

Wheat

Variety fact sheet  
Victoria, Tasmania, Southern NSW & South Australia

# Anapurna



- Dual purpose winter wheat, suitable for grazing and grain production
- Awned, red grained, feed quality wheat
- Delivers very high grain yields in long season environments
- Slow winter maturity, similar to RGT Accroc
- Good level of septoria *tritici* blotch resistance
- Excellent stripe rust resistance
- Maintains high grain yields in the absence of foliar fungicides
- Excellent lodging resistance in high yield potential environments

## Breeder's comments

Along with breeding improved long season wheat varieties in Australia, our winter wheat breeding programme at Wagga Wagga works to identify international germplasm that may be adapted to Australian wheat growing environments.

Emerging from a variety exchange with European breeding co-operative and AGT shareholder Limagrain, and through collaboration with the Hyper Yielding project run by Field Applied Research (FAR) Australia, we have identified the European variety Anapurna which excels in very long season, high rainfall environments of Australia.

The performance of Anapurna in the Hyper Yielding trials could not be ignored, and we are very proud to offer Anapurna to growers in high rainfall areas, helping to deliver on our commitment to provide quality varieties to all cropping zones of Australia.

Anapurna is an awned, dual purpose winter wheat variety with similar maturity to RGT Accroc and is largely suited to high rainfall environments throughout the mainland of southern Australia and Tasmania.

Anapurna has a long vegetative growth phase similar to RGT Accroc and SQP Revenue<sup>®</sup>, providing a longer safe grazing period compared with mid-winter varieties like EGA Wedgetail<sup>®</sup> and Illabo<sup>®</sup> that reach stem elongation earlier. Its strong vernalisation requirement means Anapurna can be safely planted in early April.

Anapurna also has a useful disease package with good levels of septoria *tritici* blotch resistance, resulting in high yields being maintained in the absence of foliar fungicide application, despite the growing impact of this disease.

Furthermore, the compact canopy of Anapurna provides good standability with reduced susceptibility to lodging.

While Anapurna offers many potential benefits to high rainfall croppers, growers should be aware that Anapurna is a red grained wheat that can only be delivered into feed markets.

