Dow Seeds

www.dowseeds.com.au

DS DARWIN

DS DARWIN

- **Adapts time to maturity in response to the season**
- **Wide planting window across medium rainfall zones of southern NSW and Victoria**
- **High yielding early-mid season line**
- **Strong grain package with large grain size, low screenings, good test weight**
- **Excellent standablity and harvestability, with excellent straw strength and lodging resistance**
- **Australian Hard (AH) Classification in southern NSW, Victoria and South Australia**
- **Black point tolerance**

ADAPTS AND RESPONDS

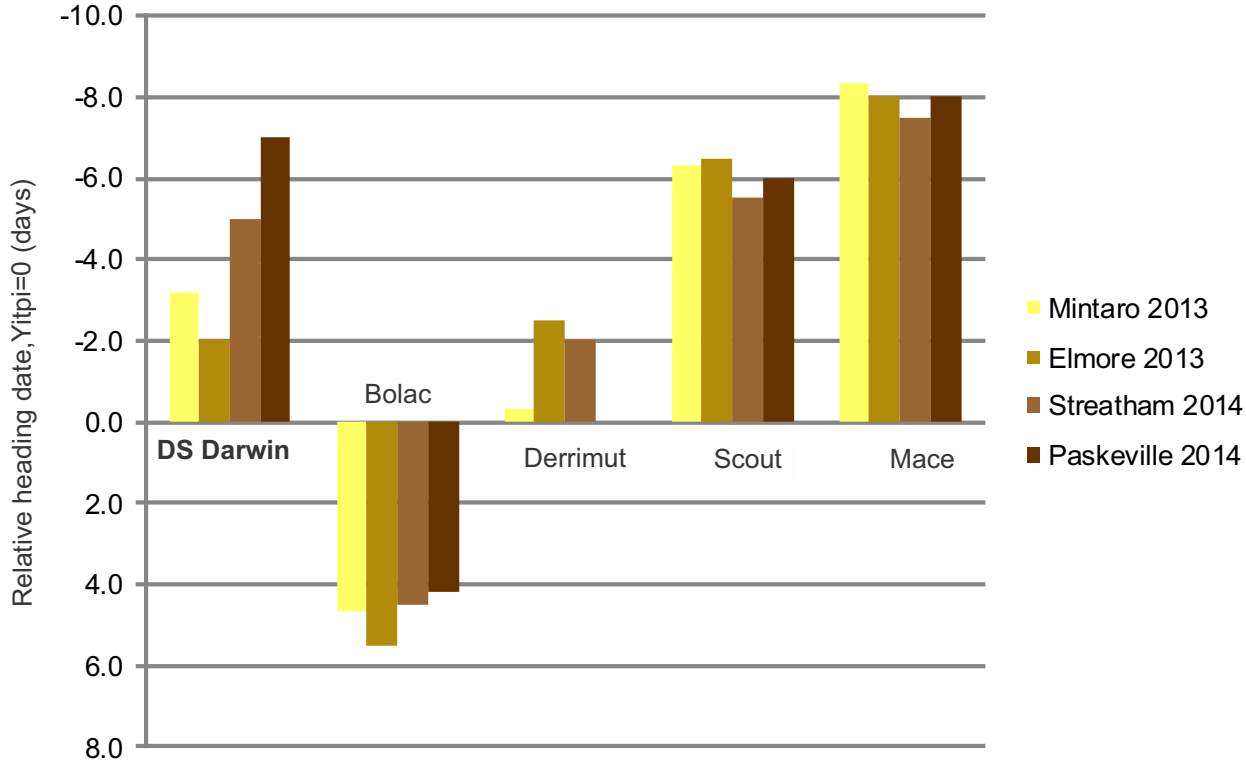
DS Darwin, the first commercial wheat line from Dow Seeds, adapts its time to maturity according to prevailing seasonal conditions, providing the best possible chance of attaining the highest yield.

Responds to Seasonal Conditions

When good seasonal conditions persist, DS Darwin has been observed to follow the season, extending it's vegetative growing period and time to heading. Similarly, in seasons with tighter springs, DS Darwin has been observed to reduce it's time to heading compared to other varieties.

Figure 1 shows DS Darwin's response to different seasonal conditions with regard to heading time when compared to Yitpi. 2013 data shows the response to a softer season, with DS Darwin similar to Derrimut, heading 2-3 days quicker than Yitpi. Whilst in 2014, a harder season, the data shows DS Darwin heading 5-7 days faster, more inline with Scout.

