBA Seamer
- PBA Maiden
- **PBA Striker**
- **PBA Hatrick**
- PBA Magnus
- PBA Monarch
- **PBA Royal**

LOW

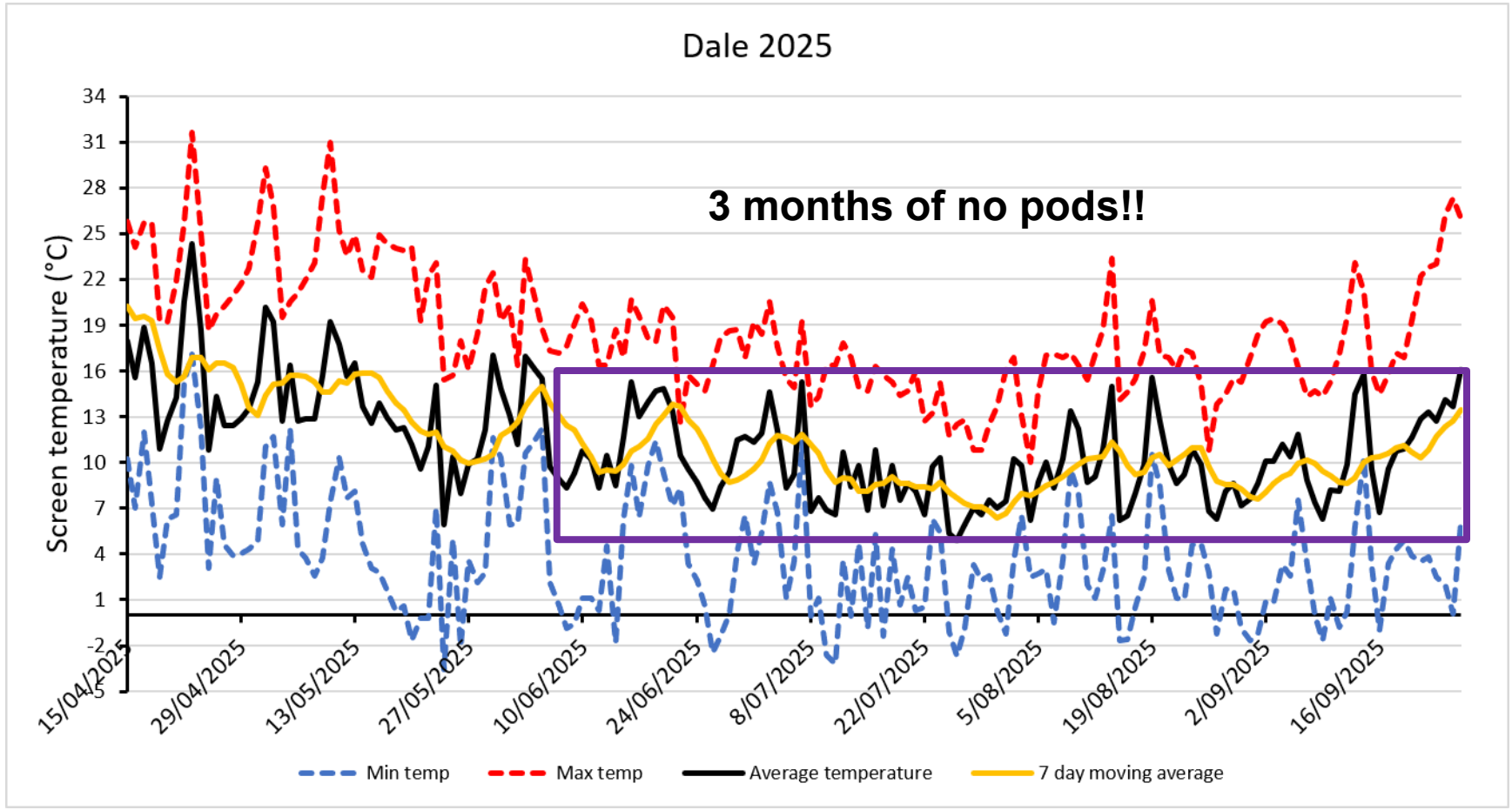
(2023 Merredin 2023 biomass data)

HIGH

Chickpea chilling tolerance



Photo Amanuel Bekuma 2024, Dale, WA



Amanuel.Bekuma@dpird.wa.gov.au

Chickpea chilling tolerance – the team





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AAGI
Analytics for the Australian Grains Industry

