Ballista

AGT
Variety snapshot

- Improved yield over Scepter and Vixen in the Mallee
- Quick-mid maturity, slightly quicker than Mace
- AH quality classification
- Stable yield across a range of environmental conditions
- CCN resistance equal to Scepter and Mace
Breeder’s comments
With the release of Ballista\textsuperscript{\textregistered} for SA and Victorian growers, a new yield benchmark for the Mallee has been set.

Ballista\textsuperscript{\textregistered} (tested as RAC2598) has been released off the back of outstanding results in our yield trials over many years, and continues to build upon the strength of it’s Mace\textsuperscript{\textregistered} parentage.

We believe Ballista\textsuperscript{\textregistered} will be most closely compared with Scepter\textsuperscript{\textregistered} and newer variety Vixen\textsuperscript{\textregistered}. Compared with Scepter\textsuperscript{\textregistered}, Ballista\textsuperscript{\textregistered} offers consistently higher yields across a broad range of environments and growing conditions, while carrying very similar disease resistance attributes. Versus Vixen\textsuperscript{\textregistered}, Ballista\textsuperscript{\textregistered} produces higher yields in the Mallee, but does not have the very quick maturity of Vixen\textsuperscript{\textregistered}, giving Ballista\textsuperscript{\textregistered} a wider and more flexible sowing window. Perhaps the most important difference between Ballista\textsuperscript{\textregistered} and Vixen\textsuperscript{\textregistered}, particularly for Mallee environments, is CCN resistance; where Vixen\textsuperscript{\textregistered} is rated MSS and Ballista\textsuperscript{\textregistered} is MRMS, like Scepter\textsuperscript{\textregistered}.

Overall, Ballista\textsuperscript{\textregistered} has been released primarily for Mallee environments where very high yield, AH quality, CCN resistance and Mace\textsuperscript{\textregistered} type maturity are attributes that growers are looking for in a new variety.

Seed availability
Commercial quantities of Ballista\textsuperscript{\textregistered} may be available through AGT Affiliates, or your local retailer. Please consult the AGT website for AGT Affiliate contact details. Ballista\textsuperscript{\textregistered} is able to be traded between growers upon the completion of a License Agreement as part of AGT’s Seed Sharing\textsuperscript{TM} initiative.

PBR and EPR
Ballista\textsuperscript{\textregistered} 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. Ballista\textsuperscript{\textregistered} growers will be subject to a Growers License Agreement that acknowledges that an EPR of $3.50/tonne + GST has to be paid on all production other than seed saved for planting.
Grain yield
Limited testing in NVT has shown that Ballista\textsuperscript{a} offered a yield advantage over Scepter\textsuperscript{b} and Vixen\textsuperscript{c} in Mallee environments (Figure 1). AGT trials over a number of years has also confirmed the yield potential of Ballista\textsuperscript{a} across a range of growing conditions (Figure 2).

**Figure 1**  
Grain yield of Ballista\textsuperscript{a} and comparator varieties across the SA & Victorian Mallee

![Bar chart showing grain yield comparison between Ballista, Vixen, and Scepter across SA & Victorian Mallee.](chart1)

Source: NVT long term MET analysis, main season trial series 2015-2019

( ) Number of trials that each variety was present in across the SA/Vic Mallee dataset [44 trials]

**Figure 2**  
Grain yield of Ballista\textsuperscript{a} and comparator varieties in SA & western Victoria

![Line chart showing grain yield comparison between Ballista, Vixen, and Scepter across different regions.](chart2)

Source: AGT long term MET analysis, main season trial series 2016-2019

[ ] Total number of trials per region

( ) Number of trials that each variety was present in across the SA/western Vic dataset [24]
Maturity
AGT trials in 2019 showed that Ballista\textsuperscript{\textregistered}\textsuperscript{\textregistered} reached head emergence about a week later than Vixen\textsuperscript{\textregistered}\textsuperscript{\textregistered}\textsuperscript{\textregistered} and was slightly quicker to head than Mace\textsuperscript{\textregistered}\textsuperscript{\textregistered}\textsuperscript{\textregistered} and Scepter\textsuperscript{\textregistered}\textsuperscript{\textregistered}. Those that are familiar with the maturity of Mace\textsuperscript{\textregistered}\textsuperscript{\textregistered} should feel comfortable in planting Ballista\textsuperscript{\textregistered}\textsuperscript{\textregistered} in the same sowing window.

Figure 3  Head emergence of Ballista\textsuperscript{\textregistered}\textsuperscript{\textregistered} and comparator varieties relative to Mace\textsuperscript{\textregistered}\textsuperscript{\textregistered}.

Disease resistance
Ballista\textsuperscript{\textregistered}\textsuperscript{\textregistered} has a very similar disease resistance package to popular variety Scepter\textsuperscript{\textregistered}\textsuperscript{\textregistered}, with both boasting improved CCN resistance over Vixen\textsuperscript{\textregistered}\textsuperscript{\textregistered}; an important trait to have in a variety, particularly in Mallee environments.

Table 1  Variety comparisons

<table>
<thead>
<tr>
<th></th>
<th>Ballista\textsuperscript{\textregistered}\textsuperscript{\textregistered}</th>
<th>Mace\textsuperscript{\textregistered}\textsuperscript{\textregistered}</th>
<th>Scepter\textsuperscript{\textregistered}\textsuperscript{\textregistered}</th>
<th>Vixen\textsuperscript{\textregistered}\textsuperscript{\textregistered}</th>
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<tr>
<td>Quality classification</td>
<td>AH</td>
<td>AH</td>
<td>AH</td>
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<tr>
<td>Maturity</td>
<td>Quick-mid</td>
<td>Quick-mid</td>
<td>Mid</td>
<td>Very quick-quick</td>
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<tr>
<td>Stem rust</td>
<td>MRMS</td>
<td>MRMS</td>
<td>MRMS</td>
<td>MRMS</td>
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<td>Stripe rust</td>
<td>MSS</td>
<td>SVS</td>
<td>MSS</td>
<td>MRMS</td>
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<tr>
<td>Leaf rust</td>
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<td>MSS</td>
<td>MSS</td>
<td>SVS</td>
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<tr>
<td>CCN</td>
<td>MRMS</td>
<td>MRMS</td>
<td>MRMS</td>
<td>MSS</td>
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<tr>
<td>Yellow leaf spot</td>
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<td>MRMS</td>
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<tr>
<td>R</td>
<td>Resistant</td>
<td>S</td>
<td>VS</td>
<td>Source / 2020 SARDI Cereal Disease Guide, NVT and AGT data</td>
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<td>Moderately Resistant</td>
<td>Susceptible</td>
<td>Very Susceptible</td>
<td>Provisional ratings</td>
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<tr>
<td>MS</td>
<td>Moderately Susceptible</td>
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