Figure 1. Effect of conditions on time to heading, relative to Yitpi (Vic and SA, 2013 and 2014)



Dow AgroSciences

Solutions for the Growing World

Dow Seeds

www.dowseeds.com.au

DS DARWIN

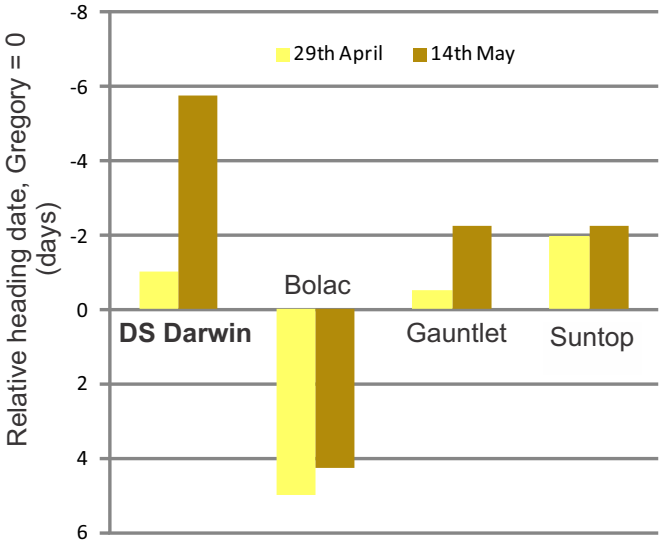
Responds to Changes in Sowing Date

DS Darwin has a wide flexible sowing window that responds with the season to ensure appropriate heading date.

In southern NSW 2014 (**Figure 2**) at an early sowing date (29th April), the heading date of DS Darwin and Gregory were similar. However, when sown in mid-May, DS Darwin was almost a week quicker than Gregory, and crops were maturing into a very tough finish.

This adaptability to adjust the time to maturity and respond to the season ensures the highest potential yield in all seasonal conditions.

Figure 2. Effect of sowing date on time to heading, relative to Gregory (Temora 2014)



BREEDING - CFR00-18/Rubric

DS Darwin (ADV03.0056) is the first commercial wheat line from Dow Seeds as part of the Advantage Wheats program, in collaboration with CSIRO.

The cross and initial screenings were undertaken in New Zealand, before being imported though quarantine. The line was selected and extensively tested in Australia since 2008 and first entered NVT (National Variety Trials) testing in 2012.

PLANT TYPE

DS Darwin is an early to mid season AH wheat which is suited to early to mid May sowing.

DS Darwin has a neat plant type with good standability; it retains its compact plant type under good growing conditions or irrigation, with excellent straw strength and lodging resistance. It performs well under irrigation and dryland conditions.

DS Darwin conveys a solid stripe rust package, being moderately resistant to all current pathotypes. However, it is susceptible to *Septoria tritici* and needs to be managed accordingly, where Septoria may be an issue.

DS Darwin exhibits low screenings and a large seed size which should be considered at planting.

Table 1. Yield data from National Variety Trials (NVT) Multi-Environment Trials (MET) analysis 2010-14, southern NSW early to main season

	NSW south west early		NSW south east early	
Variety	**Predicted Average Yield (t/ha)**	**% Site Mean**	**Predicted Average Yield (t/ha)**	**% Site Mean**
DS Darwin	**4.19**	**105**	**4.57**	**106**
Bolac	4.13	103	4.44	103
EGA Gregory	4.16	104	4.55	105
Gauntlet	4.10	103	4.45	103
Lancer	3.76	94	4.12	95
Sunguard	4.01	100	4.39	102
Suntop	4.31	108	4.67	108
Trojan	4.27	107	4.64	108
Predicted Site Mean	4.00		4.32	

DS DARWIN

Table 2. Yield data from 2010-14 internal MET analysis, Victoria and South Australia (% of Yitpi)

Variety	No. trials	Sown early (Apr)	Sown mid (May)	Sown late (Jun)	Vic, south	Vic, north	SA, south east	SA, mid north
DS Darwin	**35**	**102**	**110**	**106**	**107**	**101**	**97**	**113**
Bolac	31	100	100	109	109	100	104	96
Corack	12	98	108	113	105	103	100	110
Mace	25	94	110	119	110	103	94	113
Scout	27	101	111	122	122	101	104	111
Trojan	5	103	109	110	112	No data	100	114
Wallup	15	92	108	117	114	101	99	111
Yitpi	35	100	100	100	100	100	100	100