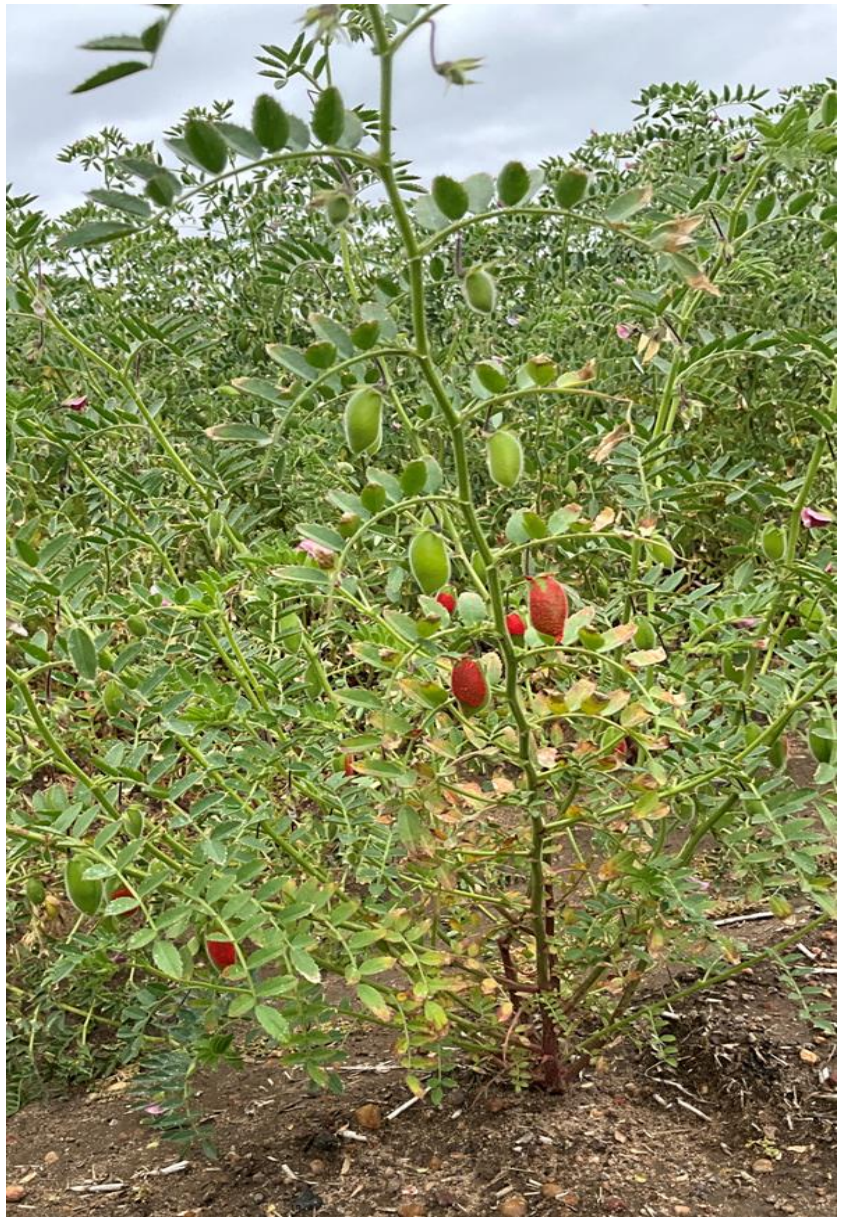
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The results

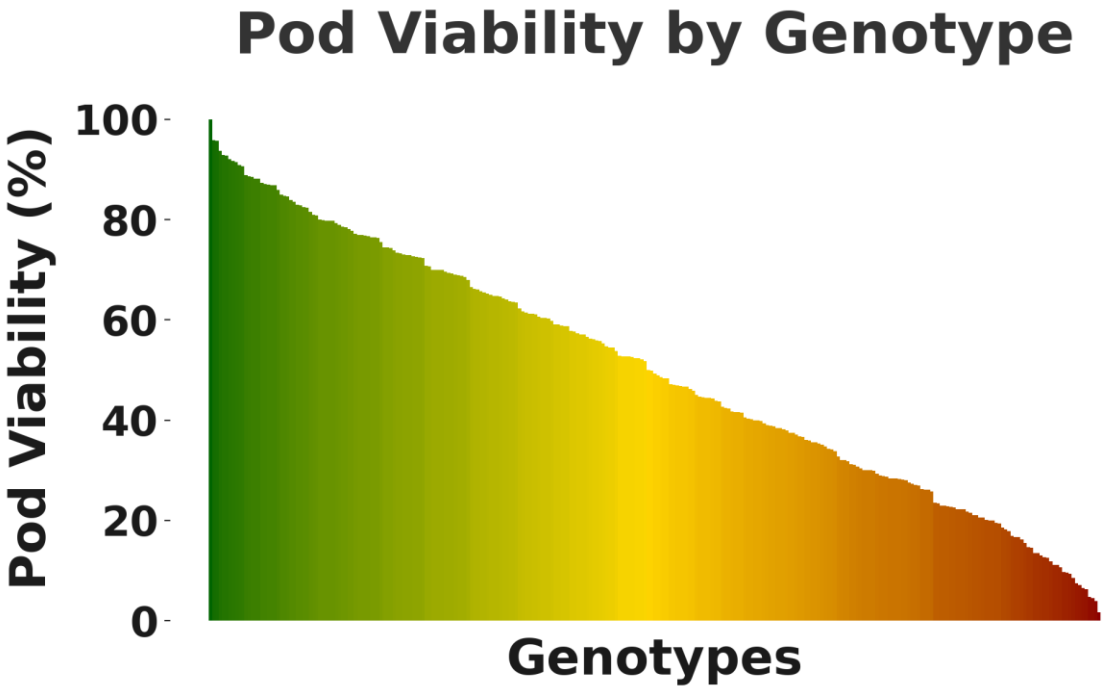
$$\textbf{Pod viability}\ (\%) = \frac{\text{Viable Pods}}{\text{Total Pods}} * 100$$



