

Western Australian Malt Barley Variety Receival Recommendations for the 2021/22 Harvest

Summary 2021/22 Harvest

At the 2021/22 harvest, the following observations are relevant:

- The reduction in overall market demand for malt barley, associated with the tariffs imposed by China on the imports of Australian barley, favour the production of barley with a yield-feed focus rather than a malt-focus and result in a further reduction of the total area sown to barley in 2021. Fortunately, the dominant barley varieties, RGT Planet and Spartacus CL, grown in Western Australia can be received into malt segregations, ensuring we can still respond to any increased demand for malt barley should market conditions change. Maintaining a supply of the premium malt varieties, Bass and Flinders, is critical to domestic processors and key international customers during this period of reduced demand and expected lower market price.
- Bass and Flinders will be the preferred malt barley varieties sought by the trade for malting and brewing end-use in south-east Asia and Japan, with demand for RGT Planet and Spartacus CL increasing in different market sectors.
- La Trobe is the preferred malt variety supplied to Japan for the manufacture of shochu. Associated with reduced grower production of La Trobe, limited segregations will be available for La Trobe to maintain supply to this premium market and support the needs of domestic processors.
- The rapid adoption of Spartacus CL has continued, with Spartacus CL now the most popular variety sown across all four-port zones. Japan has proposed lifting the MRL for imazapyr from 0.1 to 0.7 ppm. Should this occur in 2021, there is potential to export Spartacus CL to Japan for the manufacture of shochu. Full acceptance of Spartacus CL for shochu in Japan will result in the phasing out of La Trobe after the 2021/22 harvest. If an import tolerance is implemented, shochu buyers will likely start making the switch over to Spartacus CL during the 2020/21 campaign.
- Scope CL has been phased out as a malt variety and will not be segregated after the 2020/21 harvest. Growers can continue to sow Scope CL for the farming system benefits it offers and deliver into feed segregations as there is no longer any international demand for the malt profile of Scope CL barley.
- Segregation opportunities for Bass, Flinders, La Trobe, RGT Planet, and Spartacus CL vary by port zone and for the Kwinana and Albany Ports, within a port zone (Table 1).

Table 1. Western Australian malt barley variety segregation recommendations by Port Zone for the 2021/22 harvest

YES	This is a recommended variety for this production zone.							
Limited	Limited segregations likely due to low production hectares, limited market demand, a new variety going through market development or phasing out an old variety.							
Niche	Subject to availability. Niche segregation only available if a marketer has sufficient tonnage to supply to a domestic or international customer. Marketers should contact CBH to negotiate niche segregation, and growers should contact their preferred marketer to determine availability.							
NO	Variety has been phased out, or marketers are not looking to accumulate this variety in this production zone.							
Port Zone	Geraldton	Kwinana			Albany		Esperance	Comment
		North (Midlands)	South	North (East)	North	South		
Malting varieties								
Bass (b)	NO	YES	Limited	NO	NO	Limited	NO	Stable market demand with an excellent malt quality profile
Flinders (b)	NO	NO	Niche	NO	NO	YES	Niche	Works well as a variety for post-malt blending and sugar-adjunct brewing
La Trobe (b)	NO	Limited	Limited	Limited	Limited	Limited	Limited	Stable market demand with a recognised quality profile
RGT Planet (b)	NO	YES	YES	NO	Limited	YES	YES	Market development for brewing end-use continuing
Spartacus CL (b)	YES	YES	YES	YES	YES	YES	YES	Market development for brewing and shochu end-use continuing

Introduction



Why rationalise varieties?

In line with previous advice, the Western Australian barley industry continues to support the long-term aim of segregating up to two major malt varieties per port zone, with limited segregations on offer for minor, new or niche malt varieties. Growing and segregating fewer malt varieties improves logistics, makes segregation planning at a bin level easier and encourages more robust demand from the trade who are unwilling to risk buying small, unsaleable parcels.

