

Australian Prime Hard:

A new premium wheat quality grade for Victoria & SA

Key Points

- Historically, New South Wales and Queensland have had access to a market that rewards high protein and functionality: Australian Prime Hard (APH)
- In Victoria and South Australia, this market has not existed; instead, Australian Hard (AH) has been the highest quality grade
- Recent changes to the Australian wheat quality classification system has opened up opportunities for APH wheat to be grown outside of NSW and Queensland
- A new wheat variety called Sunmaster[®] is now available with an APH quality classification in Victoria and SA
- No APH segregations or delivery points currently exist in Victoria or SA, however these may develop in response to wider growth of APH classified varieties in these areas

Australian Wheat Quality Classification System

Wheat breeders like Australian Grain Technologies (AGT) are required to assess the quality characteristics of potential new varieties to determine their processing and end-use performance.

Lab assessments for around 30 quality parameters are conducted on grain from trials where new varieties and control varieties are grown together, over a minimum of three seasons and six locations.

This quality data is submitted to the Grains Australia Classification Panel, a group of technical experts who assess the quality of wheat varieties against the technical requirements of each class of wheat.

Based on their quality characteristics, new varieties are then allocated into one of eleven different wheat classes (the maximum grade that variety can then be marketed as), of which there are three premium hard wheat classes (Table 1).

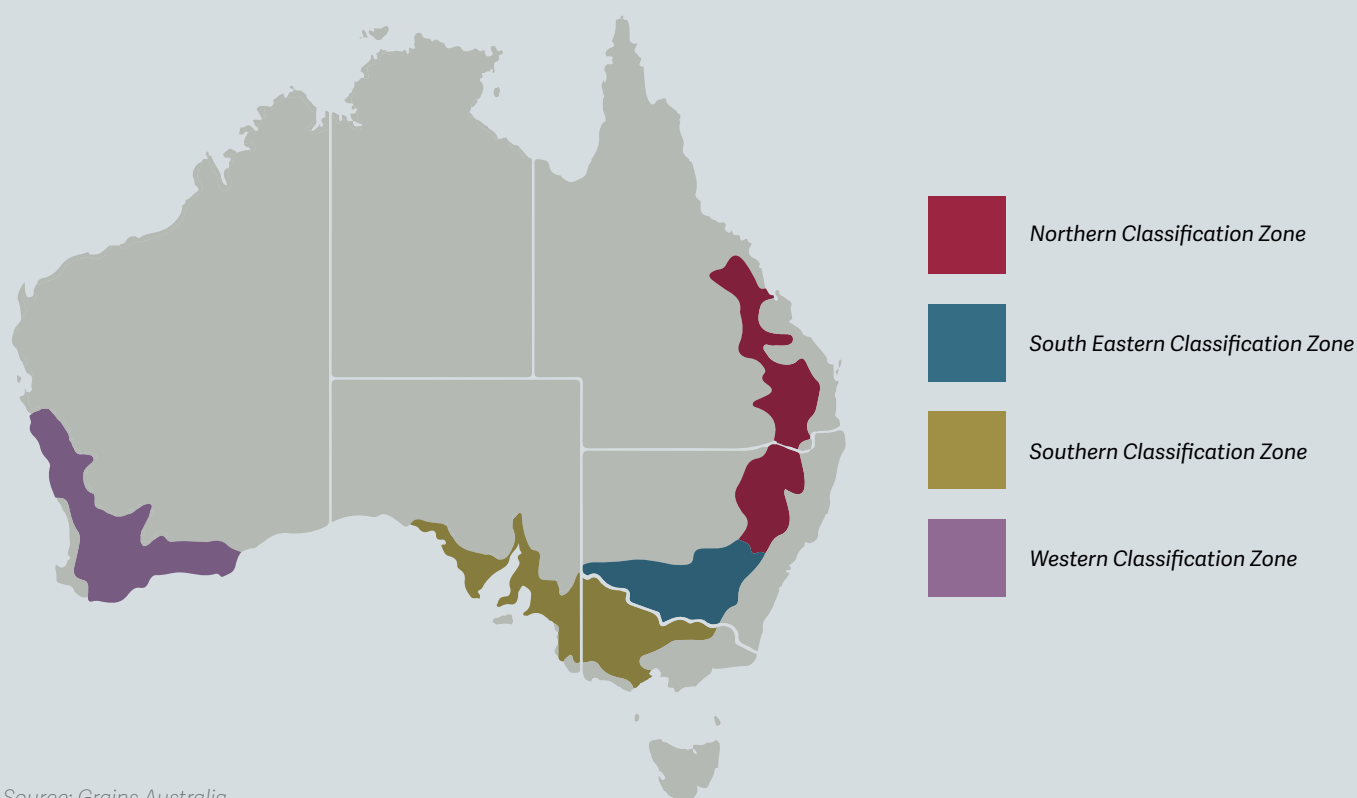
Table 1. Premium hard white wheat classifications

