



APPLICATIONS UNDER EXAMINATION

SOYBEAN

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(*Glycine max*)

Proposed denomination: 'S20-G7'
Application number: 07-5740
Application date: 2007/02/12
Applicant: Syngenta Seeds Inc., Minneapolis, Minnesota, United States of America
Agent in Canada: Syngenta Seeds Canada, Inc., Arva, Ontario
Breeder: Don McClure, Syngenta Seeds Canada, Inc., Arva, Ontario

Varieties used for comparison: 'S20-F8' and 'Ivory'

Summary: 'S20-G7' has medium intensity of anthocyanin colouration of the hypocotyl while it is very weak intensity in 'Ivory'. The flower colour of 'S20-G7' is purple while it is white for 'Ivory'. 'S20-G7' has a brown pod colour while it is a tan colour for 'Ivory'. The seed of 'S20-G7' has a dull lustre while it is shiny for 'Ivory'. 'S20-G7' has a higher protein level of the seeds than 'S20-F8'. 'S20-G7' matures earlier than 'Ivory'.

Description:

HYPOCOTYL: medium intensity of anthocyanin colouration

PLANT: oilseed variety, indeterminate growth type, erect growth habit

STEM: grey pubescence on middle third

LEAF: medium green, lateral leaflet shape rounded ovate

FLOWER: purple

POD: brown

SEED: spherical flattened, medium size, dull lustre, yellow ground colour of testa

HILUM: yellow, funicle yellow, medium size, normal abscission layer

DISEASE REACTION: resistant to Phytophthora rot (*Phytophthora megasperma* f. sp. *glycinea*) races 1-3, 6-9, susceptible to Soybean cyst nematode (*Heterodera glycines*)

AGRONOMICS: good resistance to shattering and lodging, maturity group II, 3000 heat unit rating

Origin and Breeding: 'S20-G7' (experimental number 03DL087033) was derived from the cross 63272 / 28244 made in 2000 at Arva, Ontario. The F1-F2 generation were grown near Kekaha, Hawaii in the winter of 2000-2001. The F3 generation was grown in Arva, Ontario in the summer of 2001. The F4-F5 generation was grown in a winter nursery in 2001-2002. Single F6 plants were selected in the summer of 2002 and threshed individually. The progeny were yield tested in a single replicate test in 2003 and one of these lines, identified as 03DL087033 was selected based on superior agronomic traits. 03DL087033 was tested in multiple environments in Ontario and the USA and exhibited excellent performance compared to other varieties of similar maturity.

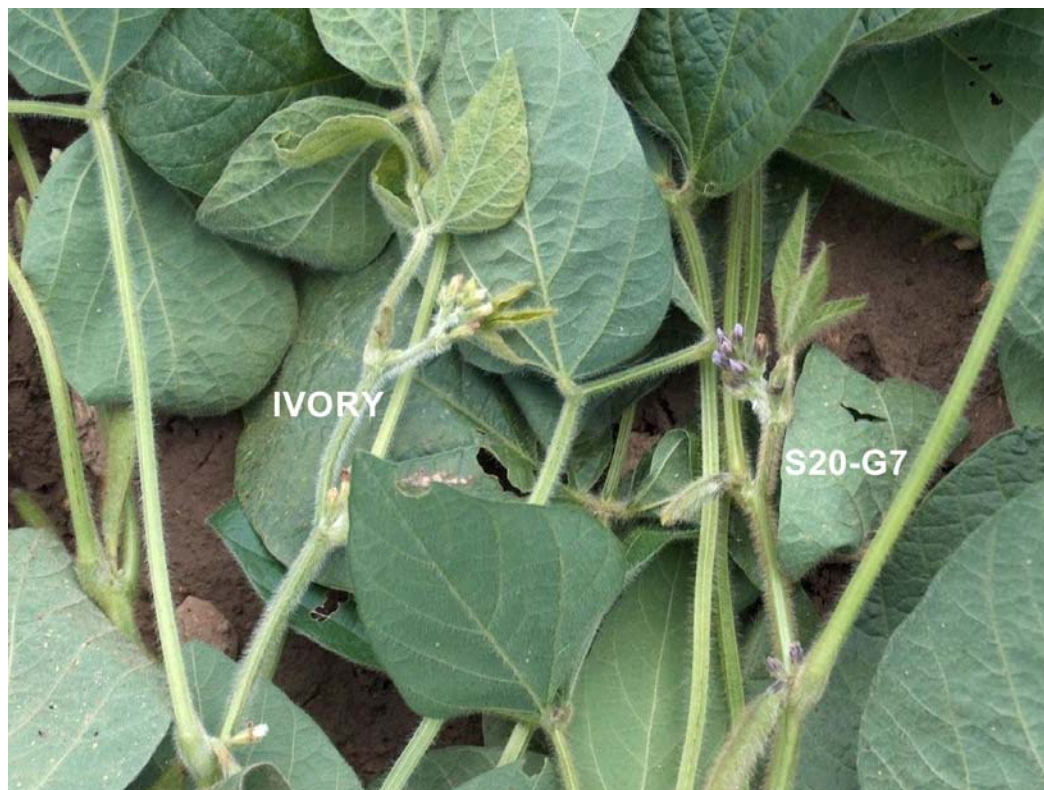
Tests and Trials: Test and trials were conducted during the 2005, 2006, 2007 and 2008 growing seasons in Arva, and Wallaceberg, Ontario. Plots consisted of 2 rows, with a row length of 5 metres and a row spacing of 75 cm. There were two replicates. Protein levels were determined from seed samples drawn in trials in Arva, Ontario during the years 2005-2008 and in Wallaceberg, Ontario in 2006. 4 subsamples were drawn from each of the 8 locations as composite samples from the 2 replicates of each trial to determine the mean protein levels.

Comparison table for 'S20-G7'

	'S20-G7'	'S20-F8'*	'Ivory'*
Days to flowering mean	52	51	53

<i>Seed weight (100 mature seed) (grams)</i>			
mean	21.3	19.8	19.5
<i>Days to maturity</i>			
mean	119	118	121
<i>Protein content of seed (%)</i>			
mean (LSD=1.671)	43.64	41.11	43.20
<i>Oil content of seed (%)</i>			
mean	19.9	20.5	19.3

*reference varieties



Soybean: 'S20-G7' (right) with reference variety 'Ivory' (left)