

Zen vs. Mace Wheat – Case Study

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Aim

To assess whether Zen noodle wheat has a place in rotation when yield and quality are compared to Mace Australian hard wheat.

Background

The Carlshausen's had previously grown Calingiri noodle wheat but abandoned the variety in 2015 due to bad lodging in the 2014 season and consistent 0.1 t/ha lower yields than Mace. In 2015 they wanted to see if the new noodle variety Zen was able to match Mace (the only wheat currently grown on their property) in terms of yield and quality. Mace is a short to mid maturity Australian hard wheat with Wyalkatchem major parent and Stylet minor parent. Zen is a mid to long maturity Australian noodle wheat bred from Calingiri and Wyalkatchem.

Mace and Zen were compared in two locations of the same paddock. The soil type was similar at the two locations, but varied in their elevation.

This demonstration was conducted using farmer equipment. Farm scale demonstrations are a valuable way to explore new varieties, products, or practices, complimenting results which are produced through more scientifically rigorous, small plot trials. Please refer to NVT for a replicated view of the varieties in your area.

Demonstration Details

Property	E.G. Carlshausen & Co., west Dalwallinu		
Plot size & replication	640m x 12.2m x unreplicated		
Soil type	Sandy loam		
Soil pH (CaCl₂)	0-10cm: 5.6	10-20cm: 5.1	20-30cm: 4.8
Sowing date	03/05/2015		
Seeding rate	70 kg/ha Mace, 50 kg/ha Zen		
Paddock rotation	2012 wheat, 2013 wheat, 2014 lupin		
Fertiliser	03/05/2015: 20 kg/ha MOP, 40 kg/ha AgFlow 12/06/2015: 70 kg/ha urea 08/07/2015: 180 g/ha Zinc		
Herbicides, Insecticides & Fungicides	03/05/2015: 2 L/ha Gramoxone, 2.5 L/ha Boxer Gold, 25 g/ha Monza, 200 mL/ha Chlorpyrifos 08/07/2015: 500 mL/ha Paragon Xtra, 300 mL/ha Bromicide MA, 150 mL/ha Folicur 13/08/2015: 150 mL/ha Tebuconazole, 150 mL/ha Alpha-cypermethrin		
Growing season rainfall	253mm (73mm: February-March)		

Results

This was an unreplicated farmer demonstration, thus interpretations of results are to be made with caution.

Table 1: Averaged yield and quality of Mace and Zen, west Dalwallinu in 2015.

Treatment	Yield (t/ha)	Protein (%)	Screenings (%)	Hectolitre Weight (kg/hl)	Grade
Mace	3.05	9.1	2.4	81.5	ASW
Zen	3.25	10.1	1.8	81.5	ANW1

Comments

The Carlshausen's were pleased with the yield and quality of Zen and plan to use it in their rotation in the 2016 season. Zen out-yielded Mace by 6% (0.2 t/ha) on both sections of the paddock (3.65 vs 3.48 t/ha

(bottom of slope) and 2.84 vs 2.62 t/ha (top of slope)). Although Mace has a slightly better resistance rating (MSS vs SVS (provisional assessment)), the Carlshausen's noted that Zen held up better to the powdery mildew that was prevalent in the district in the 2015 season. Zen remained greener for longer which is likely due to its slightly longer maturity.

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