These malt barley variety receival recommendations have been developed by the Grain Industry Association of Western Australia (GIWA) Inc (through the GIWA Barley Council) in consultation with the Western Australian barley supply chain. The recommendations are a guide for growers and consultants to help with the planning of the 2021 barley-cropping program. Review of the plan will occur in autumn 2021 and, any changes in demand presented to growers. Malt variety recommendations in this document may differ to those in eastern Australia due to our focus on international markets.

Barley rationalisation process

Four varieties in Stage 2 of Barley Australia's accreditation process; Buff, Leabrook, LG Alestar and Maximus CL, are not included in the current 2021/22 variety receival recommendation plan. A decision on the malt accreditation of Leabrook, LG Alestar and Maximus CL is expected in March 2021 and for Buff in March 2022 (delayed due to a lack of grain suitable for Stage 2 evaluation). It is worth noting that malt accreditation does not guarantee segregation opportunities. Compass barley is a recently accredited malt variety, for example, with no malt segregations in Western Australia even though there are malt segregations in eastern Australia. Malt accreditation does not guarantee international markets will be willing to pay a premium for the variety or that there will be demand from customers in their brewing recipe. Malt accreditation also does not imply the agronomic suitability of a variety to the different growing environments of Western Australia.

While GIWA facilitates the publishing of industry recommendations on what malt variety to grow, it has no control over the actual segregations provided by Bunge or CBH. Some sites can only offer a single malt barley segregation, whereas other sites may be able to offer two or more malt barley segregations. Growers can support segregation planning through submission of their area planted information and attending pre-harvest meetings.

The Australian barley industry works hard to uphold Australian malt variety quality to the end customer. It does not support the co-binning of segregated malt varieties, even if the varieties concerned have similar agronomic traits. Growers should not intentionally contaminate a malt barley stack with another variety. Correct variety declaration is a legal requirement under the Plant Breeders Rights Act, and misdeclaration is a breach of the Bulk Handling Act 1967.

International market signals continue to highlight the generally low protein status of Australian malt barley. Growers are encouraged to deliver malt barley grain between 10.5-11.0% protein (even though the receival window is 9.5-12.5%) with a maximum of 20% screenings through a 2.5mm sieve, a hectolitre weight above 64 kg/hL with ryegrass ergot less than 3cm, no whole snails and no glyphosate use near harvest.

Variety Specific Recommendations

With new malt varieties released faster than the phasing out of old malt varieties, the rapid turnover of varieties is a common sticking point for end-users who desire long-term supply and familiarity to optimise their end-use. New varieties also create in-efficiency for bulk handlers, with each new malt variety segregated adding to the cost of storage and handling. The GIWA barley variety rationalisation plan is trying, therefore, to balance the benefits to growers from access to new malt varieties with the demand from customers for access to large parcels of the same malt variety over at least five years.

Each malt barley variety grown in Western Australia has unique and different malting attributes. Consequently, brewers purchase varieties subject to their availability, their price, the style of beer they produce, and the type and level of adjunct used in their brewing recipe. This document contains information outlining proposed segregation opportunities by port zone (Table 1) and market usage and demand by industry sector (Table 2) as well as varietal-specific comments.

Growers should use the market signals in this document to assist them when deciding on which malt variety or varieties to sow in 2021. Market demand, pricing signals and the location of segregations should be considered in partnership with the agronomic management required and the risk associated with delivering malt grade barley when determining how much area to plant to each malt variety. Varieties listed as PREFERRED are more likely to attract higher premiums than ACCEPTABLE varieties. As these industry recommendations are a guide, the actual segregations implemented at the 2021/22 harvest may differ to that proposed in this document. Growers should regularly liaise with their bulk handlers to confirm segregations.

Accredited malt varieties

The malt barley recommendations for the 2021 season are as follows:

Bass (b)

- Bass is the 'market leader' for malt quality and preferred for export as grain and as malt but has less competitive grain yield than other malt varieties in the marketplace. However, it has the highest selection rate for malt (aside from Flinders).
- Not suitable for the manufacture of shochu in Japan.
- Bass is well recognised in the international malt barley market with stable demand. Until there is a replacement, Bass is a critical malt variety to maintain our ability to supply premium malt to key customers.
- Can be malted without the use of the growth hormone gibberellic acid, an advantageous trait.
- Bass malt has excellent extract and filterability and is suited to markets where high levels of starch-adjuncts are used in the brewing process.
- Grain generally has a higher grain protein concentration than other malt varieties received, enhancing its preference from starch-adjunct brewers.
- Target production zone in 2021 is Kwinana-North (Midlands) with limited segregation opportunities in Kwinana-South and Albany-South (subject to production volumes).

