



APPLICATIONS UNDER EXAMINATION

SOYBEAN

SOYBEAN (*Glycine max*)

Proposed denomination: '91Y80'
Application number: 09-6568
Application date: 2009/03/25
Applicant: Pioneer Hi-Bred International, Inc., Johnston, Iowa, United States of America
Agent in Canada: Pioneer Hi-Bred Limited, Chatham, Ontario
Breeder: Paul Stephens, Pioneer Hi-Bred International, Princeton, Illinois, United States of America

Varieties used for comparison: '91M61', '91Y70', '91M70' and '91Y90'

Summary: '91Y80' has no anthocyanin colouration of the hypocotyl while '91M61' and '91Y70' has anthocyanin colouration. The flower colour of '91Y80' is white while it is purple in '91M61' and '91Y70'. The plants of '91Y80' are taller than those of '91M61', '91Y70', and '91M70' but shorter than those of '91Y90'. The pod colour of '91Y80' is tan while it is brown in '91Y90'. '91Y80' has a spherical rounded seed shape while it is spherical flattened in '91M61', '91Y70' and '91M70'. The hilum of '91Y80' is black while it is dark brown in '91M70' and '91Y90'. '91Y80' matures later than '91M61', '91Y70', and '91M70'.

Description:

HYPOCOTYL: anthocyanin colouration absent

PLANT: indeterminate growth type, semi-erect growth habit, light tawny colour of hairs on middle third of main stem

LEAF: medium green, pointed ovate lateral leaflet, medium blistering

FLOWER: white

POD: tan

SEED: spherical rounded, medium size, dull to shiny coat lustre, yellow ground colour of testa, black hilum, medium to large size hilum, normal abscission layer of hilum

AGRONOMY: 1.8 group maturity, 2975 heat unit rating, insensitive photoperiod, good resistance to lodging

DISEASE REACTION: resistant to Phytophthora rot (*Phytophthora megasperma* F. sp. *glycinea*) and resistant to soybean cyst nematode (*Heterodera glycines*)

QUALITY: 39.4% protein, 20.4% oil, high seed coat peroxidase activity

Origin and Breeding: '91Y80' (experimental designations 'PH08104' and 'XB18E08') was derived from the cross 91B42/L04549 made in 2001 in Illinois, USA. '91Y80' is an F4 reselection from an F2 derived line. The F4:F5 progeny row was grown in a plant row yield trial in Illinois in the summer of 2003. Subsequently, it has undergone 5 years of extensive testing and purification. A commercial number has been assigned based on yield, soybean cyst nematode resistance (race 3), multi-gene Phytophthora resistance, brown stem rot field tolerance, iron deficiency chlorosis tolerance, and resistance to Roundup branded herbicides. In 2006, the purification block was grown in Illinois and 63 sub-lines were harvested. In 2006/2007, 0.5 acre increase was grown in Chile. In the summer of 2006, 20 acres of parent seed stock were grown. In the summer of 2008, 400 acres of seed stock and production seed were grown.

Tests and Trials: Tests and Trials were conducted during the summer of 2009 in Ridgetown, Ontario. Plots consisted of 2 rows with a row length of 5m and a row spacing of 76 cm. There were 3 replicates. Results were supported by the official technical examination report 200900141, purchased from the Plant Variety Protection Office in the USA.

Comparison table for '91Y80'

	'91Y80'	'91M61'*	'91Y70'*	'91M70'*	'91Y90'*
<i>Maturity date</i>					
days	114	111	112	112	115
<i>Plant height (cm)</i>					
mean	63	56	60	60	64
standard deviation	2.05	1.22	0.98	2.18	1.39

*reference varieties



Soybean: '91Y80' (bottom centre) with reference varieties '91M61' (bottom left), '91M70' (bottom right), '91Y90' (top left), and '91Y70' (top right)

Proposed denomination: '92Y31'
Application number: 09-6523
Application date: 2009/03/13
Applicant: Pioneer Hi-Bred International, Inc., Johnston, Iowa, United States of America
Agent in Canada: Pioneer Hi-Bred Limited, Chatham, Ontario
Breeder: Kari Greason, Pioneer Hi-Bred Limited, Chatham, Ontario

Varieties used for comparison: 'HS22R60' and 'S21-N6'

Summary: '92Y31' has light tawny hairs on middle third of main stem while 'HS22R60' has brown hairs. Plants of '92Y31' are taller than those of the reference varieties. '92Y31' has a spherical rounded seed shape while it is spherical flattened in the reference varieties. The hilum of '92Y31' is grey while it is buff in 'S21-N6'. '92Y31' matures earlier than 'S21-N6'.