Classification	End-Uses
Australian Prime Hard (APH)	High protein milling white wheat ideally suited for high volume European breads, yellow alkaline noodles, fresh ramen noodles, dry noodles and wonton skins.
Australian Hard (AH)	High to mid protein white-grained wheats, ideal for European pan and hearth breads, Middle Eastern style flat breads, yellow alkaline noodles, dry white salted noodles and steamed products.
Australian Premium White (APW)	Mid protein hard white wheat, for the production of a variety of noodle types, including Hokkien, instant and fresh noodles, and Middle Eastern and sub-continental flat breads and Chinese steamed bread. Can also be widely used as a blending wheat in a range of baking processes internationally and is the mainstay of the domestic baking industry.

The classification of a variety is determined on a zone-by-zone basis, using data generated from grain grown in that zone.

There are four classification zones in Australia: Northern (Queensland and northern NSW); South Eastern (southern NSW); Southern (Victoria and SA); and Western (WA).

Figure 1. Classification zones in Australia



Source: Grains Australia

When a grower delivers grain to a bulk handler, the grain parcel will be graded into a segregation based on the variety's classification (this determines the maximum grade the variety is eligible for) and its physical grain quality (protein, screenings, test weight etc.) (Table 2).

An APH classified variety is eligible for many more milling segregations (APH, AH, APW and lower grades) compared with an ASW classified variety (ASW and lower grades only), and can cascade down to lower grades if specifications are not met.

Higher prices are usually paid for higher protein wheat grades.

Table 2: Wheat trading standards for premium hard white milling grade wheat segregations

Delivery Grade/ Segregation	Quality Classification					
	APH		AH		APW	
	APH1	APH2	H1	H2	APW1	APW2
Minimum Protein (%)	14	13	13	11.5	10.5	10
Minimum Test Weight (kg/hl)	76	76	76	76	76	76
Maximum Screenings (%)*	5	5	5	5	5	5
Minimum Falling Number (seconds)	350	350	300	300	300	300

*A subset of specifications have been displayed, please refer to Grain Trade Australia website for full details.

Source: Grain Trade Australia Wheat Standards 2022/23 – Statement of Standards

Access to APH markets:

The APH classification and associated receival segregation was started in the northern region and later extended into southern NSW, with only growers in Queensland and NSW having access to this market.

In 2012 a GRDC funded research project was initiated to explore whether APH quality wheat could be grown in other Australian regions.

That research concluded that APH classification and segregation should not be excluded from other regions in Australia.

Although high protein is less frequently achieved in the southern region (Victoria and SA), when it is reached in APH classified varieties, the quality was deemed to be of 'APH quality'.