Flinders (b)

- Flinders is acceptable for export as grain and preferred for export as malt.
- Not suitable for the manufacture of shochu in Japan.
- Can be malted without the use of the growth hormone gibberellic acid, an advantageous trait.
- Flinders malt has excellent malt extract and filterability but at a lower enzyme potential than Bass malt.
- Flinders performs well in markets where sugar-adjunct brewing is practiced and when blended post-malting for starch-adjunct brewing markets.
- Growers in the Albany Port Zone who like the agronomic fit of Flinders on their farm are encouraged to talk to the domestic processors and consider delivering their grain to potential niche segregations in Kwinana-South rather than trucking to segregations in Albany-South.
- Target production zone in 2021 is Albany-South with potential niche segregation opportunities in Kwinana-South and the Esperance Port Zone (subject to production and demand).

La Trobe (b)

- La Trobe is preferred for export as grain and as malt.
- La Trobe is a preferred variety for the manufacture of shochu in Japan and of the malt varieties segregated in Western Australia, is the only one accepted for that premium end-use.
- Widely accepted by all major malting and brewing customers of Western Australia barley and malt.
- La Trobe malt has high extract with a high enzyme potential and is suitable for starch-adjunct brewing.
- Growers should be careful not to contaminate their seed stocks or ruin the integrity of La Trobe malt stacks by mixing them with either Hindmarsh or Spartacus CL barley or any other variety.
- Should Spartacus CL be accepted for shochu in Japan, La Trobe will be phased out.
- Due to reducing production volumes, limited segregations will be offered in Kwinana, Albany, and Esperance Port Zones in 2021.

RGT Planet (b)

- RGT Planet is acceptable for export as grain and as malt.
- Not suitable for the manufacture of shochu in Japan.
- RGT Planet is used extensively in brewing markets in Europe and South America and is rapidly gaining acceptance in south-east Asian brewing markets.
- RGT Planet malt has excellent extract with a moderate enzyme potential and is suitable for starch-adjunct brewing.
- Target production zones in 2021 are Kwinana-North (Midlands), Kwinana-South, Albany-South, and Esperance Port Zones with limited segregation opportunities in Albany-North (subject to production volumes).

Variety Specific Recommendations

Spartacus CL (b)

- Spartacus CL is acceptable for export as grain and as malt.
- Assessment of Spartacus CL for its suitability for the manufacture of shochu in Japan is on hold until there is a change in the import tolerances for imidazolinone residues in Japan. The MRL for imazapyr in Japan may be lifted from 0.1 to 0.7 ppm during 2021, allowing Spartacus CL to complete its evaluation for shochu.
- Market feedback suggests that like La Trobe, Spartacus CL has high extract with very good enzyme potential and is suitable for starch-adjunct brewing.
- Growers should be careful not to contaminate their seed stocks or ruin the integrity of Spartacus CL malt stacks by mixing them with either Hindmarsh or La Trobe barley or any other variety.
- Use only recommended imidazolinone herbicides and be aware of market advice regarding the delivery of grain from paddocks sprayed with an imidazolinone herbicide.
- Target production zones in 2021 are Geraldton, Kwinana, Albany, and Esperance Port Zones.



Table 2. Market acceptance and trends in market demand of accredited malt barley varieties grown in Western Australia for 2021/22 harvest

PREFERRED	Variety is the first choice for buyers for this market segment. More likely to attract a higher malt premium than an ACCEPTABLE variety.
ACCEPTABLE	Variety purchased as an alternative to a PREFERRED variety.
Being assessed	Variety is undergoing international market development. This does not imply that there will be future market demand.
No demand	No buyer for this variety for this market segment.

