



APPLICATIONS UNDER EXAMINATION

SOYBEAN

SOYBEAN
(Glycine max)

Proposed denomination: 'AAC Dale'
Application number: 19-9936
Application date: 2019/06/04
Applicant: Agriculture & Agri-Food Canada, Ottawa, Ontario
Agent in Canada: Agriculture & Agri-Food Canada, Saskatoon, Saskatchewan
Breeder: Elroy Cober, Agriculture & Agri-Food Canada, Ottawa, Ontario

Varieties used for comparison: 'Fjord', 'Jari' and 'AAC Invest 1605'

Summary: *The pubescence on the middle third of the stem of 'AAC Dale' is grey whereas it is tawny for 'Fjord' and 'Jari'. The colour of the hilum of 'AAC Dale' is yellow whereas it is light brown for 'Fjord' and 'Jari'. The plants of 'AAC Dale' mature later than those of 'Fjord' and earlier than those of 'Jari' and 'AAC Invest 1605'.*

Description:

HYPOCOTYL: anthocyanin colouration present

PLANT: food-grade type, indeterminate growth type, grey pubescence on middle third of main stem, begins flowering and matures very early to early in season

LEAF: pointed ovate lateral leaflet

FLOWER: violet

POD: medium brown

SEED: yellow ground colour of testa

HILUM: yellow

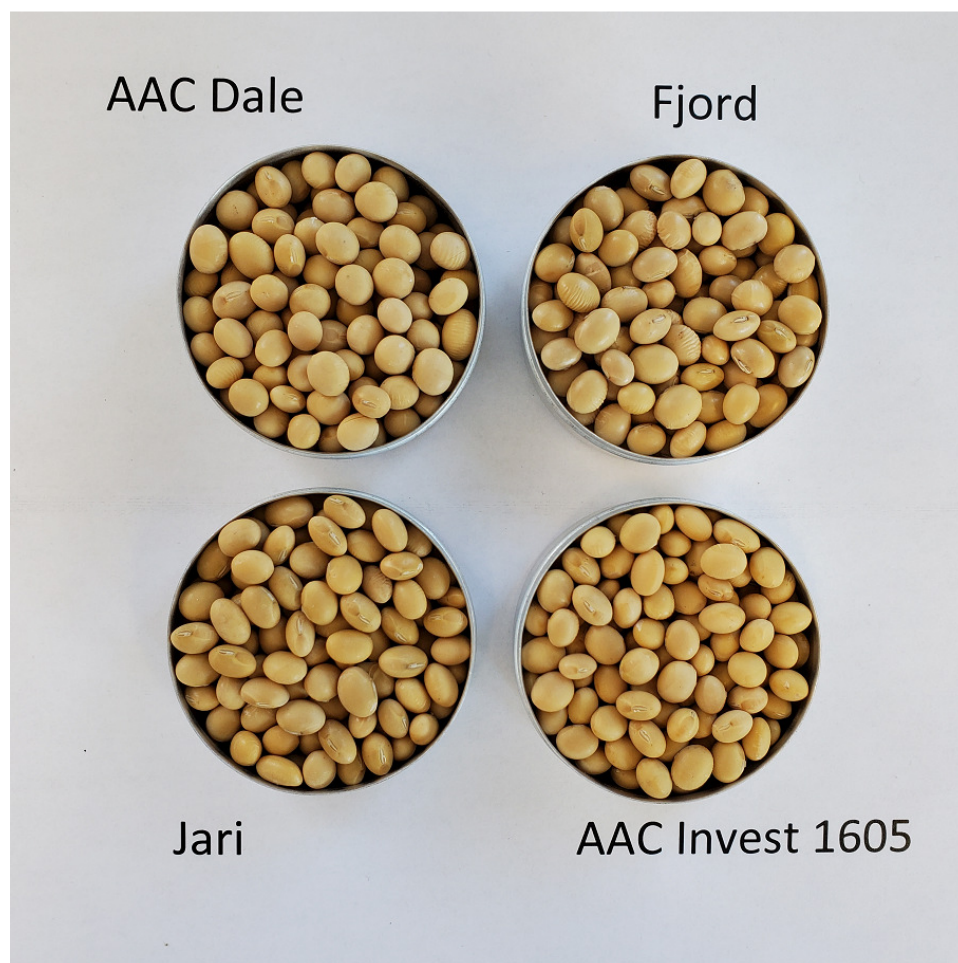
Origin and Breeding: 'AAC Dale' (experimental designations OT16-02 and X5516-1-74-3-5-B) originated from the cross between 'OAC Champion' and 'AAC Mandor' made in Ottawa, Ontario in 2008. The population was advanced using the pedigree method of plant breeding. In 2012, selected F5 rows were grown in the field and bulked for further evaluation. Selection criteria included seed size, environmental adaptation and agronomic characteristics. 'AAC Dale' was tested as OT16-02 at multiple locations since 2014.

Tests and Trials: The comparative trials for 'AAC Dale' were conducted in Ottawa, Ontario during the 2019 and 2021 growing seasons. The trials were planted in a RCB design and consisted of 4 replicates for each variety. Plots consisted of 4 rows, each 5 metres in length with a row spacing of 40 cm. Each plot was sown at a density of 50 seeds per metre squared.