## Seed availability

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

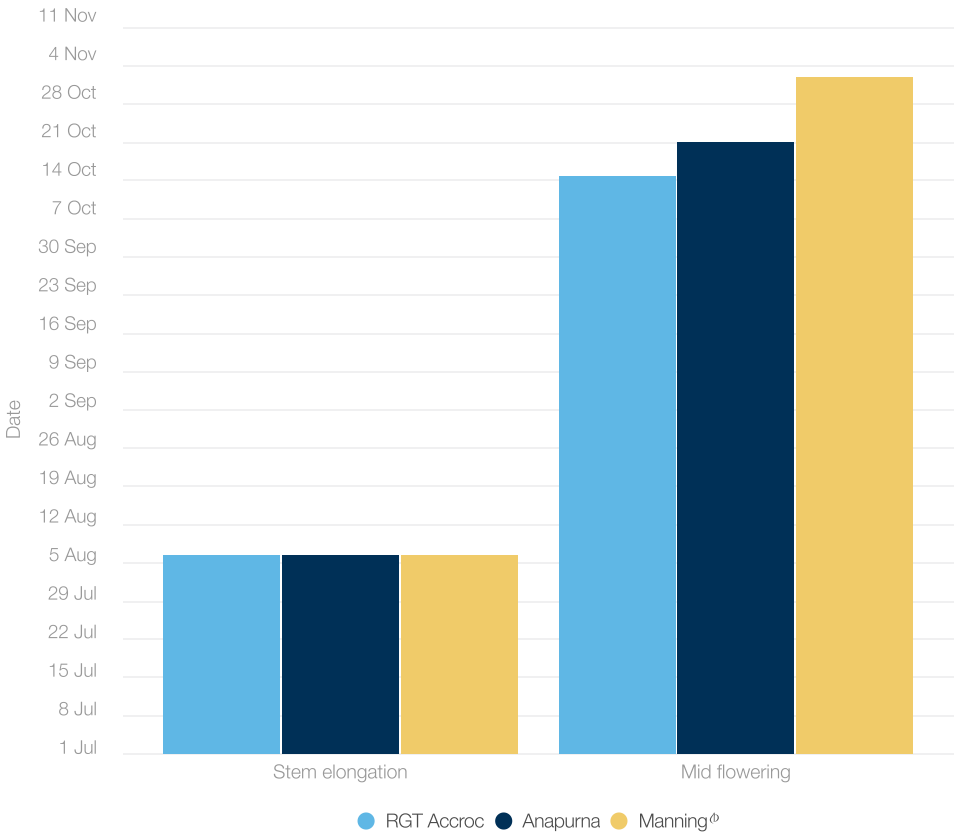
## EPR

Anapurna growers will be subject to a Growers License Agreement that acknowledges that an EPR of \$3.20/tonne + GST must be paid on all production other than seed saved for planting. Payment of EPR's on this variety by growers will allow us to continue to develop even better varieties of this type into the future.

## Maturity & sowing window

Data collected from FAR Australia's Hyper Yielding trials at Millicent during the 2020 growing season showed Anapurna had a similar phenology to RGT Accroc, with both varieties reaching the start of stem elongation (GS30) at the same time. However, Anapurna reached mid flowering (GS65) around a week later than RGT Accroc (Figure 1).

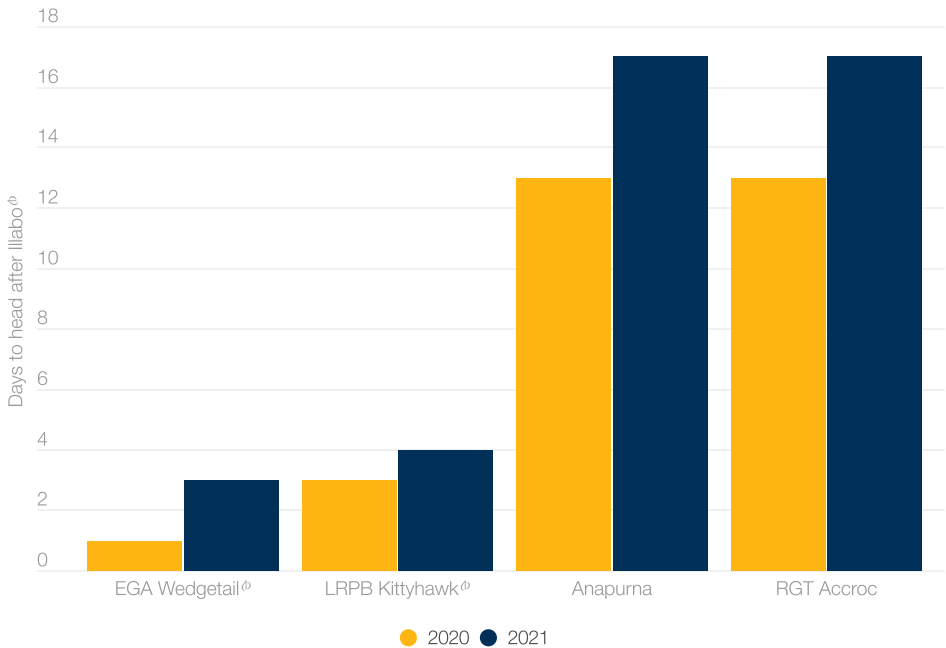
Figure 1. Date of stem elongation (GS30) and mid flowering (GS65) of Anapurna



Source: FAR Australia Hyper Yielding trial at Millicent South Australia, 2020. Trial sown on 17th April 2020

Observations from AGT trials conducted in south eastern Australia found Anapurna headed around the same time as RGT Accroc, and approximately 13-17 days later than Illabo<sup>®</sup> (Figure 2). In addition, 2020 observations taken from Lake Bolac in Victoria showed Anapurna reached first node around a fortnight later than quicker 'mid-winter' maturing varieties like Illabo<sup>®</sup> and EGA Wedgetail<sup>®</sup> (data not shown). A delay in the appearance of the first node provides a longer period of vegetative growth and grazing opportunities. Grazing dual purpose crops post first node is not recommended, potentially damaging the juvenile head and compromising subsequent grain yield.