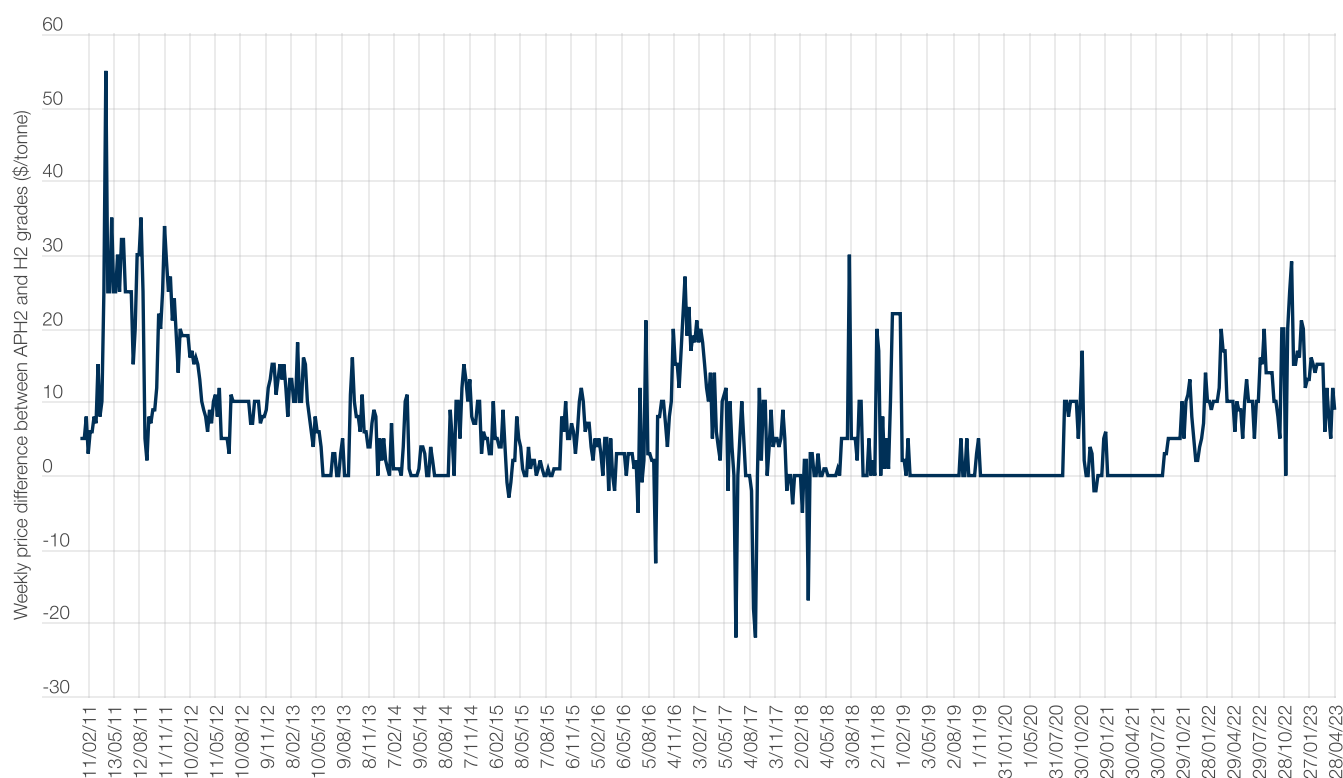
On that basis, the APH classification system was extended into Victoria and SA in 2018.

APH classified wheat varieties in Victoria and SA now give growers in high protein achieving environments the potential opportunity to deliver into higher grade segregations (Table 2), potentially benefiting financially from price premiums on offer for growing higher protein wheat.

Figure 2 shows the weekly price differences between APH2 and H2 graded wheat at Newcastle over the past decade.

On average APH2 graded wheat attracted a \$21 per tonne premium over H2 graded wheat.

Figure 2: Weekly price difference between APH2 and H2 wheat grades at Newcastle from 1 July 2011 to 28 April 2023



Source: Ag Scientia and Grain Trade Australia

Wheat varieties suitable for the APH market:

Over the past decade, Suntop[®] has been successfully grown in the North East of Victoria, where up to 33,000 hectares were planted at the peak of its popularity (in season 2015).

