

Noodle Wheat and Other Uses

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Key messages

- Growing Noodle wheat has been perceived as high risk by growers in the High Rainfall Zone (HRZ) due to the risk of not making ANW1 grade. There are, however, some specialist noodle wheat growers in the HRZ who consistently make better than Mace yields and achieve ANW1 for almost all grain produced. The reasons for this are guiding the HRZ Noodle wheat production package.
- A 30km distance from the south coast within the HRZ, proposed as the '*Chillinup Line*,' appears to be a critical agronomic cut off point for where the risk of downgrade (or failure to meet specification) is more manageable.
- The 2017 prototype *HRZ Noodle Wheat production package* is an upgrade on the 2016 version using the project's trial results and other research and experience by the SCF R&D team in consultation with key stakeholders.
- Intergrain and AEGIC are helping refine the HRZ Noodle Wheat production package to meet market specifications for Noodles and the other alternative products being tested by AEGIC.
- Grower groups recognise that differentiated products aid price stability in times of relative grain oversupply and higher competition. For example, grain for Udon Noodle wheat markets and other specialist new markets are less to be affected by downward price pressures than undifferentiated grade wheat prices.

Introduction

The Grain Industry Association of Western Australia (GIWA) with the Australian Export Grains Innovation Centre (AEGIC) conducted a review of the WA Noodle Industry on '*Current Status and Future Challenges*' (2015). This review highlighted the possibilities for change. WA is the only external source of wheat grain for Udon Noodle manufacture for Japan and Korea. InterGrain has the only noodle wheat-breeding program in the world outside Japan.

Meanwhile in the HRZ, many growers have stopped producing noodle wheat because of higher risks of not making the grade in HRZ. Noodle wheat is one of very few differentiated grain products we market.

A key aim of this project is through three years of trials to deliver key elements of a demonstrated and communicated variety specific HRZ Noodle Wheat production package. This purpose of the HRZ package is to increase noodle wheat quantity and quality and reduce downgrade risk.

A second aim of the project is to provide greater diversity and options for crop rotations in the southern HRZ – the current dominant rotation of canola: barley is under threat with more disease and chemical resistance.

Methods

The prototype *HRZ Noodle Wheat production package* (2016) predicted the key elements of the required agronomy needed to meet market specifications.

- The prototype *HRZ Noodle Wheat production package* (2016) was tested using field trials, including one contracted intensive trial and four broad-scale trials in 2016 and CBH test results on grain quality of samples.

- The 2016 prototype *HRZ Noodle Wheat production package* is being refined using the project's trial results and other research and experience by the SCF R&D team in consultation with DAFWA, SCF growers, consultants, marketing agencies and Intergrain.
- Intergrain and AEGIC are undertaking end product testing of comprehensive samples (1kg, 5kg, and 20 kg samples from each treatment in each trial) from the trials to refine our HRZ production package to meet market specifications for Noodles and other alternative products being tested by AEGIC.
- The SCF Board and SCF R&D committee have reviewed the project and continue to be very supportive of the project objectives. Both groups recognize that in times of oversupply of grain and higher competition that differentiated products such as Udon Noodle wheat markets and other specialist new markets are less likely to be affected by downward pressures on undifferentiated grade wheat prices (niche marketing).

Image 1 below is an example of the broad-scale Noodle wheat trials on-farm. Growers gain from scaling up from small plot trials to test the “best bet” options



Image 1: Brad and Steve Lynch's Noodle wheat trial (West Mt Barker).