Description:

HYPOCOTYL: anthocyanin colouration present, strong intensity of anthocyanin colouration

PLANT: indeterminate growth type, semi-erect growth habit, light tawny colour of hairs on middle third of main stem

LEAF: medium green, pointed ovate lateral leaflet, medium blistering

FLOWER: purple

POD: brown

SEED: spherical rounded, medium size, dull coat lustre, yellow ground colour of testa, grey hilum, medium size hilum, normal abscission layer of hilum

AGRONOMY: 2.3 group maturity, 3075 heat unit rating, good resistance to lodging

DISEASE REACTION: resistant to Phytophthora rot (*Phytophthora megasperma* F. sp. *glycinea*)

QUALITY: 41.5% protein, 18.7% oil, high seed coat peroxidase activity

Origin and Breeding: '92Y31' (experimental designations 'PH08204' and 'XB23Q08') was derived from the cross NKX022/D08006 made in 2000 in Puerto Rico. '92Y31' is an F5-derived line which was advanced to the F5 generation by modified single-seed descent. The F5:F6 progeny row was grown in a plant row yield trial in Ontario in the summer of 2003. Subsequently, it has undergone 5 years of extensive testing and purification. It has been assigned a commercial number based on yield, Brown Stem Rot tolerance, Phytophthora resistance, and resistance to Roundup branded herbicides. In the summer of 2006, the purification block of 72 rows was grown in Ontario. In the winter of 2006/2007, 0.50 acre increase was grown in Chile. In the summer of 2007, 20 acres of parent seed stock were grown. In the summer of 2008, 302 acres of seed stock and production seed were grown.

Tests and Trials: Tests and Trials were conducted during the summer of 2009 in Ridgetown, Ontario. Plots consisted of 2 rows with a row length of 5m and a row spacing of 76 cm. There were 3 replicates. Results were supported by the official technical examination report 200900143 purchased from the Plant Variety Protection Office in the USA.

Comparison table for '92Y31'

	'92Y31'	'HS22R60'*	'S21-N6'*
<i>Plant height (cm)</i>			
mean	69	65	62
standard deviation	1.62	2.41	1.63
<i>Maturity date</i>			
days	118	117	120
*reference varieties			



Soybean: '92Y31' (centre) with reference varieties 'S21-N6' (left) and 'HS22R60' (right)

Proposed denomination: '93Y20'
Application number: 09-6522
Application date: 2009/03/13
Applicant: Pioneer Hi-Bred International, Inc., Johnston, Iowa, United States of America
Agent in Canada: Pioneer Hi-Bred Limited, Chatham, Ontario
Breeder: Paul Stephens, Pioneer Hi-Bred International, Princeton, Illinois, United States of America

Varieties used for comparison: '93Y02', '32-51R', 'RJS28001' and 'RJS31001'

Summary: *The plants of '93Y20' are taller than those of '93Y02', '32-51R', and 'RJS31001'. '93Y20' has a spherical flattened seed shape while it is spherical rounded in '93Y02'. '93Y20' matures later than all the reference varieties.*

Description:

HYPOCOTYL: anthocyanin colouration present, strong intensity of anthocyanin colouration

PLANT: indeterminate growth type, semi-erect growth habit, light tawny colour of hairs on middle third of main stem

LEAF: medium green, lanceolate lateral leaflet, medium blistering

FLOWER: purple

POD: brown

SEED: spherical flattened, small to medium size, dull coat lustre, yellow ground colour of testa, black hilum, medium size hilum, normal abscission layer of hilum

AGRONOMY: 3325 heat unit rating, insensitive photoperiod, good resistance to lodging

DISEASE REACTION: resistant to Phytophthora rot (*Phytophthora megasperma* F. sp. *glycinea*), resistant to soybean cyst nematode (*Heterodera glycines*)

QUALITY: 40.9% protein, 18.7% oil, mixed seed coat peroxidase activity

Origin and Breeding: '93Y20' (experimental designations 'PH08307' and 'XB34R07') was derived from the cross 93B86/92M91 made in 2000 in Puerto Rico. The early generations were advanced using the modified single-seed descent. The F2 progeny row was grown in a plant row yield trial in Chili in the winter of 2002/2003. Subsequently, it has undergone five seasons of extensive testing and purification in the United States. A commercial number was assigned based on yield, soybean cyst nematode resistance (race 3), phytophthora resistance, sudden death syndrome tolerance, brown stem rot tolerance, frogeye leaf spot tolerance, and resistance to Roundup branded herbicides. The purification block was grown in 2005 in Illinois. In 2005/2006, 0.50 acre increase was grown in Argentina. In the summer of 2006, 21 acres of parent seed stock were grown. In the summer of 2007, 611 acres of seed stock and production seed were grown.

Tests and Trials: Tests and Trials were conducted during the summer of 2009 in Ridgetown, Ontario. Plots consisted of 2 rows with a row length of 5m and a row spacing of 76 cm. There were 3 replicates. Results were supported by the official technical examination report 200800095 purchased from the Plant Variety Protection Office in the USA.

Comparison table for '93Y20'

	'93Y20'	'93Y02'*	'32-51R'*	'RJS28001'*	'RJS31001'*
<i>Plant height (cm)</i>					
mean	76	64	69	77	73
standard deviation	1.35	1.54	1.75	1.95	1.22
<i>Maturity date</i>					
days	129	127	125	126	119

*reference varieties



Soybean: '93Y20' (bottom centre) with reference varieties 'RJS31001' (bottom left), 'RJS28001' (bottom right), '93Y02' (top left), and '32-51R' (top right)