Comparison table for 'AAC Dale'

| | 'AAC Dale' | 'Fjord'* | 'Jari'* | 'AAC Invest 1605'* |
|---|------------|----------|---------|--------------------|
| <i>Number of days to maturity (from planting to maturity)</i> | | | | |
| mean 2019 | 94 | 91 | 98 | 104 |
| mean 2021 | 101 | 97 | 104 | 104 |

*reference varieties



Soybean: 'AAC Dale' (top left) with 'Fjord' (top right), 'Jari' (bottom left) and 'AAC Invest 1605' (bottom right)

Proposed denomination: 'AAC Talbot'
Application number: 19-9938
Application date: 2019/06/04
Applicant: Agriculture & Agri-Food Canada, Harrow, Ontario
Agent in Canada: Agriculture & Agri-Food Canada, Saskatoon, Saskatchewan
Breeder: Kangfu Yu, Agriculture & Agri-Food Canada, Harrow, Ontario
 Jérôme Auclair, La Coop fédérée, Saint-Hyacinthe, Quebec

Varieties used for comparison: 'Eider' and 'Stargazer'

Summary: *The plants of 'AAC Talbot' are taller than those of 'Eider' and 'Stargazer'. The plants of 'AAC Talbot' mature later than the plants of 'Eider' and 'Stargazer'.*

Description:

HYPOCOTYL: anthocyanin coloration present

PLANT: indeterminate growth type, grey pubescence on middle third of stem, begins flowering mid-season, matures mid-season

LEAF: pointed ovate lateral leaflet

FLOWER: violet

POD: medium brown

SEED: yellow ground color of testa

HILUM: yellow

Origin and Breeding: ‘AAC Talbot’ (experimental designations ‘OX-174 B’, ‘SN10-0003-CE-10’ and ‘C4M17240 conv’) was developed by the Agriculture & Agri-Food Canada Harrow Research and Development Centre in Harrow, Ontario, in collaboration with La Coop fédérée in Montreal, Quebec. In 2003, the initial cross was conducted between AC756 and IA2025 followed by a subsequent cross with RCAT0601SCN made in 2010 at the Harrow Research and Development Centre. The F1 and F2 plants were grown in the greenhouse and in the field, respectively, at Harrow in 2010 and advanced using the pedigree selection method. Beginning in 2013, the F7 generation was tested as ‘C4M17240 conv’ by La Coop fédérée at multiple locations and years for yield, maturity, protein and oil content until 2017. In the winter of 2017 and 2018, breeder seed of ‘AAC Talbot’ were produced in Chile.

Tests and Trials: The comparative trials for ‘AAC Talbot’ were conducted in 2019 and 2021 at the Agriculture & Agri-Food Canada Harrow Research and Development Centre in Harrow, Ontario. The trials consisted of five replicates per variety with 2 rows per replication. Plots were approximately 1.2 by 5 metres and were arranged in a RCB design. For each variety, the plant height was based on 20 measurements. Mean differences were significant at the 5% probably level based on LSD values.

Comparison table for ‘AAC Talbot’

| | ‘AAC Talbot’ | ‘Eider’* | ‘Stargazer’* |
|--|--------------|----------|--------------|
| <i>Plant height (cm)</i> | | | |
| mean 2019 (LSD=4.7) | 68.7 | 57.8 | 59.4 |
| std. deviation 2019 | 6.4 | 7.6 | 7.6 |
| mean 2021 (LSD=6.2) | 82.6 | 68.4 | 76.1 |
| std. deviation 2021 | 8.9 | 10.1 | 9.5 |
| <i>Time of maturity (number of days from planting to maturity)</i> | | | |
| mean 2019 | 118 | 112 | 114 |
| mean 2021 | 114 | 109 | 112 |

*reference varieties



Soybean: 'AAC Talbot' (left) with 'Eider' (center) and 'Stargazer' (right)

Proposed denomination: 'Abaca'
Application number: 20-10165
Application date: 2020/04/30
Applicant: Saat-zucht Donau GesmbH & CoKG, Probstdorf, Austria
Agent in Canada: Saatbau Linz eGen, St. Jean sur Richelieu, Quebec
Breeder: Saat-zucht Donau Ges. m. b. h. & CoKG, Probstdorf, Austria

Varieties used for comparison: 'Fjord', 'Jari', 'Anser' and 'Aurelina'

Summary: *The intensity of anthocyanin colouration on the hypocotyl of 'Abaca' is weak whereas it is of medium intensity on that of 'Fjord', 'Jari' and 'Anser'. When 50% of the flowers are open, the branching attitude of 'Abaca' is semi-erect whereas the branch attitude of 'Fjord' is erect. When 95% of the pods are ripe, the pubescence on the middle third of the stem of 'Abaca' is light tawny whereas the pubescence is tawny on the reference varieties. The plants of 'Abaca' are taller than the plants of 'Fjord' and 'Anser' and shorter than the plants of 'Aurelina'. The intensity of brown colour on the pod of 'Abaca' is light whereas it is of medium intensity for the reference varieties. The plants of 'Abaca' mature later than the plants of 'Fjord' and 'Anser'. At maturity, the shape of the seed of 'Abaca' is spherical flattened whereas the seeds of 'Anser' and 'Aurelina' are elongated. The hilum of 'Abaca' is an imperfect yellow whereas the hilum of 'Anser' and 'Aurelina' is yellow. The seed of 'Abaca' has an intermediate glossiness whereas the seed of 'Aurelina' is opaque and that of 'Fjord' is bright. The seed weight of 'Abaca' is greater than that of 'Fjord' and 'Jari' and is less than that of 'Anser'.*

Description:

HYPOCOTYL: weak intensity of anthocyanin colouration

PLANT: oilseed type, indeterminate growth type, semi-erect branch attitude, light tawny pubescence on middle third of main stem, begins flowering very early to early season, matures early season

LEAF: weak blistering, ovoid shaped terminal leaflet, small terminal leaflet, pointed ovate lateral leaflet, small lateral leaflet, medium green intensity

FLOWER: violet

POD: light brown

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

HILUM: imperfect yellow, intermediate glossiness, yellow funicle

Origin and Breeding: ‘Abaca’ (experimental designation SZD O1772) originated from a cross made in Reichersberg, Austria between ‘SY Eliot’ and ‘SY Emily’ in 2012. The crossed material was derived using a single-pod descent technique until the F4 generation when a single plant was selected for maturity, protein content, yield, lodging resistance and resistance to pod shattering in 2013. Seed from this plant was harvested and maintained by pedigree selection until the F4:7 generation when 9 plants were selected for morphological uniformity in 2016 to establish breeder seed.

