

GIA OURSTAR[Ⓛ]

The first 'Dun' pea offering improved tolerance to common in-crop and residual Group B herbicides for robust farming systems

KEY FEATURES

- Provides increased flexibility and robustness in mixed farming systems and improved weed control options over all current field pea varieties
- First field pea featuring improved herbicide tolerance;
 - improved tolerance to post-emergent imazamox (i.e. Raptor[®])
 - improved tolerance to post-emergent imazethapyr (i.e. Spinnaker[®])
 - improved tolerance to commonly used residual Group B imidazolinone and sulfonylurea herbicides
 - improved tolerance to post-emergent flumetsulam (i.e. Broadstrike[®])
- Early to mid flowering with relatively long flowering window
- Semi-erect growth habit with semi-leafless plant type
- Disease resistance profile similar to PBA Oura[Ⓛ]
- Pod shatter resistant at maturity
- Early to mid maturing suitable for crop-topping
- 'Australian dun type' grain

GIA KASTAR[Ⓛ]

The first 'Kaspa' type field pea with improved tolerance to common in-crop and residual IMI herbicides for more effective weed control

KEY FEATURES

- Provides increased weed control options over all current field pea varieties except for GIA Ourstar[Ⓛ]
- First 'Kaspa' type field pea featuring improved herbicide tolerance;
 - improved tolerance to post-emergent imazamox (i.e. Raptor[®])
 - improved tolerance to post-emergent imazethapyr (i.e. Spinnaker[®])
 - improved tolerance to commonly used residual Group B imidazolinone herbicides
 - response to residual sulfonylurea and post-emergent flumetsulam is similar to that of PBA Wharton[Ⓛ]
- Mid flowering
- Erect growth habit with semi-leafless plant type
- Disease resistance profile similar to PBA Wharton[Ⓛ], including resistance to powdery mildew
- Pod shatter resistant at maturity
- Early to mid maturing suitable for crop-topping
- Grain quality marketable as 'Kaspa type'

BREEDING: GIA Ourstar[Ⓛ] & GIA Kastar[Ⓛ] were developed by Grains Innovation Australia (GIA) using conventional breeding techniques and commercialised by AG Schilling & Co.

SEED PROTECTION & ROYALTIES: GIA Ourstar[Ⓛ] & GIA Kastar[Ⓛ] is protected under Plant Breeders Rights (PBR) legislation. Growers can only retain seed for their own sowing or for sale as a commodity. An End Point Royalty (EPR) of \$3.30 Per tonne (GST Inclusive) applies upon delivery of these varieties.

FOR MORE INFORMATION: Variety and agronomic information: Larn McMurray (0466 113 848); Seed enquiries: AG Schilling & Co (08 88257224)

ADAPTATION GIA Ourstar[Ⓛ]

Due to unique tolerance to common residual sulfonylurea and imidazolinone herbicides, GIA Ourstar[Ⓛ] is a broadly adapted field pea with superior farming system advantages than all other varieties.

Along with GIA Kastar[Ⓛ], GIA Ourstar[Ⓛ] has the highest level of tolerance to post-emergent applications of imazamox (i.e. Raptor[®]) and imazethapyr (i.e. Spinnaker[®]) providing improved weed control options in field pea.

GIA Ourstar[Ⓛ] shows a higher level of tolerance to post-emergence applications of flumetsulam (i.e. Broadstrike[®]) than any other field pea.

GIA Ourstar[Ⓛ] is provisionally rated susceptible to moderately susceptible to bacterial blight and like PBA Oura[Ⓛ] not suitable for areas prone to this disease.

GIA Ourstar[Ⓛ] is provisionally rated susceptible to downy mildew and a metalaxyl fungicide seed dressing should be used in areas prone to this disease.

ADAPTATION GIA Kastar[Ⓛ]

GIA Kastar's[Ⓛ] tolerance to imidazolinone herbicides provides an improved weed control option in a 'Kaspa seed type' field pea and thus has broad appeal to growers across pea growing areas of southern and western Australia.

Along with GIA Ourstar[Ⓛ], GIA Kastar[Ⓛ] has the highest level of tolerance to post-emergent applications of imazamox (i.e. Raptor[®]) and imazethapyr (i.e. Spinnaker[®]) providing improved weed control options in field pea.