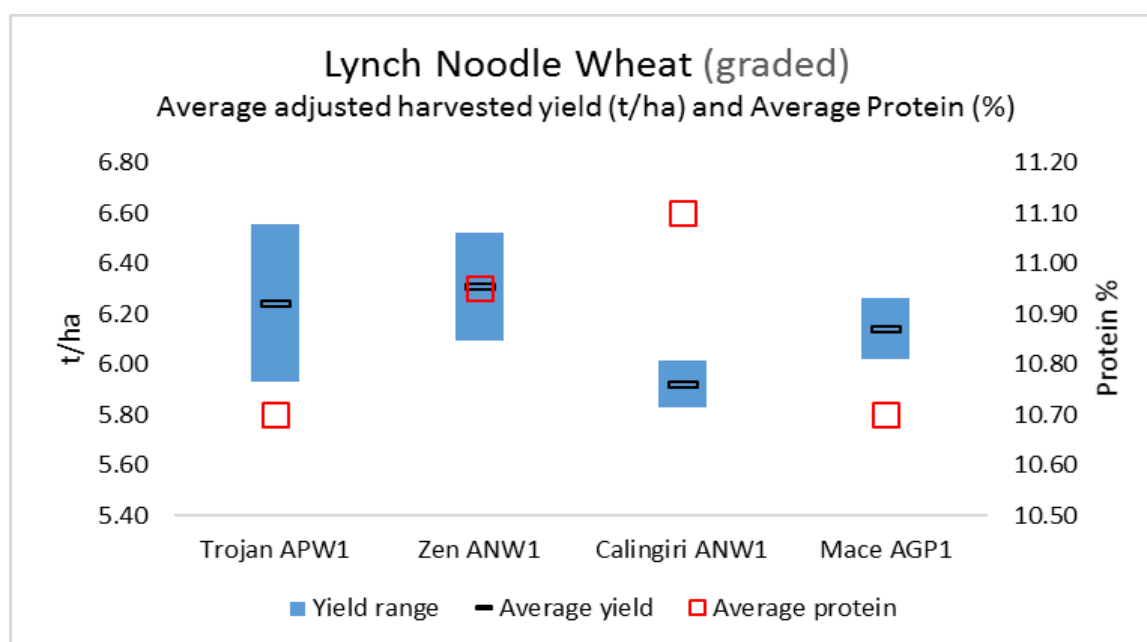


Figure 1: Lynch noodle wheat yields.

Results

Table 1: Summary of SCF Noodle wheat experiments 2016 – grain yields (t/ha) at intensive small plot trials and broad-scale trial sites.

Variety	SCF Noodle wheat experiments 2016			
Trial host	Craig Pieper Small plot trial	Steve and Brad Lynch's broad-scale trial	Tony Slattery's broad scale trial	Chris Kirkwood's broad-scale trial
LOCATION	Kamballup- East Mt Barker	Forest Hill West Mt Barker	Gnowellen East of Stirlings	East Kendenup
VARIETY				
Zen	6.01	6.31	6.25	3.03
Zen High Sow Rate	6.19			
Ninja	5.91			
Calingiri	5.93	5.92	6.04	2.53
Fortune	5.67			
Supreme	5.61		5.82	
Trojan	6.03	6.24	6.24	2.54
Mace		6.14		
Sceptre	6.28			
Soil Type	Kalgan loam and well drained	Forest Gravel Well drained but trending to waterlog	Duplex but well- structured sub soil	Shallow Duplex extended waterlogging
Comments	All quality Ok for noodle segregation	All quality Ok for noodle segregation	All quality Ok for noodle segregation	Proteins too low for segregation

Grain yields were mostly good for these sites, indicating that the varieties are well adapted to the region. Further investigation of management (N tactics, seed rates, soil types and rotations) is needed in 2017 to assess the impact on grain quality.

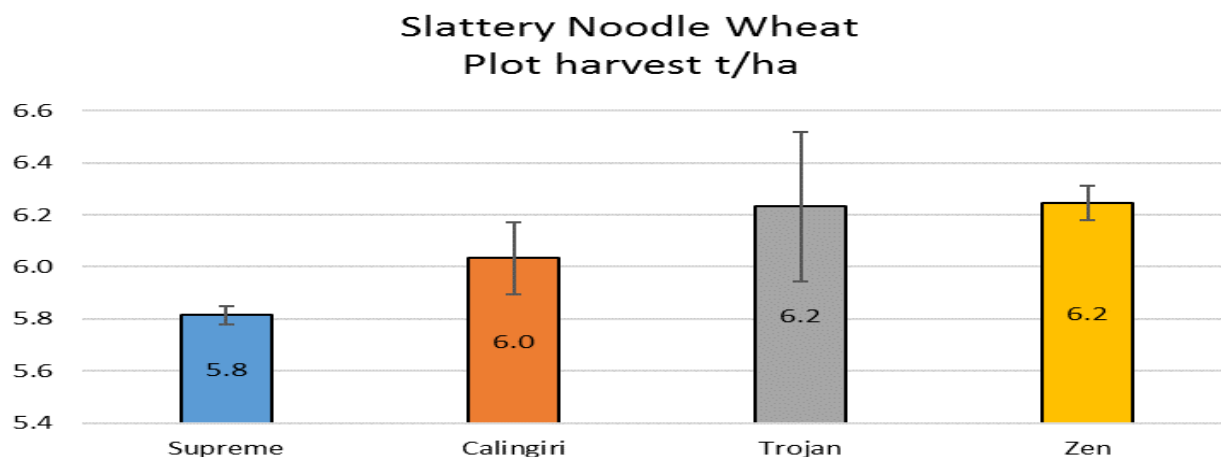


Figure 2: The Impact of Time of harvest on Yield and Quality for Noodle wheat.