Tests and Trials: The comparative trials for ‘Abaca’ were conducted in St-Jean-sur-Richelieu, Quebec, Canada in 2020 and 2021. The trials were planted in a RCB design with 3 replicates per variety. Each plot was 8.4 square metres and consisted of three 5 metre long rows spaced 0.56 metres apart. A seeding density of 26 seeds per linear metre resulted in 400 plants per replicate per variety. Measurements were taken from 20 plants or parts of 20 plants of each variety per year except for the seed weight with 10 measurements per variety per year. Mean differences were significant at the 5% probability level based on paired Student’s t-test.

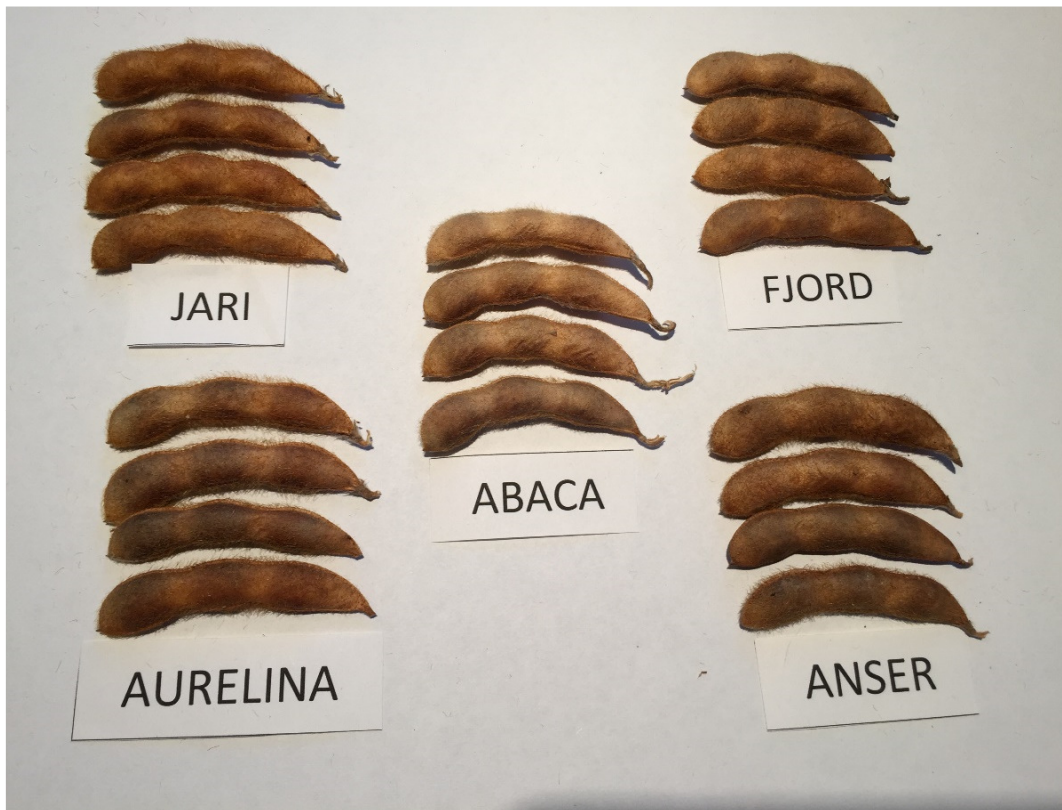
Comparison table for ‘Abaca’

| | ‘Abaca’ | ‘Fjord’* | ‘Jari’* | ‘Anser’* | ‘Aurelina’* |
|--|---------|----------|---------|----------|-------------|
| <i>Plant height (cm)</i> | | | | | |
| mean 2020 | 80.05 | 61.45 | 81.20 | 75.55 | 92.40 |
| std. deviation 2020 | 4.68 | 4.17 | 5.45 | 4.43 | 4.45 |
| mean 2021 | 75.15 | 61.15 | 81.30 | 71.30 | 83.98 |
| std. deviation 2021 | 4.59 | 5.88 | 3.36 | 4.16 | 5.19 |
| <i>Seed weight (grams per 100 seeds) (g)</i> | | | | | |
| mean 2020 | 22.04 | 20.56 | 19.82 | 22.38 | 21.54 |
| std. deviation 2020 | 0.29 | 0.14 | 0.24 | 0.40 | 0.15 |
| mean 2021 | 19.16 | 18.85 | 18.50 | 22.59 | 19.76 |
| std. deviation 2021 | 0.38 | 0.32 | 0.35 | 0.26 | 0.45 |
| <i>Time of maturity (number of days from planting to maturity)</i> | | | | | |
| mean 2020 | 110 | 98 | 112 | 105 | 110 |
| mean 2021 | 117 | 106 | 116 | 110 | 117 |

