KASTAR IMI PEA

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

KEY FEATURES

- ✓ **Increased weed control options over all current field pea varieties** except for GIA Ourstar
- ✓ **First 'Kaspa' type field pea featuring improved herbicide tolerance to post-emergent**
  - imazamox (i.e. Raptor®), and
  - imazethapyr (i.e. Spinnaker®)
- ✓ **Group B herbicide improved tolerance (IMI and SU)**
- ✓ **Response to residual sulfonylurea and post-emergent flumetsulam** is similar to that of PBA Wharton
- ✓ **Mid flowering and erect growth habit** with semi-leafless plant type
- ✓ **Disease resistance profile,** similar to PBA Wharton, including resistance to powdery mildew
- ✓ **Early to mid maturing** suitable for crop-topping
- ✓ **Grain quality marketable as 'Kaspa' type** that is pod shatter resistant at maturity

KASTAR Φ PBR
IMI Pea

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ADAPTATION & GRAIN YIELD

GIA Kastar Φ'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 Φ, GIA Kastar Φ 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 Φ does not have improved tolerance to flumetsulam (i.e. Broadstrike®) or residual sulfonylurea herbicides as occurs in GIA Ourstar Φ. GIA Kastar Φ 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 Φ and Kaspa, Φ GIA Kastar Φ 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 Φ and GIA Ourstar Φ 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 Φ	**GIA Kastar Φ**	PBA Oura Φ	GIA Ourstar Φ	PBA Wharton Φ	**GIA Kastar Φ**	PBA Oura Φ	GIA Ourstar Φ	PBA Wharton Φ	**GIA Kastar Φ**	PBA Oura Φ	GIA Ourstar Φ
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

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AGRONOMY GIA KASTAR Φ

GIA Kastar Φ is generally similar to PBA Wharton Φ 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 Φ.

DISEASE GIA KASTAR Φ

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

GRAIN YIELD GIA KASTAR Φ

GIA Kastar Φ yielded 5 to 15% lower than PBA Oura Φ and PBA Wharton Φ 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 Φ yielded similarly but slightly lower (1-10%) than PBA Wharton Φ and PBA Oura Φ in the absence of Group B herbicides.

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 Φ's yield) and agronomic characteristics of field pea varieties).

Variety	Grain Yield (% PBA Wharton Φ)#				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 Φ (t/ha)	1.93	2.00	1.13	0.72						
Kaspa types										
GIA Kastar Φ	**99**	**87**	**75**	**103**	**Semi-leafless**	**Mod-good**	**Mid**	**Early-mid**	**Fair-good**	**Resistant**
Kaspa Φ	100	101	88	55	Semi-leafless	Good	Late	Mid	Fair-good	Resistant
PBA Butler Φ	101	105	96	56	Semi-leafless	Good	Mid-late	Early-mid	Fair-good	Resistant
PBA Wharton Φ	100	100	100	100	Semi-leafless	Good	Early-mid	Early	Fair-good	Resistant
Dun types										
GIA Ourstar Φ	**93**	**84**	**81**	**71**	**Semi-leafless**	**Mod-good**	**Early-mid**	**Early-mid**	**Fair**	**Mod-resistant**
PBA Oura Φ	103	105	93	90	Semi-leafless	Good	Early	Early	Fair	Mod-resistant
PBA Percy Φ	110	104	89	98	Conventional	Good	Early	Early	Poor	Mod-resistant

#NVT data 2019, 20 trial sites across western and southern Australia

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AG Schilling & Co

KASTAR® PBR IMI Pea

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.

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 Kastar® is protected under Plant Breeders Rights (PBR) legislation. A PBR bag licence applies to the seed purchased and a seed technology fee applies to the seed price. Licensed growers can only retain seed for their own sowing or for sale as a commodity. GIA Kastar® is open marketed with an End Point Royalty (EPR) of $3.30 per tonne (GST inclusive), applying upon delivery of all grain of this variety.

GIA receives no funding from the Grains Research and Development Corporation (GRDC) or state and federal governments for breeding and therefore EPR's are critical for GIA to continue delivering innovative varieties that increase on-farm profitability for growers.

Disease and seed characteristics of field pea varieties

(Yield expressed as a % of PBA Wharton®'s yield) and agronomic 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)#
Kaspa types									
GIA Kastar®	**R (p)**	**S (p)**	**MS (p)**	**S (p)**	**R (p)**	**Spherical**	**Red-brown**	**Yellow**	**18.2**
Kaspa®	S	S	MS	S	S	Spherical	Red-brown	Yellow	18.6
PBA Butler®	S	S	MS	MS	S	Spherical	Red-brown	Yellow	17.3
PBA Wharton®	R	S	MS	S	R	Spherical	Red-brown	Yellow	18.3
Dun types									
GIA Ourstar®	**S (p)**	**S (p)**	**MS (p)**	**S/MS (p)**	**S (p)**	**Dimpled**	**Green-tan**	**Yellow**	**19.5**
PBA Oura®	S	S	MS	MS	S	Dimpled	Green-tan	Yellow	18.8
PBA Percy®	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

SEED ENQUIRIES
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VARIETY AND AGRONOMIC INFO
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