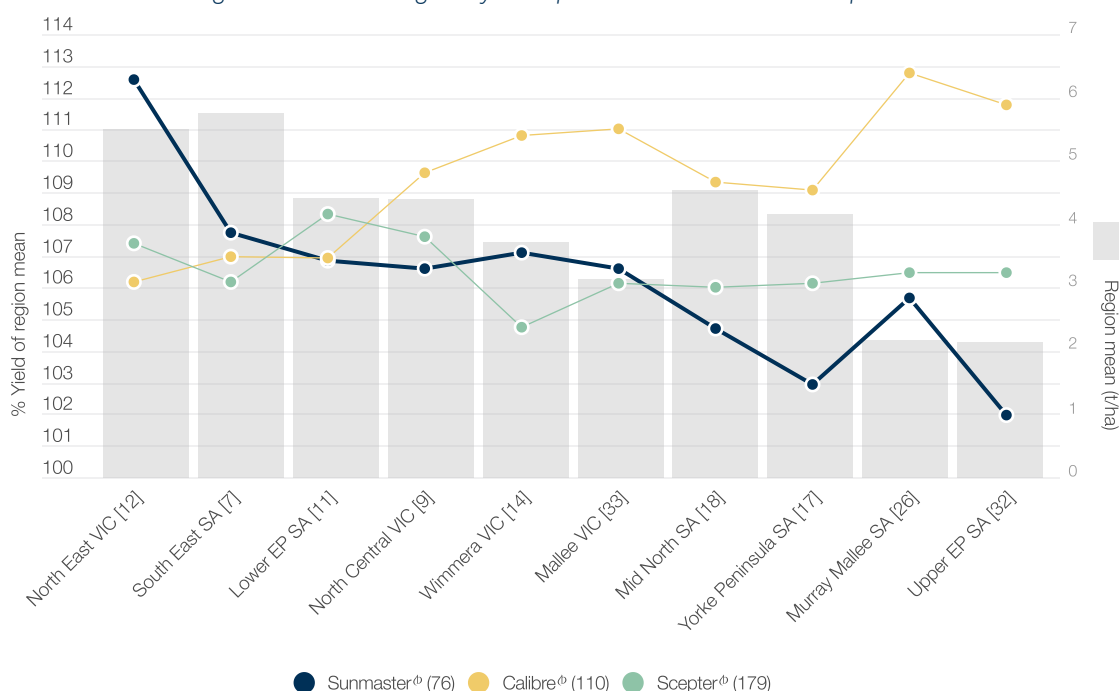
Recently, Suntop[®] was granted an APH quality classification in Victoria and SA, making it the first ever APH eligible wheat variety in the Southern Zone. Those that still grow Suntop[®] in Victoria may therefore be able to benefit from growing higher protein grain.

Suntop[®] has now been superseded by the release of Sunmaster[®]. Sunmaster[®] has been derived from Suntop[®] and offers much improved yield and physical grain characteristics compared with its parent.

Although primarily bred for NSW and Queensland environments, Sunmaster[®] may be a useful variety for growers in Victoria and SA who are interested in, and can capitalise on the marketing opportunities that an APH quality classification offers; or those that have successfully grown Suntop[®] in the past.

Sunmaster's[®] unique quality classification is coupled with generally modest yields relative to the leading AH quality varieties; therefore growers will have to determine whether the potential price split between APH and other grades off-sets any yield deficit (Figure 3). The clear exception is North East Victoria, where Sunmaster[®] yields very well relative to other commonly grown varieties.

Figure 3: Predicted grain yield of Sunmaster[®] versus comparators



Source: NVT long term MET analysis, main season trial series 2018-2022
 [] Total number of trials per region

() Number of trials that each variety was present in across the dataset [179]
 Regions sorted by the performance of Sunmaster[®] relative to leading varieties

Developing an APH market in Victoria and SA

Now that an APH classification exists in Victoria and SA, AGT's breeders will aim to develop improved varieties with APH classification suited to that environment.

Bulk handlers do not currently offer APH segregations in Victoria and SA, however this may change as a

critical mass of APH classified varieties are grown. While segregations are being developed, growers of Sunmaster[®] near the Victorian-NSW border may have the option to deliver APH grain into southern NSW with limited transport costs.