Figure 2. Head emergence (GS55) of Anapurna compared with other winter wheats

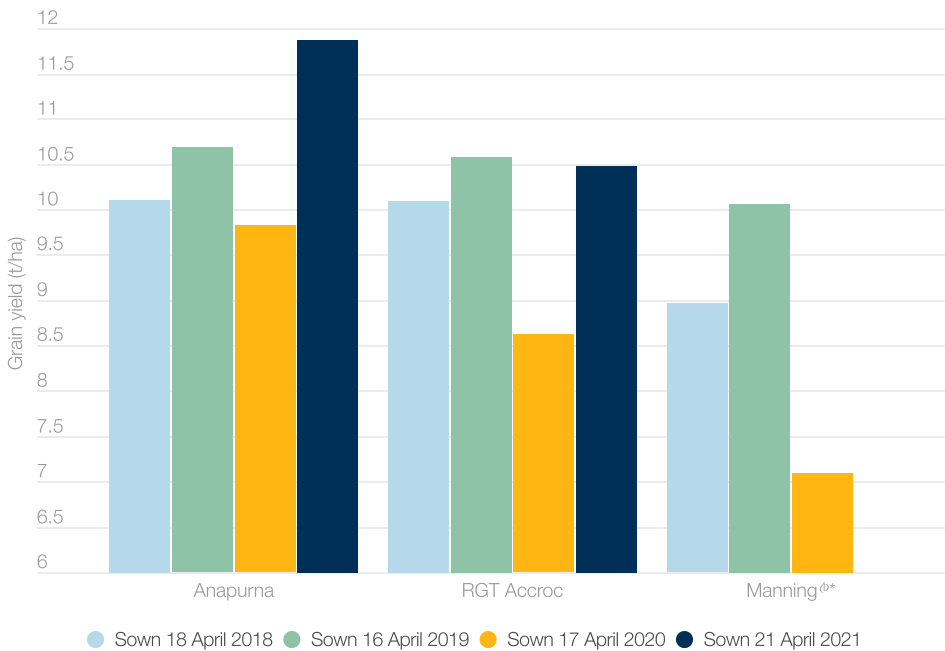


Source: AGT 2020 & 2021 long season trials, average of 4 sites (Collingullie and Lockhart NSW, Lake Bolac Victoria and Roseworthy SA)

## Grain yield

Anapurna has consistently ranked amongst the highest yielding wheat varieties in FAR Australia's Hyper Yielding trials over the past five seasons. Although Anapurna has been tested in the long season NVT trial series, we believe that the FAR Australia Hyper Yielding trial project better replicates the situations that Anapurna should be used in. A combination of a long vegetative growth phase combined with more rapid reproductive growth by comparison with varieties like SQP Revenue<sup>®</sup> and Manning<sup>®</sup> has resulted in excellent adaptation to higher rainfall environments, both on the mainland and in Tasmania (Figures 3 & 4).