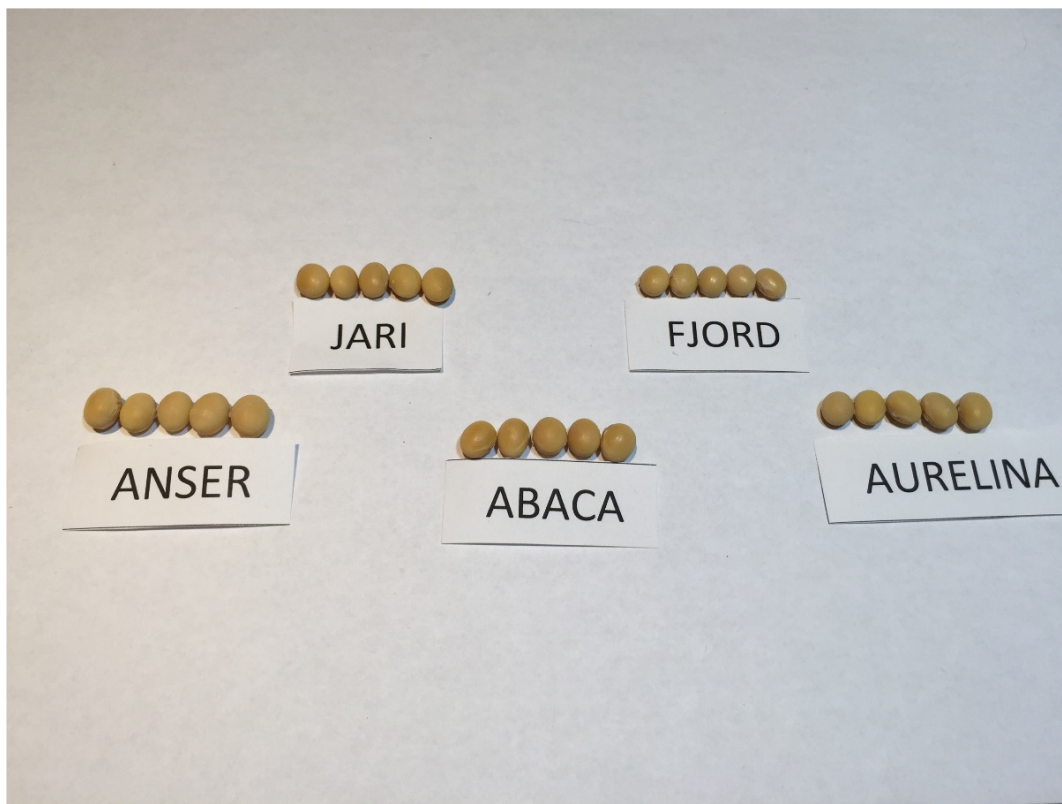
*reference varieties



Soybean: 'Abaca' (centre) with reference varieties 'Aurelina' (top left), 'Anser' (top right), 'Jari' (bottom left) and 'Fjord' (bottom right)



Soybean: 'Abaca' (centre) with reference varieties 'Jari' (top left), 'Fjord' (top right), 'Aurelina' (bottom left) and 'Anser' (bottom right)



Soybean: 'Abaca' (bottom centre) with reference varieties 'Jari' (top left), 'Fjord' (top right), 'Anser' (bottom left) and 'Aurelina' (bottom right)

| | |
|-------------------------------|---|
| Proposed denomination: | ‘Albenga’ |
| Application number: | 19-9836 |
| Application date: | 2019/05/03 |
| Applicant: | Saatzucht Donau GesmbH & CoKG, Probstdorf, Austria |
| Agent in Canada: | C & M Seeds, Palmerston, Ontario |
| Breeder: | Bernhard Mayr, Saat-zucht Donau Ges. m. b. h. & CoKG, Probstdorf, Austria |

Varieties used for comparison: ‘OAC Durham’, ‘S07-D2’ and ‘S07-M8’

Summary: *The anthocyanin colouration is present on the hypocotyl of ‘Albenga’ whereas it is absent on the hypocotyl of ‘OAC Durham’. When 50% of the flowers are open, the terminal leaflet of ‘Albenga’ is medium sized whereas those of ‘S07-D2’ and ‘S07-M8’ are small. The flower of ‘Albenga’ is violet whereas the flower of ‘OAC Durham’ is white. When 95% of the pods are ripe, the pubescence on the middle third of the stem of ‘Albenga’ is light tawny whereas it is tawny on ‘S07-M8’ and grey on ‘OAC Durham’ and ‘SD07-D2’. The plants of ‘Albenga’ are taller than the plants of ‘OAC Durham’ and S07-M8’ and shorter than the plants of ‘S07-D2’. The intensity of brown colour on the pod of ‘Albenga’ is of medium to dark intensity whereas it is light to medium intensity for ‘OAC Durham’. At maturity, the seed of ‘Albenga’ is medium to large whereas that of ‘OAC Durham’ is small to medium sized. ‘Albenga’ does not retain the abscission layer on the hilum whereas the hilum of ‘S07-M8’ does retain the abscission layer. The seed weight of ‘Albenga’ is greater than that of ‘OAC Durham’ and ‘S07-M8’.*

Description:

HYPOCOTYL: medium intensity of anthocyanin colouration

PLANT: oilseed type, indeterminate growth type, erect to semi-erect branch attitude, light tawny pubescence on middle third of main stem, begins flowering and matures mid to late season

LEAF: medium degree of blistering, ovoid shaped terminal leaflet, medium sized terminal leaflet, pointed ovate lateral leaflet

FLOWER: violet

POD: medium to dark brown

SEED: medium to large, spherical flattened, yellow ground colour of testa

HILUM: yellow, yellow funicle, abscission layer absent

Origin and Breeding: ‘Albenga’ (experimental designation CM16-6059) originated from a cross made in Reichersberg, Austria between ‘SY Eliot’ and ‘Korus’ in 2011. The crossed material was derived using a single-pod descent technique until the F4 generation when a single plant was selected for maturity, protein content, yield, lodging resistance and resistance to pod shattering in 2012. Seed from this plant was harvested and maintained by pedigree selection until the F4:7 generation when 9 plants were selected for morphological uniformity in 2015 to establish the breeder seed.

Tests and Trials: The comparative trials for ‘Albenga’ were conducted at C&M Seeds in Palmerston, Ontario, Canada in 2020 and 2021. The trials were planted in a RCB design with 4 replicates per variety. Each plot was 4 square metres and consisted of 4 rows space 0.4 metres apart with a seeding density of 70 seeds per square metre. Measurements were taken from 20 plants or parts of 20 plants of each variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Comparison table for ‘Albenga’

| | ‘Albenga’ | ‘OAC Durham’* | ‘S07-D2’* | ‘S07-M8’* |
|--------------------------|-----------|---------------|-----------|-----------|
| <i>Plant height (cm)</i> | | | | |
| mean 2020 (LSD=1.04) | 109.00 | 83.00 | 110.00 | 97.00 |
| std. deviation 2020 | 1.23 | 1.69 | 1.61 | 1.84 |
| mean 2021 (LSD=1.10) | 100.00 | 80.00 | 99.00 | 97.00 |
| std. deviation 2021 | 1.80 | 2.08 | 1.28 | 1.84 |