Market type (market size)	Export as grain (> 100,000 t)	Export as malt (300,000 t)	Shochu (160,000 t)
Bass (b)	PREFERRED (stable)	PREFERRED (stable)	No demand
Flinders (b)	ACCEPTABLE (stable)	PREFERRED (stable)	No demand
La Trobe (b)	PREFERRED (stable)	PREFERRED (stable)	PREFERRED (stable)
RGT Planet (b)	ACCEPTABLE (increasing)	ACCEPTABLE (increasing)	No demand
Spartacus CL (b)	ACCEPTABLE (increasing)	ACCEPTABLE (increasing)	Being assessed

Note: Market size – Volumes in brackets are indicative market size only and vary considerably from year to year. Volumes show differences in market demand across each market sector and influence malt variety choice across port zones. Due to the tariff's recently imposed on Australian barley imports into China, the market size for export as grain has reduced from > 500,000 t to > 100,000 t.

Variety Specific Recommendations

Varieties undergoing malting and brewing accreditation

The Barley Australia website: barleyaustralia.com.au lists varieties undergoing Barley Australia's malting and brewing accreditation process. Not all varieties listed have an agronomic or market fit in Western Australia.

Varieties in Stage 0 (target accreditation date is March 2023) include:

- Beast (tested as AGTB00113, breeder – AGT), and
- IGB1825 (tested as IGB1825, breeder – InterGrain).

Varieties in Stage 1 (target accreditation date is March 2022) include:

- AGTB0043 (tested as AGTB0043, breeder – AGT),
- Bottler (tested as HV6, breeder – Sejet Planeteformaedling I/S, agent – GrainSearch),
- Kiwi (tested as 02035-160, breeder – Malteurop), and
- Laperouse (tested as WI4952, breeder – University of Adelaide, agent – SECOBRA Recherches through SeedNet).

Varieties in Stage 2 (target accreditation date is March 2022) include:

- Buff (tested as IGB1506, breeder – AgVic Services, agent – InterGrain).

Varieties in Stage 2 (target accreditation date is March 2021) include:

- Leabrook (tested as WI4896, breeder – University of Adelaide, agent – SeedNet),
- LG Alestar (tested as SMBA11-2341, breeder – Limagrain Europe s.a., agent – Elders), and
- Maximus CL (tested as IGB1705T, breeder – InterGrain).

Varieties undergoing Stage 2 accreditation with Barley Australia are not included in the current variety by port zone recommendations. GIWA is supportive of simultaneous international market development by the breeder alongside the malting and brewing accreditation scheme managed by Barley Australia. If that occurs the breeders or its agent may enter into a niche segregation agreement with a bulk handler or through private storage to accumulate tonnage for market development purposes.

Note that, as with any new variety under evaluation by Barley Australia, malt accreditation and market acceptance (and possible associated malt premiums) are not guaranteed. We recommend caution in adopting a variety under accreditation or sowing large areas to them with the expectation of future segregations unless there is a clear agronomic or grain yield advantage of planting them as a feed-only barley.

For further information about any of the other lines being assessed by Barley Australia, talk to the relevant breeder or seed licensee to determine their agronomic characteristics, potential market fit and seed availability. It is important to note that accreditation as a malt variety by Barley Australia, does not guarantee segregation or customers domestically or internationally. Unless a new malt variety out-performs established malting varieties in both agronomic and processing capacities, the trade will be reluctant to be involved in or encourage its' international promotion. Note, any variety not listed in the recommendation tables or not contracted into a niche segregation will be stored and marketed as feed.



Port Zone Recommendations

Geraldton Port Zone

Market opportunity – export as grain.

Target varieties – Spartacus CL.

Detail

Grain delivered in the Geraldton Port Zone is exported as grain.

Median barley ha (GIWA July estimates 2010-20) – 39,000 ha or 2-7% of the state's barley ha.