A significant rainfall event (41.4 mm) occurred between the two times of harvest (TOH): First TOH 2 Dec 2016 and Second TOH 22 Dec 2016.

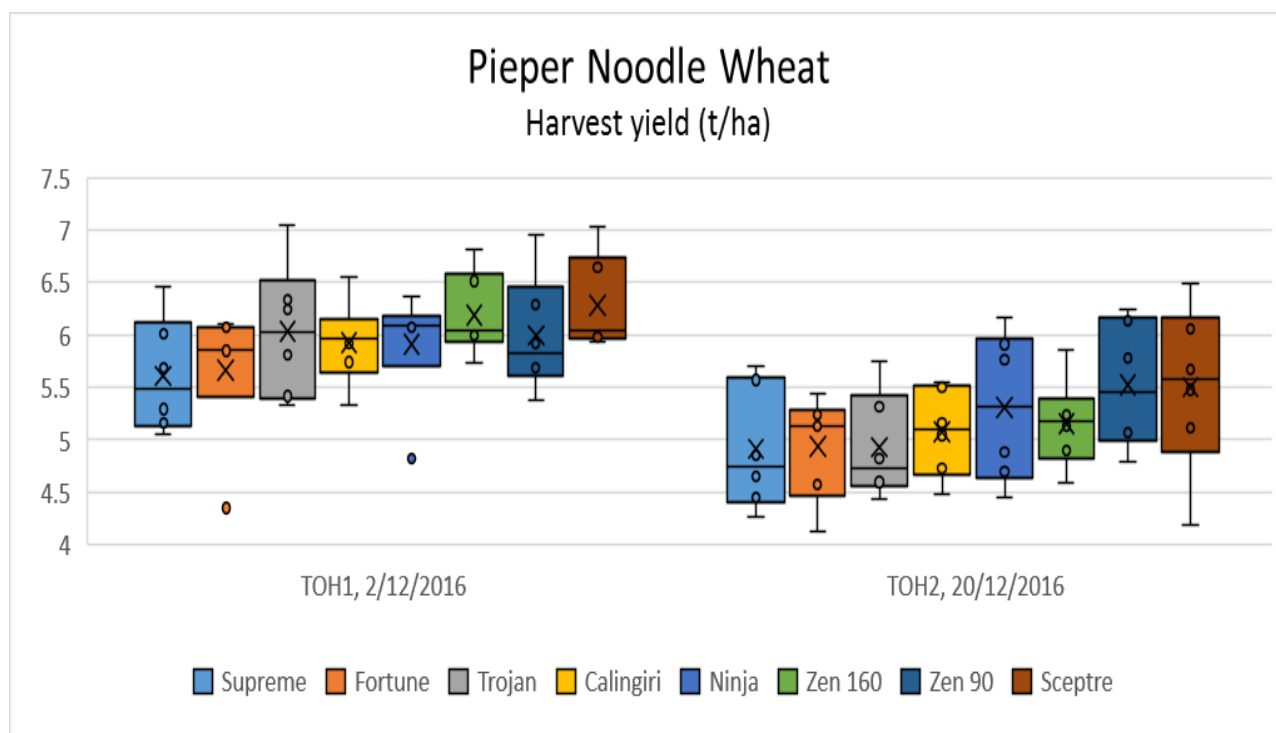


Figure 3: Ag. zones of the WA wheat belt and the regional focus.

The project area (and the focus area for the HRZ Noodle Wheat production package) is Southern part of AGZONE 3 and the Western part of AGZONE 6 above the 'Chillinup Line'.

Conclusions

- The 2016 prototype *HRZ Noodle Wheat production package* has been refined using the project's trial results and consultation with DAFWA, SCF growers, consultants, marketing agencies and Intergrain. The current version is available as handout for the 2017 season.

- Intergrain and AEGIC are undertaking end product testing of comprehensive samples (1kg, 5kg, and 20 kg samples from each treatment in each trial) from the trials to refine our HRZ production package to meet market specifications for Noodles and other alternative products being tested by AEGIC.
- Both groups recognize that in times of oversupply of grain and higher competition that differentiated products such as Udon Noodle wheat markets and other specialist product new markets are more likely to less affected by downward pressures on undifferentiated grade wheat prices (niche marketing).

Key words

Noodle Wheat, High Rain Fall Zone, agronomic production packages.

Acknowledgements

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Paper reviewed by: Professor Wal Anderson, SCF.

Disclaimer: These are preliminary results from within the first year of the project. Your feedback is very welcome.

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