

Western Australia

NEW



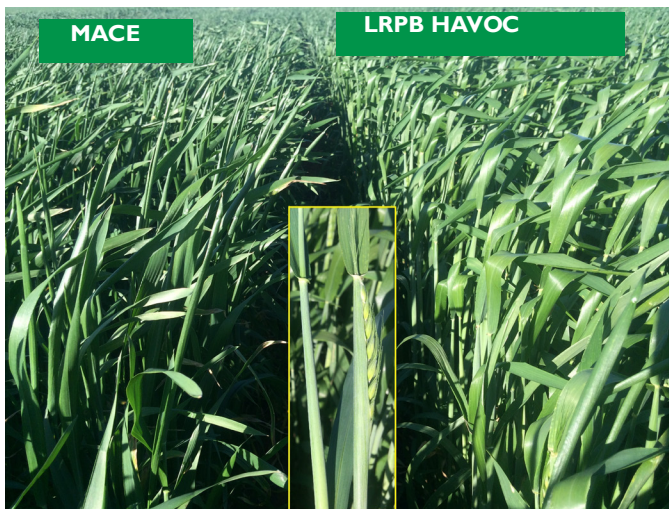
KEY FEATURES

LPB13-1995

- Havoc is based on Mace with similar yield stability and is well adapted to all areas of WA
- AH classification in WA with a quick maturity for main season planting like Corack and Mace
- Yield increase of 2-5% on Mace over the last 3 years in WA
- Outstanding shorter canopy for crop and stubble management
- Good Stripe Rust (MR), Leaf Rust (RMR WA) and Yellow Spot (MRMS) resistance
- Improved Powdery Mildew resistance (MS) over Mace to reduce disease build up in lower canopies

AGRONOMIC FEATURES

The cross (Mace/LPB07-0980) aimed to combine Mace's broad adaption with the superior canopy of a high yielding LongReach breeding line. Havoc has a compact plant type throughout the season with an erect open canopy with upright leaves. Havoc spends time developing tillers in a similar manner to Wyalkatchem but with noticeable broader leaves to improve competition and vigour. Importantly Havoc has retained Wyalkatchem's trait of prioritising tillering and does not rush like Mace has shown a tendency to do in warmer winters. The typical timing of heading is between Corack and Mace making Havoc a quick main season variety. The flag leaf is distinctively erect with blocky heads at grain filling and Havoc has a similar height to Cobra or Wyalkatchem at maturity. From heading to grain filling Havoc has shown it develops very fast to be a quick finishing variety at harvest.



DISEASE RESISTANCE

LRPB Havoc has good resistance to Stripe Rust (MR), Leaf Rust (RMR WA) and moderate resistance to Stem Rust (MSp). Havoc has good Yellow Spot (MRMS) resistance and solid for Black Point (MS). Havoc has also shown improved Powdery Mildew resistance (MS) with field screens over the last 2 years showing a substantial reduction in pustule severity over Mace and Wyalkatchem.

Variety	Stem Rust	Leaf Rust		Stripe Rust		Septoria tritici	Crown Rot	Yellow Spot	Powdery Mildew	Black Point
		WA	EA	YrWA	Wr17+27+					
LRPB Havoc	MSP	RMR	MSS	MSS	MR	Sp	Sp	MRMS	MS	MS

Resistance rating: VS=Very Susceptible, S=Susceptible, MS=Moderately Susceptible, MR=Moderately Resistant, R=Resistant.

Tol Rating - T =Tolerant, MT=Moderately Tolerant, MI =Moderately Intolerant, I = Intolerant, VI =Very Intolerant.