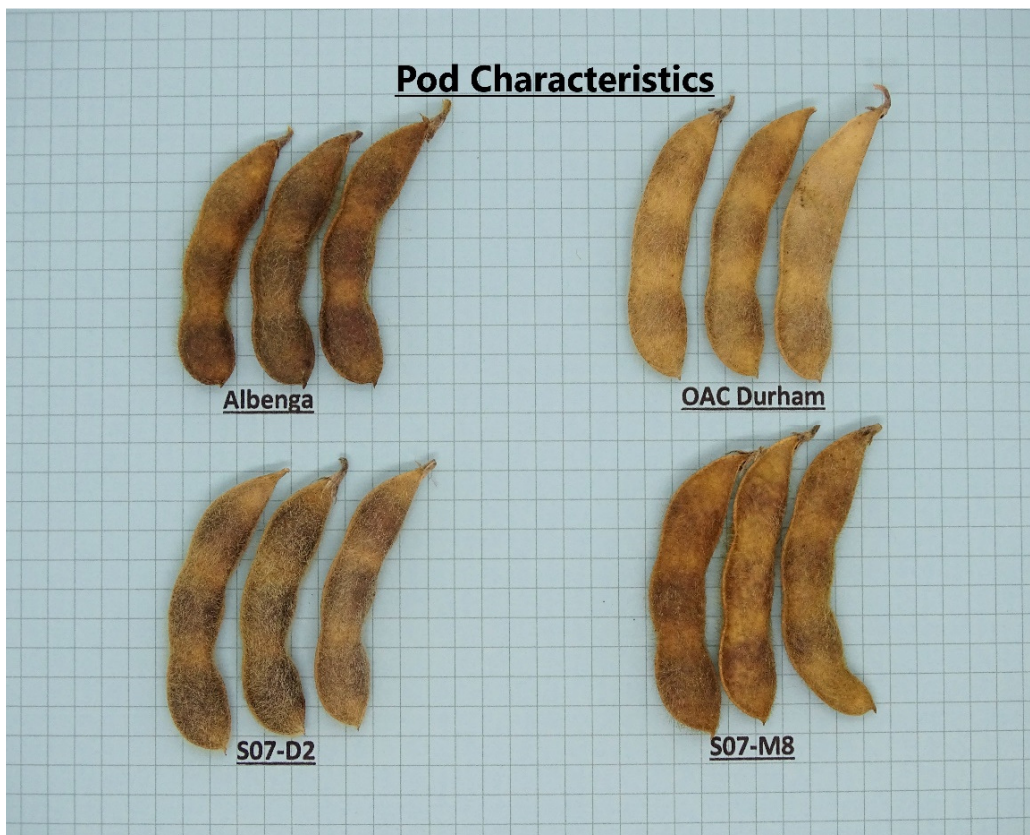
Seed weight (grams per 100 seeds) (g)

| | | | | |
|----------------------|------|------|------|------|
| mean 2020 (LSD=0.23) | 26.6 | 24.7 | 26.5 | 25.7 |
| std. deviation 2020 | 0.33 | 0.34 | 0.41 | 0.33 |
| mean 2021 (LSD=0.39) | 23.5 | 21.5 | 23.4 | 22.8 |
| std. deviation 2021 | 0.81 | 0.54 | 0.59 | 0.40 |

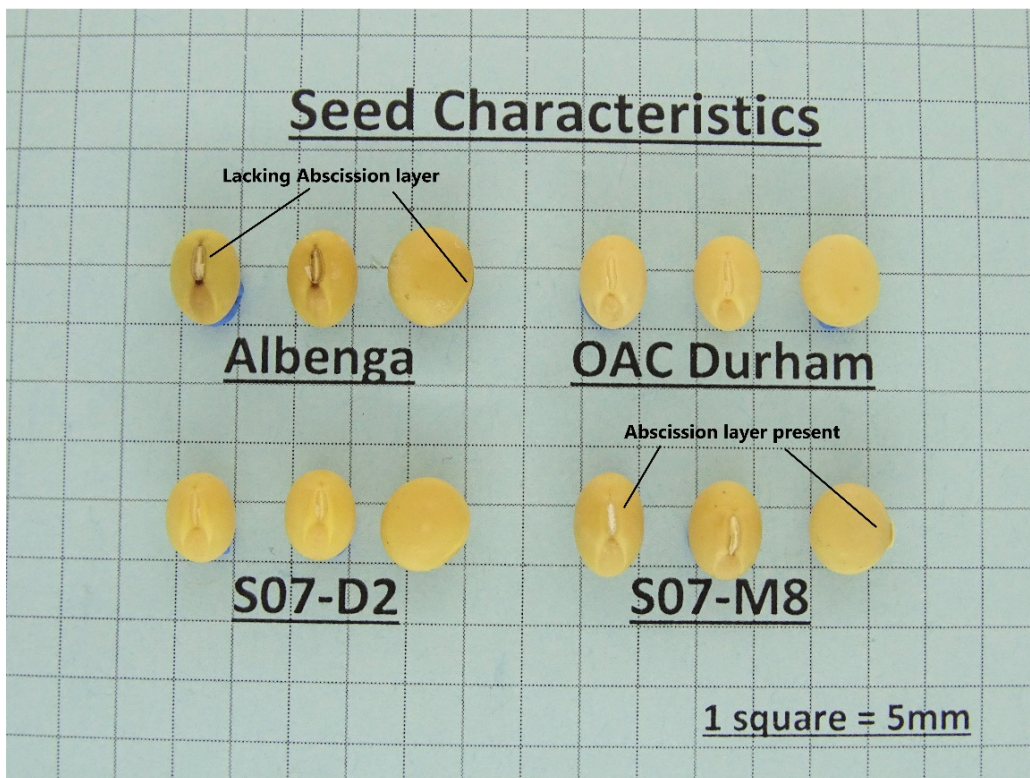
*reference varieties



Soybean: 'Albenga' (left) with reference varieties 'OAC Durham' (centre left), 'S07-D2' (centre right) and 'S07-M8' (right)



Soybean: : 'Albenga' (top left) with reference varieties 'OAC Durham' (top right), 'S07-D2' (bottom left) and 'S07-M8' (bottom right)