In 2019, the top five barley varieties in the Geraldton Port Zone accounted for 94% of the area sown to barley. They were Spartacus CL, Scope CL, Litmus, Rosalind, and La Trobe (in decreasing popularity). Three in every four-barley ha in the port zone was either Spartacus CL or Scope CL, with Spartacus CL three times more prevalent than Scope CL. Rosalind jumped into the top five varieties sown for the first time.

In 2020, Spartacus CL remains as the dominant variety sown with La Trobe and Scope CL in continued decline. While Litmus stays an essential variety on soils with an acidic profile, the new white aleurone, acid-tolerant barley variety Buff (which is currently in Stage 2 malt accreditation) is quickly replacing it. Yagan will be grown where it has performed best for the last twenty years, and the area sown to Rosalind has increased.

While there was a sharp increase in barley acreage in 2018 and 2019, production returned to normal levels in 2020 (less than 50,000 ha). The continued low production base makes it difficult for the industry to recommend more than one main malt variety in this port zone. If you choose to sow an alternative malt variety to Spartacus CL, then La Trobe is the suggested alternative malt variety, but volumes need to be above 10,000 t to attract the trade (and a ship). Alternatively, grow malt varieties segregated in the Kwinana-North (Midlands) zone and cart them to appropriate segregations in that port zone at the 2021/22 harvest. Leabrook and Maximus CL may be future considerations for this region subject to their accreditation and appropriate market signals.

Kwinana Port Zone

Market opportunity – export as grain, as malt and for shochu.

Target varieties – Spartacus CL and limited segregations of La Trobe in all areas, with Bass and RGT Planet in Kwinana-North (Midlands) and Kwinana-South and niche segregations for Flinders in Kwinana-South (subject to production and demand).

Detail

The bulk of the grain delivered in the Kwinana Port Zone is either converted into malt in Perth and exported as malt or shipped as grain for shochu production in Japan. Only a small proportion of the grain received is exported as grain to south-east Asia.

Median barley ha (GIWA July estimates 2010-20) – 477,000 ha or 33-41% of the state's barley ha.

In 2019, the top five barley varieties in the Kwinana Port Zone accounted for 87% of the area sown to barley and were Spartacus CL, Scope CL, RGT Planet, La Trobe, and Bass (in decreasing popularity). Spartacus CL accounted for one in every two-barley ha, four times that sown to either Scope CL or RGT Planet. The area of La Trobe and Bass dropped by around a half from 2018 with the production of Bass concentrated in the Kwinana-North (Midlands) area.

In 2020, Spartacus CL and RGT Planet continue to dominant plantings, with Spartacus CL the most widely sown variety.

As we move into 2021, Bass, Flinders and La Trobe are still highly relevant to the trade. The dominance of Spartacus CL and the growth of RGT Planet, particularly in Kwinana-South, limit segregation opportunities for Bass, Flinders and La Trobe. Expect premiums for Bass, Flinders and La Trobe to reflect demand from domestic processors seeking established and market preferred varieties in the short term.

Higher Rainfall Areas (> 350 mm annual rainfall)

Due to proximity to the malt barley market in Perth, the higher rainfall areas of the Kwinana Port Zone (Kwinana-North (Midlands) and Kwinana-South) have the highest number of malt barley variety choices available to growers. Many variety options pose issues in matching receival points to variety production. End-users (maltsters and grain acquirers) encourage growers to sow only those varieties used by the trade.

In 2021, while production of Bass, Flinders and La Trobe is particularly encouraged there is a demand for RGT Planet and Spartacus CL. Growers with Baudin seed should talk to their preferred acquirer to determine opportunities for contract production before planting any seed. Growers thinking of growing LG Alestar should await the respective accreditation decision, seek feedback on its prospects as a malt variety and review longer-term varietal comparisons for grain yield, disease, and grain quality before finalising production plans. While Leabrook and Maximus CL are competitive options as a feed barley, their accreditation status will enhance grower interest in 2021.

Lower Rainfall Areas (< 350 mm annual rainfall)

In 2021, barley sown in the lower rainfall area, Kwinana-North (East), will be dominated by Spartacus CL and to a lesser extent Scope CL with a significant increase in the growing area of Buff. Production of Bass, Flinders or RGT Planet should only be considered with early sowing opportunities and for shipping to segregations in the western part of the port zone. If accredited and if market demand exists, Leabrook and Maximus CL could fit well agronomically in non-acidic production areas in this part of the port zone.