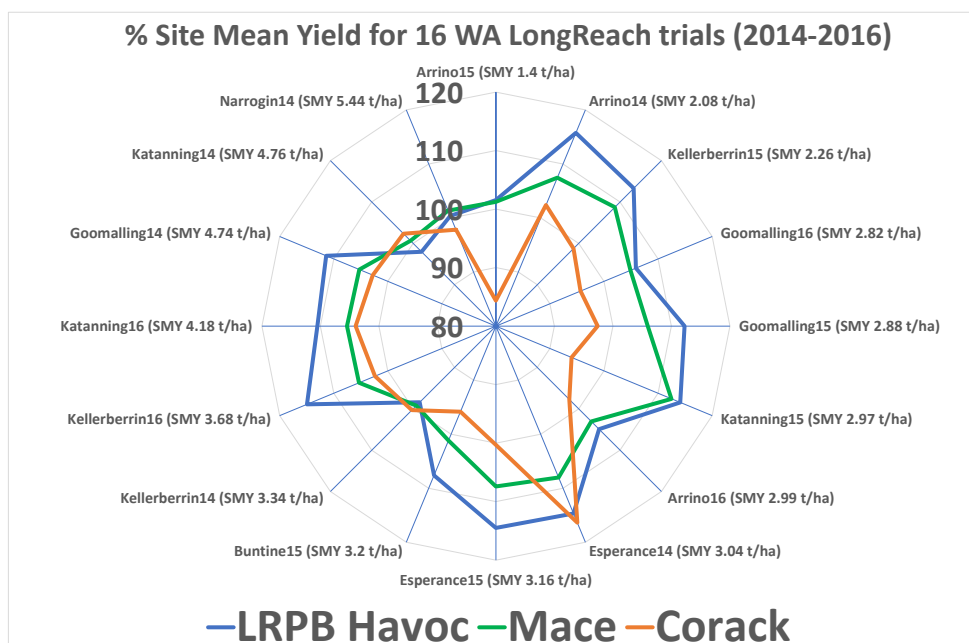
Data sourced NVT and LongReachPlant Breeders 2017. p = Preliminary Data Based on limited data set



YIELD PERFORMANCE

Havoc has shown its broad adaptability by consistently out yielded Mace and Corack over a wide yield range in WA. Average yield improvement over the 41 trials shows a significant upside for Havoc compared to Mace (3%), Corack (5%) and Wyalkatchem (8%).

Even in 2016 when frosts had a significant effect on yield to suit the later maturing varieties, Havoc still showed improved yield over Mace. Havoc has a sound grain package that is equal or better than Mace for protein, test weight, grain size and screenings and an AH classification in WA.



Long term average yield for 41 WA trials expressed as % Mace Yield for different yield ranges (18 LongReach sites, 2013-16; 23 NVT sites 2016)						
Variety	1-2 t/ha (3 sites)	2-3 t/ha (13 sites)	3-4 t/ha (14 sites)	4-5 t/ha (9 sites)	5-6 t/ha (2 sites)	Ave Yield (t/ha)
LRPB Havoc	112	102	104	102	102	3.58
Mace	100	100	100	100	100	3.48
Corack	105	94	100	100	96	3.42
Wyalkatchem	103	93	94	97	98	3.31
Mace Yield (t/ha)	1.63	2.88	3.42	4.56	5.67	



PLANT BREEDERS RIGHTS

LongReach Havoc is protected by Plant Breeders Rights (PBR). In regard to propagating material (planting seed) of this variety, any unauthorised commercial production or reproduction, conditioning for propagation, offering for sale, sale, import, export or stocking of propagating material is an infringement under the Plant Breeders Rights Act 1994. Grower to grower trading of seed of LongReach Havoc is allowed.

End Point Royalty (EPR)

Each time a grower purchases seed of LongReach Havoc the grower agrees to comply with the Variety Licence and Royalty Agreement, including agreement to pay the EPR of \$4.00 per tonne (GST excl). EPR is payable on all grain production, except on seed retained by the grower for replanting by the grower. The majority of the EPR will be paid by Advanta Seeds to the Breeder (LongReach Plant Breeders) for investment in future wheat breeding programs.

The information provided in this publication is intended as a guide only. Advanta Seeds Pty Ltd (including its officers, employees, contractors and agents) ('Advanta Seeds') can not guarantee that every statement is without flaw of any kind. While Advanta Seeds has taken all due care to ensure that the information provided is accurate at the time of publication, various factors, including planting times and environmental conditions may alter the characteristics and performance from plants.

Advanta Seeds shall not be liable for any errors or omissions in the information or for any loss, injury, damage or other consequence whatsoever that you or any person might incur as a result of your use of or reliance upon the products (whether Advanta Seeds products or otherwise) and information which appear in this publication. To the maximum extent permitted by law, the liability of Advanta Seeds for any claim whatsoever arising out of the supply or use of or reliance upon the products and information in this publication (including liability for breach of any condition or warranty implied by the Trade Practices Act 1974 or any other law) is limited at its discretion, to the replacement of the products, the supply of equivalent products or the resupply of the publication. For application to specific conditions, seek further advice from a local professional.

© Advanta Seeds 2016.