Amanuel.Bekuma@dpird.wa.gov.au

The results

- **20 genotypes** >80% pod viability over 3 years consistently
- **Wide pod viability variation** (10–100%) suggests genetic diversity with potential for genomic selection





$$\textbf{Pod viability (\%)} = \frac{\text{Viable Pods}}{\text{Total Pods}} * 100$$

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Key messages

1. **CBA Captain** is broadly adapted to WA conditions

2. New **Ascochyta** resistant lines are in the pipeline

3. Pre-breeding research at DPIRD WA has identified chilling tolerance in chickpea (wild & wild x commercial cross)

   Variation in acid soil tolerance in chickpea has been confirmed

Brenton.leske@dpird.wa.gov.au



Save the date: Wed 14th Oct
Dale Research Facility
Field Day

Thank you

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Important disclaimer

The Chief Executive Officer of the Department of Primary Industries and Regional Development and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.

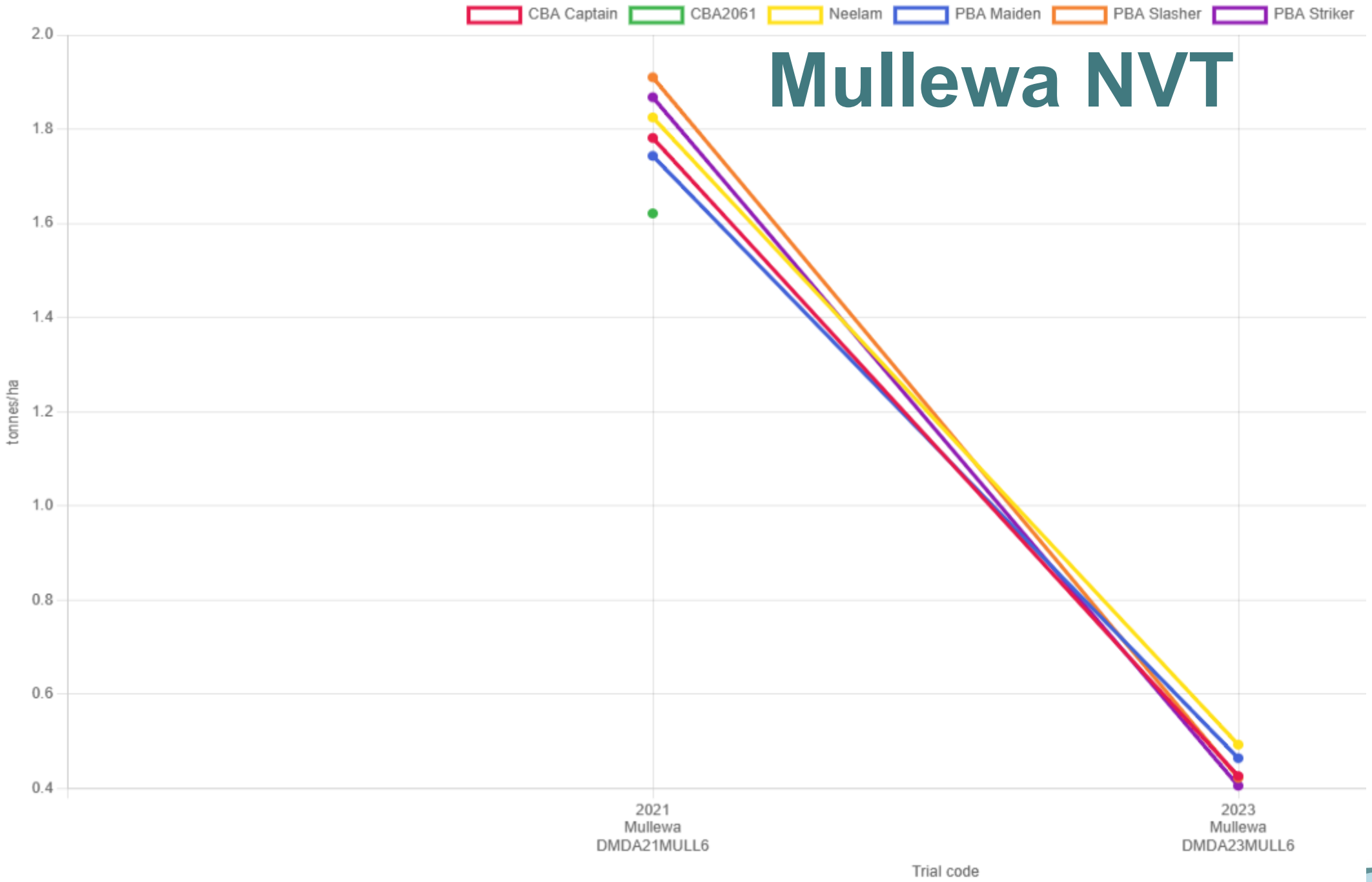
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Year 2021 - 2025 / Crop Chickpea (Desi) / State WA (Portzones) / Regions Geraldton, Kwinana East, Kwinana West, Esperance / Towns Cunderdin, Dalwallinu, Merredin, Mingenew, Mullewa, Scaddan