Port Zone Recommendations

Albany Port Zone

Market opportunity – export as grain and as malt (via domestic maltsters).

Target varieties – Flinders, Spartacus CL and RGT Planet with limited segregations for Bass and La Trobe.

Detail

Grain delivered in the Albany Port Zone is primarily exported as grain. Some grain is also sent to Perth and converted into malt, before being shipped as malt.

Median barley ha (GIWA July estimates 2010-20) – 445,000 ha or 33-44% of the state's barley ha.

In 2019, the top five barley varieties grown in the Albany Port Zone accounted for 89% of the area sown to barley. They were Spartacus CL, RGT Planet, La Trobe, Flinders and Rosalind (in decreasing popularity). Spartacus CL accounted for one in every three-barley ha and RGT Planet just over one in every four-barley ha. Rosalind appeared in the top five varieties for the first time.

In 2020, Spartacus CL continues as the most popular variety closely followed by RGT Planet. Between them, they will occupy over two of every three-barley ha. The popularity of Bass, Flinders and La Trobe continues to decline with a growing production area of Rosalind.

As we move into 2021, expect the decline of Bass, Flinders and La Trobe to continue and for RGT Planet and Spartacus CL to dominate. Rosalind plays an essential role in many farms. Premiums for Flinders will reflect demand from domestic processors, who may also encourage delivery into receival points in Kwinana-South rather than in the Albany Port Zone.



Non-Coastal Northern Area

Grain produced in the non-coastal part of the Albany Port Zone is primarily exported as grain to international customers. In years where there is a shortage of quality malt barley in the Kwinana Port Zone, some of the grain received in the northern part of the port is delivered to Perth for malting. This is then shipped as malt.

Production of Flinders and RGT Planet is encouraged (where economic) but the main variety will be Spartacus CL. Flinders and RGT Planet have the option of being trucked to segregations in Kwinana-South or delivered to receival points in Albany-South. Leabrook and Maximus CL may be future considerations for this region subject to their accreditation and appropriate market signals.

Coastal Southern Area

Grain produced in the coastal part of the Albany Port Zone is exported as grain to international customers and not used domestically. As the production risk from leaf diseases is high, growers are looking at Flinders, Rosalind, and RGT Planet as potential options to grow.

Market demand exists for Flinders, RGT Planet, and Spartacus CL with limited segregation opportunities for Bass and La Trobe. LG Alestar and Maximus CL may be worth considering for this region subject to being accredited and appropriate market signals.

Esperance Port Zone

Market opportunity – export as grain.

Target varieties – RGT Planet and Spartacus CL, with limited segregations for La Trobe and niche opportunities for Flinders.

Detail

Grain delivered in the Esperance Port Zone is exported as grain.

Median barley ha (GIWA July estimates 2010-19) – 288,000 ha or 19-25% of the state's barley ha.

In 2019, the top five barley varieties in the Esperance Port Zone accounted for 88% of the area sown to barley. They were RGT Planet, La Trobe, Spartacus CL, Rosalind, and Flinders (in decreasing popularity). Combined, RGT Planet, La Trobe and Spartacus were sown on three in every four-barley ha, with RGT Planet pipping La Trobe for the most popular variety.

In 2020, La Trobe has continued to be swapped out for Spartacus CL, with an increase in the proportion of the barley area sown to RGT Planet, Rosalind, and Flinders (in decreasing popularity).

As we move into 2021, expect the area sown to RGT Planet to continue to surge. The switch out of La Trobe for Spartacus CL (even in areas where imidazolinone herbicide is not currently required or used) will continue. Flinders may fill gaps where RGT Planet is not performing. Rosalind will play a part where a shorter season feed is needed. While Leabrook, LG Alestar and Maximus CL may be future considerations for this region, the outcome of the accreditation process with Barley Australia will enhance grower interest in 2021.



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