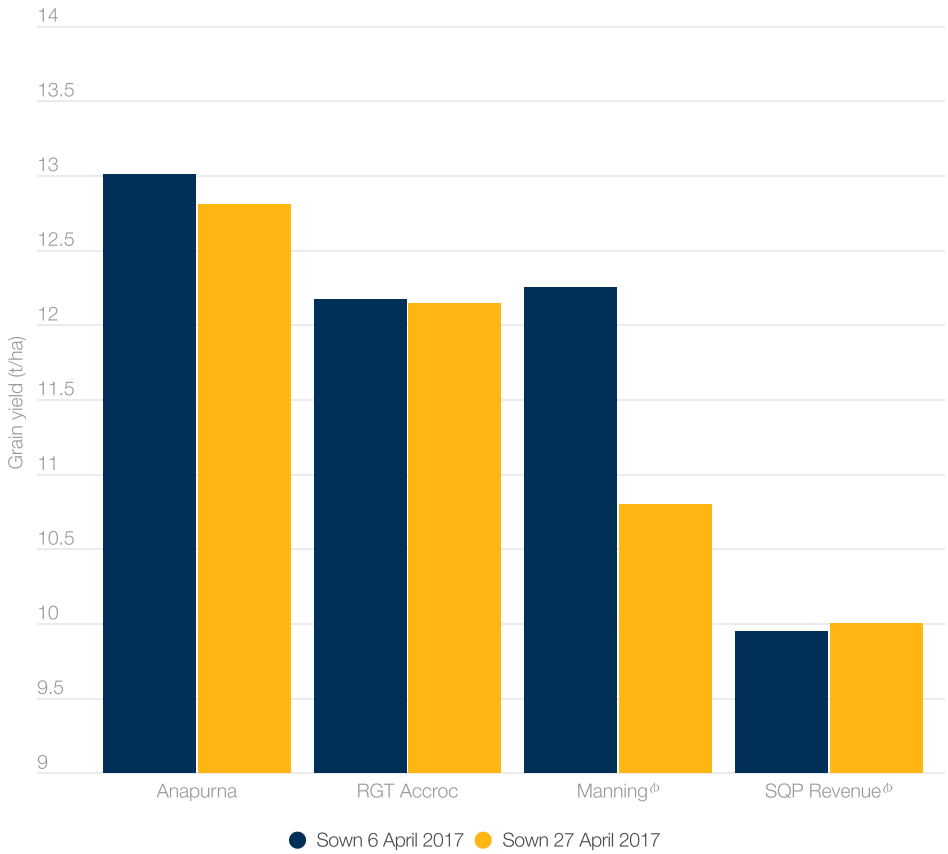
Figure 3. Grain yield of Anapurna versus comparators - Millicent, SA



\*Not present in 2021 trial

Source: FAR Australia, Hyper Yielding project

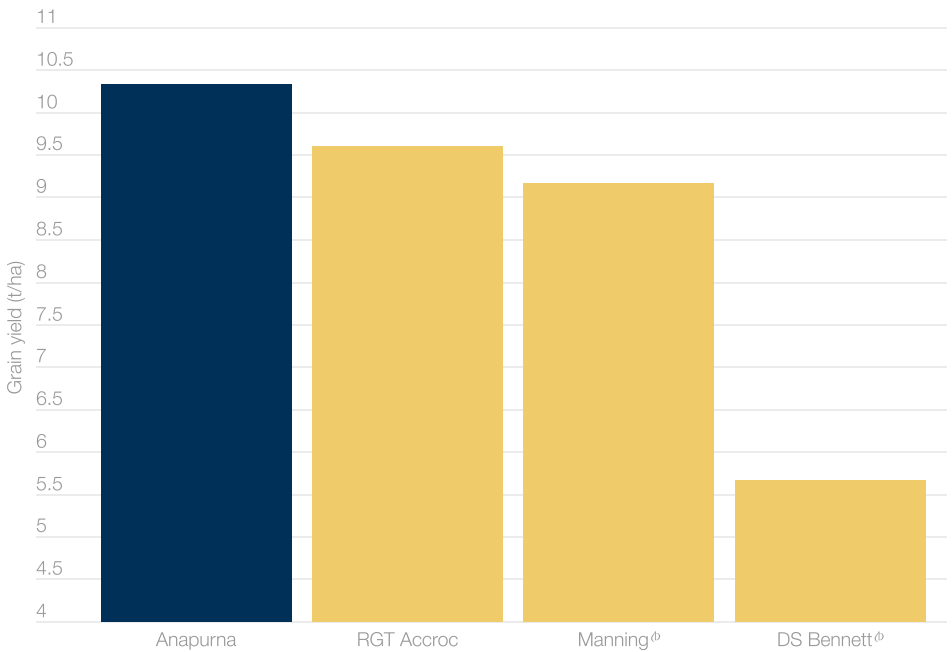
Figure 4. Grain yield of Anapurna versus comparators - Hagley, Tasmania



Source: FAR Australia, Hyper Yielding project

A key attribute identified through the Hyper Yielding project is the ability of Anapurna to maintain high yields in the absence of foliar fungicides (Figure 5). The yield for Anapurna was class-leading and considerably higher than more disease susceptible varieties like DS Bennett<sup>ϕ</sup>. This attribute may be useful for growers in high rainfall areas where crops are often exposed to high disease pressure and optimal timing of fungicide application is difficult due to wet paddocks.