Variety \ Trial	DMDA21CUND6	DMDA22CUND6	DMDA23CUND6	DMDA21MERR6	DMDA23MERR6	DMDA24MERR6	DMDA25MERR6	DMDA21MING6	DMDA22MING6	DMDA24MING6
Units	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha
CBA Captain	1.33	1.15	0.61	0.72	0.67	0.56	0.46	1.83	1.72	1.42
CBA2061	1.23	-	-	0.73	-	-	-	1.67	-	-
Genesis 090	0.97	1.21	0.47	0.62	-	0.52	0.29	1.62	1.15	1.25
Genesis 836	1.20	1.12	0.49	0.69	0.54	0.55	0.31	1.66	1.30	1.30
Neelam	1.34	1.23	0.50	0.65	0.57	0.54	-	1.75	1.66	1.57
PBA Maiden	1.11	1.14	0.55	0.66	0.62	0.50	0.38	1.74	1.44	1.49
PBA Slasher	1.33	1.32	0.53	0.67	0.66	0.52	0.42	1.76	1.69	1.50
PBA Striker	1.39	1.33	0.62	0.67	0.66	0.56	0.40	1.89	1.72	1.47
PBA Seamer	-	1.13	-	-	-	-	-	-	1.38	-

Variety \ Trial	DMDA25MING6	DMDA21MULL6	DMDA23MULL6	DMDA21SCAD6	DMDA23SCAD6	DMDA24SCAD6	DMDA25SCAD6	DMDA21DALW6	DMDA22DALW6	DMDA23DALW6
Units	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha
CBA Captain	1.83	1.78	0.43	0.69	0.94	1.15	1.27	1.81	1.02	0.36
CBA2061	-	1.62	-	0.57	-	-	-	1.72	-	-
Genesis 090	1.54	1.70	0.46	0.66	-	0.94	1.05	1.85	0.87	0.36
Genesis 836	1.60	1.68	0.42	0.83	1.06	1.06	1.20	1.76	1.06	0.29
Neelam	-	1.82	0.49	0.97	1.05	0.96	-	1.80	0.91	0.34
PBA Maiden	1.69	1.74	0.46	0.77	0.96	0.95	1.09	1.85	1.10	0.37
PBA Slasher	1.63	1.91	0.42	0.76	1.12	1.10	1.19	1.83	1.25	0.31
PBA Striker	1.56	1.87	0.41	1.11	1.12	1.03	1.17	1.86	1.12	0.39
PBA Seamer	-	-	-	-	-	-	-	-	0.88	-

Mullewa NVT


CBA Captain
CBA2061
Neelam
PBA Maiden
PBA Slasher
PBA Striker
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
tonnes/ha
2021
Mullewa
DMDA21MULL6
2023
Mullewa
DMDA23MULL6
Trial code

OFFICIAL

Scaddan NVT