Table 3. Grain weight from 2014 southern NSW, 20 NVTs across early and main season series

Variety	Mean 1000 GW (g)	Mean test wt (g)	Mean screenings (%)	Sites downgraded by screenings (%)
DS Darwin	**40.3**	**81.8**	**1.6**	**5**
Chara	36.0	80.9	2.9	20
EGA Gregory	38.3	81.8	1.7	5
Gauntlet	39.5	83.2	0.8	5
Suntop	38.1	81.9	3.7	25

Table 4. Grain weight from 2014 South Australia, 15 NVTs across south east, mid north and York Peninsula

Variety	Mean 1000 GW (g)	Mean test wt (g)	Mean screenings (%)	Sites downgraded by screenings (%)
DS Darwin	**36.1**	**82.6**	**2.3**	**7**
Cobra	33.9	80.6	2.5	21
Harper	32.8	82.3	4.0	28
Mace	35.9	82.4	2.4	14
Phantom	35.7	81.0	3.1	28
Scout	34.2	83.3	2.7	28
Yitpi	35.0	81.8	3.4	28

Table 5. Grain weight from 2014 Victoria, 5 NVTs across north

Variety	Mean 1000 GW (g)	Mean test wt (g)	Mean screenings (%)	Sites downgraded by screenings (%)
DS Darwin	**44.2**	**82.1**	**0.6**	**0**
Mace	44.9	81.9	0.2	0
Phantom	46.2	82.1	0.5	0
Scout	43.7	84.3	0.4	0

Dow Seeds™

www.dowseeds.com.au

DS DARWIN(b)

Table 6. Disease resistance rating

Varieties	Stripe Rust	Stem Rust	Leaf Rust *New Pathotype	CCN	Crown Rot	RLN – *P. Neglectus*	RLN - *P. Thornei*	*Septoria trtici*	Yellow Leaf Spot	Black Point
DS Darwin	**MR**	**MR-MS**	**S-VS(P)**	**MR-MS**	**S**	**MS-S**	**S**	**S-VS**	**MS-S**	**MR**
Bolac	R-MR	MR-MS	S	S	S	MS-S	MS	MS	S	MS-S
Corack	MS	MR	S-VS(P)	S	MS-S	MS-S	MR-MS	S-VS	MR(P)	MS-S
Derrimut	MS-S	MR	MS(P)	R	MS	MS-S	S-VS	S	S	MS-S
EGA Gregory	MR	MR	MR	S	S	MS-S	MS-S	MS	S	MS
Mace	S-VS	MR	MS-S(P)	-	S	MS	MR-MS	S	MR-MS	MS
Scout	MS	MR	MR-MS(P)	R	S	S-VS	MS-S	MS-S	S-VS	S
Spitfire	MR	MR	S(P)	MS	MS	MS-S	MS-S	MS-S	MS-S	S
Suntop	MR-MS	MR	MR-MS(P)	S	MS-S	MS-S	MR-MS	S	MS-S	MR-MS
Yitpi	MR-MS	MS	S(P)	-	S	MS-S	MS-S	MS-S	S-VS	MS

Resistance Ratings

R = Resistant, R–MR = Resistant–Moderately Resistant, MR–MS = Moderately Resistant–Moderately Susceptible, MS = Moderately Susceptible, MS–S = Moderately Susceptible–Susceptible, S = Susceptible, S–VS = Susceptible–Very Susceptible, VS =Very Susceptible, - = no data available, (P) = provisional rating.

PBR and EPR

DS Darwin 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 DS Darwin is allowed from 2017-18.

DS Darwin growers will be subject to a Licence Agreement at the point of purchase that acknowledges an End Point Royalty (EPR) payment of $4.25/tonne excluding GST to be paid on all production other than retained planting seed.

DISCLAIMER

The information contained in this document is a guide only and is written in good faith on the best knowledge and understanding at the time of writing. Grade eligibility is subject to meeting appropriate receival standards.

SEED AVAILABILITY

Seed is available through all accredited agents.

CONTACTS

Dow Seeds

Local Dow AgroSciences representative	1800 700 096
Alan Rattey, Wheat Breeder	0439 875 500
Ant Mitchell, Product Development	0429 467 884

Seednet

Chris Walsh, SE Sales Manager	0417 891 546

Dow AgroSciences

Solutions for the Growing World