GIA Kastar[Ⓛ] does not have improved tolerance to flumetsulam (i.e. Broadstrike[®]) or residual sulfonylurea herbicides as occurs in GIA Ourstar[Ⓛ].

GIA Kastar[Ⓛ] has significant production advantages over all varieties except for PBA Wharton[Ⓛ] in areas prone to powdery mildew and/or pea seed borne mosaic virus.

Like PBA Wharton[Ⓛ] and Kaspa[Ⓛ], GIA Kastar[Ⓛ] is susceptible to bacterial blight and not suitable for areas prone to this disease and susceptible to downy mildew and a metalaxyl fungicide seed dressing should be used in areas prone to this disease.

It is imperative growers adhere to product label rates, plant-back periods and all label directions for use.

Agronomic performance of GIA Kastar[Ⓛ] and GIA Ourstar[Ⓛ] to registered post-emergent and simulated residual Group B herbicides in field pea, 2019.
(Yields expressed as a % of Nil treatment for that variety, figures in red significantly different to Nil treatment)

	Horsham				Kadina				Pinnaroo#			
	PBA Wharton [Ⓛ]	GIA Kastar [Ⓛ]	PBA Oura [Ⓛ]	GIA Ourstar [Ⓛ]	PBA Wharton [Ⓛ]	GIA Kastar [Ⓛ]	PBA Oura [Ⓛ]	GIA Ourstar [Ⓛ]	PBA Wharton [Ⓛ]	GIA Kastar [Ⓛ]	PBA Oura [Ⓛ]	GIA Ourstar [Ⓛ]
Nil (t/ha)	2.56	2.18	2.34	1.68	1.77	1.62	1.93	1.48	1.24	0.98	1.32	1.14
Broadstrike [®] (25 g/ha ⁻¹) Post	85	70	79	99	91	85	94	104				
Raptor [®] (45 g/ha ⁻¹) Post	76	91	90	110	95	92	87	109				
Spinnaker [®] (70 g/ha ⁻¹) Post	87	95	97	93	92	101	88	102				
SU Simulated Residue	3	0	0	91	8	5	3	90	7	14	3	100
IMI Simulated Residue	53	92	71	106	62	102	61	105	85	97	75	95

Data courtesy M. Moodie, Frontier Farming

Grain Yield GIA Ourstar[®]

GIA Ourstar[®] yielded 5 to 20% lower than PBA Oura[®] and PBA Wharton[®] across southern and western Australia in NVT in 2019. However, seed of GIA Ourstar[®] was from a frosted crop in 2018, causing reduced early vigour and plant growth that may have negatively impacted on grain yield in NVT.

In more limited trials in 2018, and using seed from a non-frosted crop, GIA Ourstar[®] yielded similarly but slightly lower (1-10%) than PBA Wharton[®] and PBA Oura[®] in the absence of Group B herbicides.

Agronomy GIA Ourstar[®]

GIA Ourstar[®] is generally similar to PBA Oura[®] in its plant type and growth habit although early season plant vigour can be slower under some adverse growing conditions. Outside of herbicide considerations, basic paddock selection and standard agronomic production requirements are similar to PBA Oura[®].

Disease GIA Ourstar[®]

GIA Ourstar[®] shows a similar response to common pea diseases as that of PBA Oura[®]. Disease and pest management is generally as for PBA Oura[®]. GIA Ourstar[®] is provisionally rated susceptible to downy mildew and a metalaxyl fungicide seed dressing should be used in areas prone to this disease.

Grain quality GIA Ourstar[®]

GIA Ourstar[®] produces grain with a yellow split. The whole grain is medium in size, similar to PBA Oura[®], PBA Wharton[®] and Kaspa[®]. GIA Ourstar[®] has a light green to tan coloured seed coat and is dimpled. GIA Ourstar[®] produces grain that is marketable as 'Australian dun type' for human consumption or stockfeed, similar to PBA Oura[®], Parafield[®] and PBA Percy[®]. Growers should avoid contamination with 'Kaspa types' for human consumption markets.

Grain Yield and Agronomy GIA Kastar[®]

GIA Kastar[®] yielded 5 to 15% lower than PBA Oura[®] and PBA Wharton[®] across southern and western Australia in NVT in 2019. However, seed of GIA Kastar[®] was from a frosted crop in 2018, causing reduced early vigour and plant growth that may have negatively impacted on grain yield in NVT.