Soybean: 'Albenga' (top left) with reference varieties 'OAC Durham' (top right), 'S07-D2' (bottom left) and 'S07-M8' (bottom right)

| | |
|-------------------------------|--|
| Proposed denomination: | 'Asana' |
| Application number: | 20-10350 |
| Application date: | 2020/09/16 |
| Applicant: | Semences Prograin Inc., Saint-Césaire, Quebec |
| Breeder: | Éric Gagnon, Semences Prograin Inc., Saint-Césaire, Quebec |

Varieties used for comparison: 'Marula' and 'OAC Wallace'

Summary: *When 50% of the flowers are open, 'Asana' has a pointed ovate lateral leaflet whereas the lateral leaflet of 'OAC Wallace' has a triangular shape. When 95% of the pods are ripe, the plants of 'Asana' mature earlier than the plants of 'OAC Wallace'. At maturity, the seed of 'Asana' is medium sized whereas the seed of 'OAC Wallace' is small. The colour of the hilum on 'Asana' is imperfect yellow whereas it is dark brown on 'OAC Wallace'. The seed weight of 'Asana' is less than that of 'Marula'.*

Description:

HYPOCOTYL: anthocyanin colouration present

PLANT: oilseed type, indeterminate growth type, erect branch attitude, tawny pubescence on middle third of main stem, begins flowering early to mid-season, matures mid-season.

LEAF: pointed ovate lateral leaflet

FLOWER: violet

SEED: medium size, yellow ground colour of testa

HILUM: imperfect yellow

Origin and Breeding: 'Asana' (experimental designation PR110308Z030) originated from a biparental cross conducted in 2011 in Saint-Cesaire, Quebec, Canada. A modified single seed descent method was used to develop the variety. From 2012 to 2013, the F1 to F3 generations were grown and harvested in bulk in Massai, Chile and Saint-Cesaire, Quebec. In 2013, individual plants were selected from the F4 generation in Saint-Cesaire based on visual assessment of lodging resistance, yield, maturity, and disease resistance. From 2015 to 2016, 'Asana' was tested in replicated private trials in Quebec and Ontario and, based on its performance, advanced to public trials in Quebec and Ontario starting in 2017. At the F9 generation, row plots were grown, and selections made for uniformity in flower colour, pod colour, pubescence colour, hilum colour, seed weight as well as protein and oil content to produce breeder seed.

Tests and Trials: The comparative trials for 'Asana' were conducted in 2020 and 2021 at the research farm in Saint-Cesaire, Quebec, Canada. The trials were arranged in a RCB design with 2 replicates per variety. Each 14 square metre plot consisted of 2 rows, each 5 metres long with inter-row spacing 0.76 metres. Plants were spaced 0.033 metres apart and the planting density resulted in a total of 350 plants per variety. Measurements were taken from 20 plants or parts of 20 plants of each variety per year except for the seed weight with 5 measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Comparison table for 'Asana'

| | 'Asana' | 'Marula'* | 'OAC Wallace'* |
|--|---------|-----------|----------------|
| <i>Seed weight (grams per 100 seeds) (g)</i> | | | |
| mean 2020 (LSD=1.05) | 15.9 | 18.18 | 16.92 |
| std. deviation 2020 | 0.94 | 1.44 | 1.55 |
| mean 2021 (LSD=0.60) | 19.36 | 21.47 | 19.32 |
| std. deviation 2021 | 0.54 | 1.11 | 1.34 |
| <i>Time of maturity (number of days from planting to maturity)</i> | | | |
| mean 2020 | 120 | 118 | 125 |
| mean 2021 | 123 | 124 | 128 |

*reference varieties



Soybean: 'Asana' (left) with reference varieties 'Marula' (centre) and 'OAC Wallace' (right)



Soybean: 'Asana' (top) with reference varieties 'Marula' (centre) and 'OAC Wallace' (bottom)

Proposed denomination: 'Atacama'
Application number: 20-10166
Application date: 2020/04/30
Applicant: Saatzucht Donau GesmbH & CoKG, Probstdorf, Austria
Agent in Canada: Saatbau Linz eGen, St. Jean sur Richelieu, Quebec
Breeder: Saatzucht Donau Ges. m. b. h. & CoKG, Probstdorf, Austria

Varieties used for comparison: 'Neptune', 'Ajico', 'OAC Evolution' and 'Albenga'

Summary: *The anthocyanin colouration on the hypocotyl of 'Atacama' is of medium intensity whereas the intensity of anthocyanin colouration is strong on 'Neptune'. When 50% of the flowers are open, the branching attitude of 'Atacama' is semi-erect whereas the branch attitude of 'Ajico' is semi-erect to horizontal. The leaves of 'Atacama' are a medium green colour whereas the leaves of 'Neptune' are dark green. When 95% of the pods are ripe, the pubescence on the middle third of the stem of 'Atacama' is tawny whereas it is light tawny on 'Albenga'. The plants of 'Atacama' are shorter than the plants of 'OAC Evolution' and 'Albenga'. The intensity of brown colour on the pod of 'Atacama' is medium to dark whereas the intensity is weak on the pod of 'Ajico'. The plants of 'Atacama' mature earlier than the plants of 'OAC Evolution' and 'Albenga'. At maturity, the shape of the seed of 'Atacama' is spherical flattened whereas the seed shape is elongated for that of 'Neptune' and 'Albenga'. The seed weight of 'Atacama' is less than that of 'Neptune', 'Ajico' and 'Albenga'.*

Description:

HYPOCOTYL: medium intensity of anthocyanin colouration

PLANT: food grade type, semi-determinate growth type, semi-erect branch attitude, tawny pubescence on middle third of main stem, begins flowering early season, matures early to mid-season

LEAF: medium blistering, ovoid shaped terminal leaflet, small terminal leaflet, pointed ovate lateral leaflet, small lateral leaflet, medium green colour

FLOWER: violet

POD: medium to dark brown

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

HILUM: imperfect yellow, opaque to intermediate glossiness, yellow funicle

Origin and Breeding: 'Atacama' (experimental designation SZD4588) originated from a cross made in Reichersberg, Austria between 'SY Emily' and 'ES Mentor' in 2011. The crossed material was derived using a single-pod descent technique until the F4 generation when a single plant was selected for maturity, protein content, yield, lodging resistance and resistance to pod shattering in 2012. Seed from this plant was harvested and maintained by pedigree selection until the F4:7 generation when 9 plants were selected for morphological uniformity in 2015 to establish breeder seed.