Figure 5. Yield of Anapurna compared with other winter wheat varieties in the absence of fungicide - Hagley, Tasmania



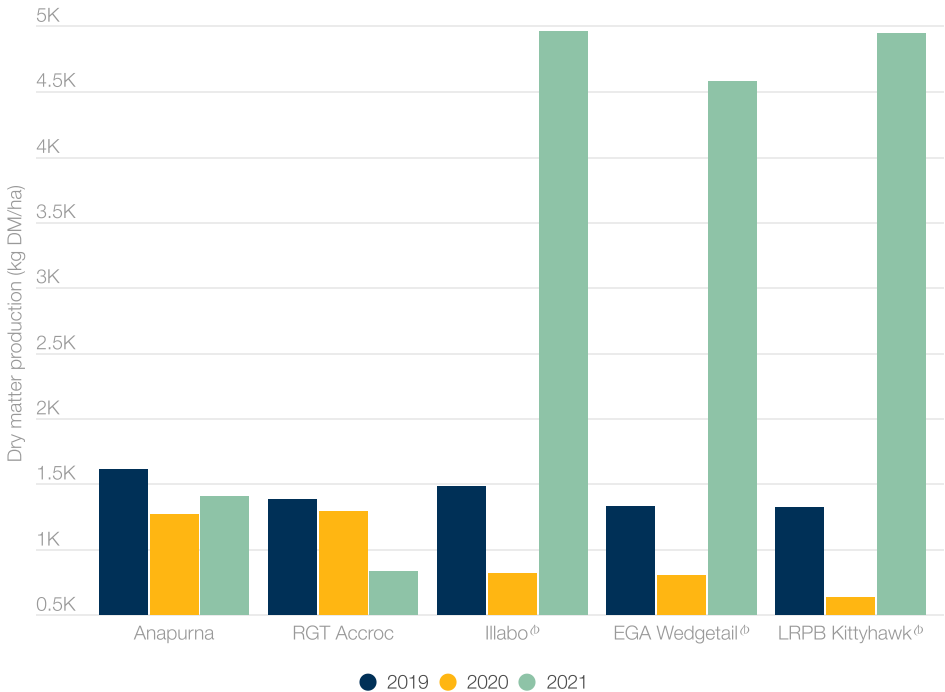
Source: FAR Australia Hyper Yielding trial at Hagley Tasmania, sown on 26 April 2018



## Dry matter yield

At Collingullie during the 2019 and 2020 growing seasons, Anapurna accumulated more dry matter before reaching first node compared with some of the quicker maturing 'mid-winter' types, like EGA Wedgetail<sup>ϕ</sup> (Figure 6). During 2021 an early autumn break accompanied by elevated soil temperatures resulted in substantially more dry matter production from the quicker maturing 'mid-winter' types than the slow-winter types, although Anapurna still maintained a dry matter yield advantage over RGT Accroc.