In more limited trials in 2018, and using seed from a non-frosted crop, GIA Kastar[®] yielded similarly but slightly lower (1-10%) than PBA Wharton[®] and PBA Oura[®] in the absence of Group B herbicides.

Agronomy GIA Kastar[®]

GIA Kastar[®] is generally similar to PBA Wharton[®] in its plant type and growth habit although early season plant vigour can be slower under some adverse growing conditions. Outside of herbicide considerations, basic paddock selection and standard agronomic production requirements are similar to PBA Wharton[®].

Disease GIA Kastar[®]

GIA Kastar[®] is resistant to powdery mildew. Disease and pest management is as for PBA Wharton[®]. GIA Kastar[®] is provisionally rated susceptible to downy mildew, and as for PBA Wharton[®], a metalaxyl fungicide seed dressing should be used in areas prone to this disease.

Grain quality GIA Kastar[®]

GIA Kastar[®] produces grain with a yellow split. The whole grain is medium in size, similar to PBA Wharton[®] and Kaspa[®]. GIA Kastar[®] has a uniform red to brown coloured seed coat and spherical in shape. GIA Kastar[®] produces grain that is marketable as 'Kaspa type' for human consumption in the Indian/Asian sub-continent. The grain is also suitable for stockfeed. Growers should avoid contamination with 'Dun type' field peas for human consumption markets.

Growers should follow regionally recommended field pea agronomic, disease and pest production management packages.

2019 Average NVT Trial Yields of Field pea varieties (Yield expressed as a % of PBA Wharton's^(D) yield) and agronomic characteristics of field pea varieties

Variety	Grain Yield (% PBA Wharton)#				Plant habit	Early vigour	Flowering time	Maturity time	Lodging resistance	Pod shattering
	SA 6 trials	Victoria 5 trials	WA 7 trials	NSW 2 trials						
PBA Wharton ^(D) (t/ha)	1.93	2.00	1.13	0.72						
<i>Kaspa types</i>										
GIA Kastar^(D)	99	87	75	103	Semi-leafless	Mod-good	Mid	Early-mid	Fair-good	Resistant
Kaspa ^(D)	100	101	88	55	Semi-leafless	Good	Late	Mid	Fair-good	Resistant
PBA Butler ^(D)	101	105	96	56	Semi-leafless	Good	Mid-late	Early-mid	Fair-good	Resistant
PBA Wharton ^(D)	100	100	100	100	Semi-leafless	Good	Early-mid	Early	Fair-good	Resistant
<i>Dun types</i>										
GIA Ourstar^(D)	93	84	81	71	Semi-leafless	Mod-good	Early-mid	Early-mid	Fair	Mod resistant
PBA Oura ^(D)	103	105	93	90	Semi-leafless	Good	Early	Early	Fair	Mod resistant
PBA Percy ^(D)	110	104	89	98	Conventional	Good	Early	Early	Poor	Mod resistant

Disease and seed characteristics of field pea varieties

Variety	Powdery mildew	Downy mildew	Blackspot	Bacterial blight (field rating)	Pea seed borne mosaic virus	Seed shape	Seed coat colour	Cotyledon colour	Seed size (g/100 seeds)#
<i>Kaspa types</i>									
GIA Kastar^(D)	R(p)	S (p)	MS (p)	S (p)	R (p)	Spherical	Red-brown	Yellow	18.2
Kaspa ^(D)	S	S	MS	S	S	Spherical	Red-brown	Yellow	18.6
PBA Butler ^(D)	S	S	MS	MS	S	Spherical	Red-brown	Yellow	17.3
PBA Wharton ^(D)	R	S	MS	S	R	Spherical	Red-brown	Yellow	18.3
<i>Dun types</i>									
GIA Ourstar^(D)	S (p)	S (p)	MS (p)	S/MS (p)	S (p)	Dimpled	Green-tan	Yellow	19.5
PBA Oura ^(D)	S	S	MS	MS	S	Dimpled	Green-tan	Yellow	18.8
PBA Percy ^(D)	S	S	MS	MRMS	S	Dimpled	Tan-green	Yellow	20.5

R=resistant, MR=moderately resistant, MS=moderately susceptible, S=susceptible. (p) = provisional rating due to limited testing. #NVT data 2019, 20 trial sites across western and southern Australia

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