Tests and Trials: The comparative trials for 'Atacama' were conducted in St-Jean-sur-Richelieu, Quebec, Canada in 2020 and 2021. The trials were planted in a RCB design with 3 replicates per variety. Each plot was 8.4 square metres and consisted of three 5 metre long rows spaced 0.56 metres apart. A seeding density of 26 seeds per linear metre resulted in 400 plants per replicate per variety. Measurements were taken from 20 plants or parts of 20 plants of each variety per year except for the seed weight with 10 measurements per variety per year. Mean differences were significant at the 5% probability level based on paired Student's t-test.

Comparison table for 'Atacama'

| | 'Atacama' | 'Neptune'* | 'Ajico'* | 'OAC Evolution'* | 'Albenga'* |
|--------------------------|-----------|------------|----------|------------------|------------|
| <i>Plant height (cm)</i> | | | | | |
| mean 2020 | 79.80 | 75.10 | 80.10 | 90.70 | 96.05 |
| std. deviation 2020 | 3.58 | 5.01 | 5.45 | 4.24 | 5.60 |
| mean 2021 | 69.80 | 72.10 | 72.88 | 76.38 | 77.80 |
| std. deviation 2021 | 4.02 | 4.79 | 3.30 | 4.60 | 4.83 |

Seed weight (grams per 100 seeds) (g)

| | | | | | |
|---------------------|-------|-------|-------|-------|-------|
| mean 2020 | 20.91 | 22.00 | 22.08 | 18.94 | 22.58 |
| std. deviation 2020 | 0.68 | 0.59 | 0.42 | 0.42 | 0.71 |
| mean 2021 | 19.66 | 23.43 | 22.69 | 19.78 | 20.66 |
| std. deviation 2021 | 0.25 | 0.43 | 0.25 | 0.34 | 0.29 |

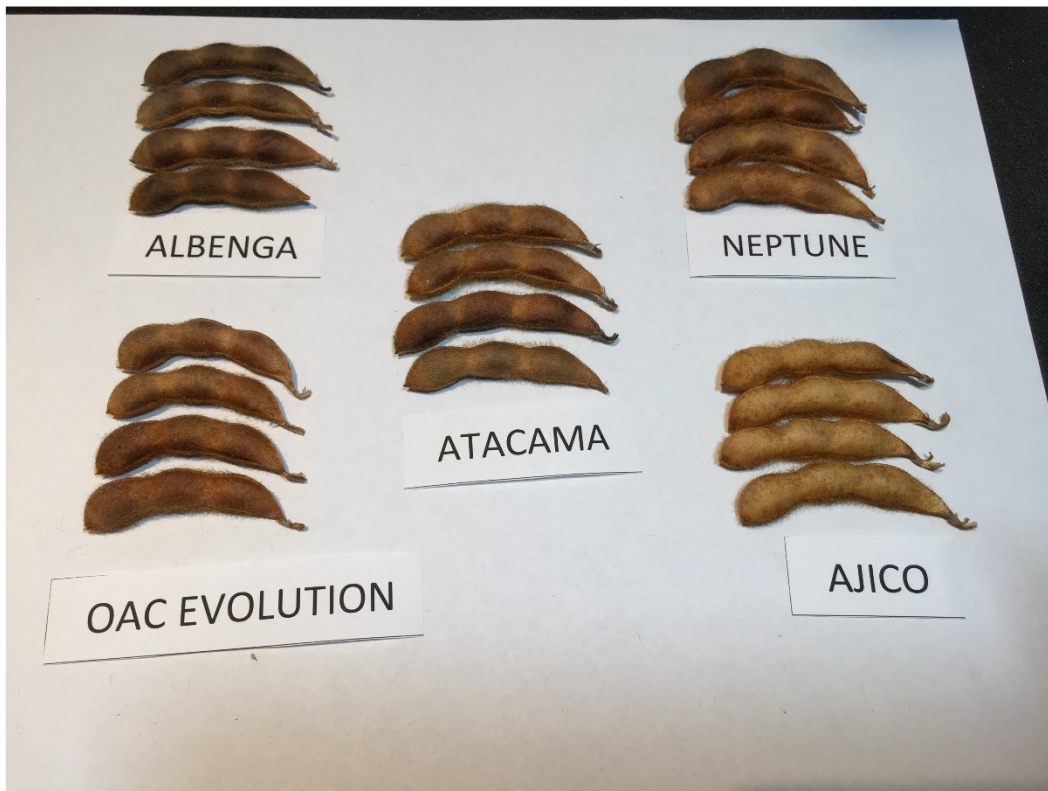
Time of maturity (number of days from planting to maturity)

| | | | | | |
|-----------|-----|-----|-----|-----|-----|
| mean 2020 | 124 | 124 | 124 | 127 | 127 |
| mean 2021 | 123 | 123 | 123 | 125 | 125 |