Figure 6. Dry matter production of Anapurna versus comparators

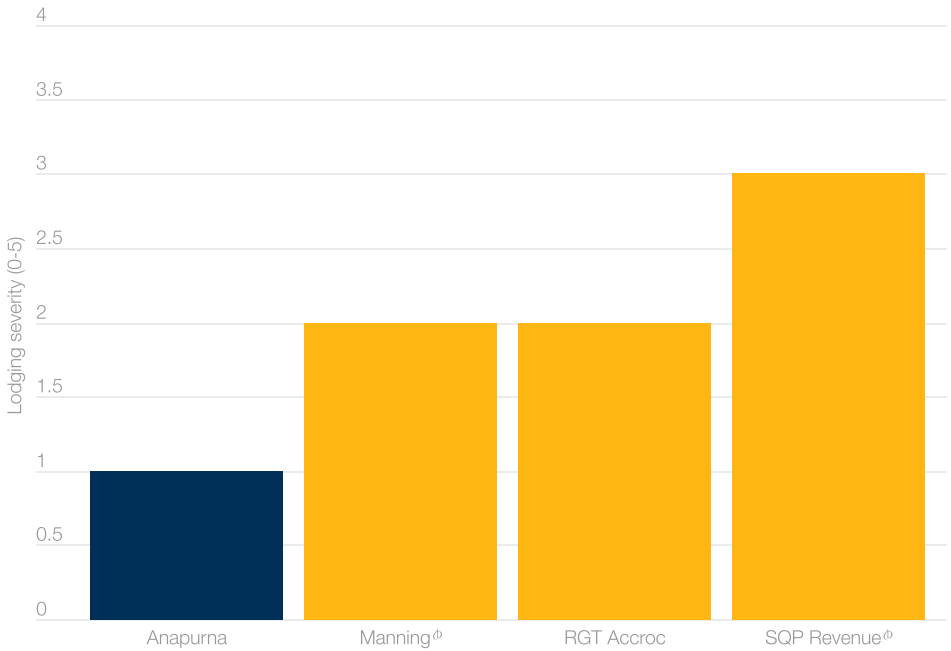


Source: AGT grazing trials, Collingullie NSW. Measurements taken at GS30

## Lodging

Anapurna has a relatively compact plant canopy, and this may contribute to reduced lodging (Figure 7).

Figure 7. Lodging of Anapurna versus comparators. 0 = no lodging, 5 = entire canopy lying on the ground



Source: FAR Australia Hyper Yielding trial at Hagley, Tasmania, 2017

## Disease resistance

Latest disease ratings suggest Anapurna has excellent levels of stripe rust resistance and useful levels of resistance to both yellow leaf spot and septoria *tritici* blotch. Stem rust is Anapurna's main foliar disease weakness, and should be monitored for infection when environmental conditions are conducive.

*Table 1. Disease resistance ratings and physical attributes of Anapurna versus comparators*

	Anapurna	RGT Accroc	Manning <sup>o</sup>	DS Bennett <sup>o</sup>	Illabo <sup>o</sup>	LRPB Kittyhawk <sup>o</sup>
Stem Rust	MSS	MS	MR	MRMS	MRMS	MRMS
Stripe Rust	RMR	RMR	RMR	S	MRMS	MR
Leaf Rust	MS	SVS	MSS	SVS	S	MR
Yellow Leaf Spot	MRMS	MRMS	MRMS	MRMS	MS	MRMS
Septoria <i>tritici</i> blotch	MRMS	MRMS	MRMS	MSS	MSS	MRMS
Powdery Mildew	RMR	MSS	MS	R	R	MS
Crown Rot	SVS	SVS	VS	VS	S	SVS
Grain Colour	Red	Red	White	White	White	White
Head Type	Awned	Awned	Awnless	Awnless	Awned	Awned
Quality Classification - Southern Zone	Feed	Feed	Feed	ASW	AH	AH
Quality Classification - South Eastern Zone	Feed	Feed	Feed	ASW	APH	APH

R Resistant

MR Moderately Resistant

MS Moderately Susceptible

S Susceptible

VS Very Susceptible

Source: NVT consensus ratings 2021

### Acknowledgement

Field Applied Research (FAR) Australia has supplied much of the data presented in this fact sheet, from the Hyper Yielding Cereals Project funded through the Grains Research and Development Corporation (GRDC).



Rob Harris, Variety Support Manager, Victoria & Tasmania:

0429 576 044

James Whiteley, Variety Support Manager, Southern NSW:

0419 840 589

Brad Koster, Variety Support Manager, South Australia:

0400 812 475

Britt Kalmeier, Wheat Breeder:

0408 442 005

End Point Royalty Office:

(08) 7111 0201

[agtbreeding.com](http://agtbreeding.com).

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Disclaimer: The information contained in this brochure is based on knowledge and understanding at the time of writing. Growers should be aware of the need to regularly consult with their advisors on local conditions and currency of information.