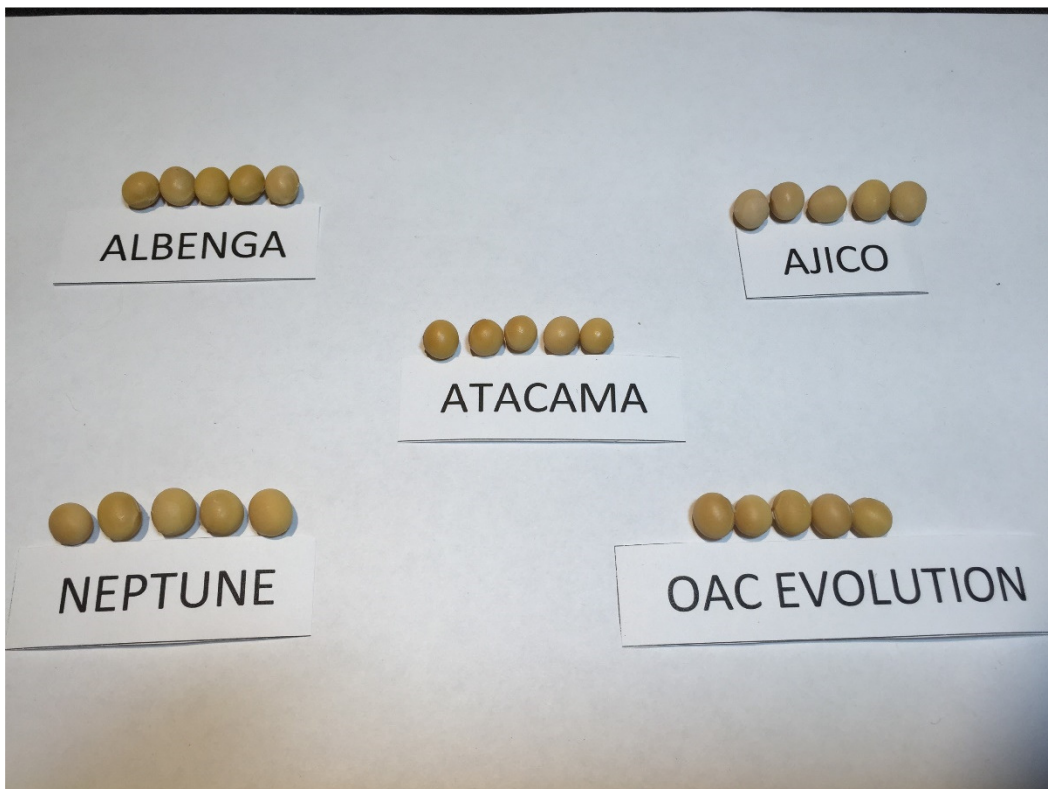
*reference varieties



Soybean: 'Atacama' (centre) with reference varieties 'Albenga' (top left), 'OAC Evolution' (top right), 'Ajico' (bottom left) and 'Neptune' (bottom right)



Soybean: 'Atacama' (centre) with reference varieties 'Albenga' (top left), 'Neptune' (top right), 'OAC Evolution' (bottom left) and 'Ajico' (bottom right)



Soybean: 'Atacama' (centre) with reference varieties 'Albenga' (top left), 'Ajico' (top right), 'Neptune' (bottom left) and 'OAC Evolution' (bottom right)

Proposed denomination: 'Atena'
Application number: 19-10003
Application date: 2019/09/18
Applicant: Semences Prograin Inc., Saint-Césaire, Quebec
Breeder: Éric Gagnon, Semences Prograin Inc., Saint-Césaire, Quebec

Varieties used for comparison: 'Karra' and 'Zana'

Summary: When 50% of the flowers are open, the branching attitude of 'Atena' is semi-erect whereas it is erect to semi-erect on 'Zana'. When 95% of the pods are ripe, the plants of 'Atena' are shorter than the plants of 'Zana'. The plants of 'Atena' mature earlier than the plants of 'Zana'. At maturity, the seed weight of 'Atena' is greater than that of 'Karra'.

Description:

HYPOCOTYL: anthocyanin colouration present

PLANT: oilseed type, indeterminate growth type, semi-erect branch attitude, tawny pubescence on middle third of main stem, begins flowering and matures mid to late season

LEAF: pointed ovate lateral leaflet

FLOWER: violet

SEED: yellow ground colour of testa

HILUM: imperfect yellow

Origin and Breeding: 'Atena' (experimental designation PR100091-35) originated from a biparental cross conducted in 2010 in Saint-Césaire, Quebec, Canada. A modified single seed descent method was used to develop the variety. From 2011 to 2012, the F1 to F3 generations were grown and harvested in bulk between a winter nursery in Massai, Chile and Saint-Césaire, Quebec. In 2012, individual plants were selected from the F4 generation in Saint-Césaire based on a visual assessment of lodging resistance, yield, and maturity. From 2014 to 2016, 'Atena' was tested in replicated private trials in Quebec and Ontario and, based on its performance, advanced to public trials in Quebec and Ontario starting in 2017. At the F9 generation, row plots were grown, and selections made for uniformity in flower colour, pod colour, pubescence colour, hilum colour, seed weight as well as protein and oil content to produce breeder seed.

Tests and Trials: The comparative trials for 'Atena' were conducted in 2020 and 2021 at the research farm in Saint-Césaire, Quebec, Canada. The trials were arranged in a RCB design with 2 replicates per variety. Each 14 square metre plot consisted of 2 rows, each 5 metres long with inter-row spacing 0.76 metres. Plants were spaced 0.033 metres apart and the planting density resulted in a total of 350 plants per variety. Measurements were taken from 20 plants or parts of 20 plants of each variety per year except for the seed weight with 5 measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Comparison table for 'Atena'

| | 'Atena' | 'Karra'* | 'Zana'* |
|--|---------|----------|---------|
| <i>Plant height (cm)</i> | | | |
| mean 2020 (LSD=7.38) | 89.9 | 88.9 | 106.6 |
| std. deviation 2020 | 7.192 | 5.54 | 6.43 |
| mean 2021 (LSD=4.5) | 89.7 | 82.4 | 96.1 |
| std. deviation 2021 | 4.38 | 5.15 | 6.93 |
| <i>Seed weight (grams per 100 seeds) (g)</i> | | | |
| mean 2020 (LSD=1.27) | 20.7 | 17.68 | 16.92 |
| std. deviation 2020 | 1.13 | 1.31 | 0.8 |
| mean 2021 (LSD=0.58) | 25.4 | 23.3 | 23.6 |
| std. deviation 2021 | 0.52 | 0.24 | 1.74 |

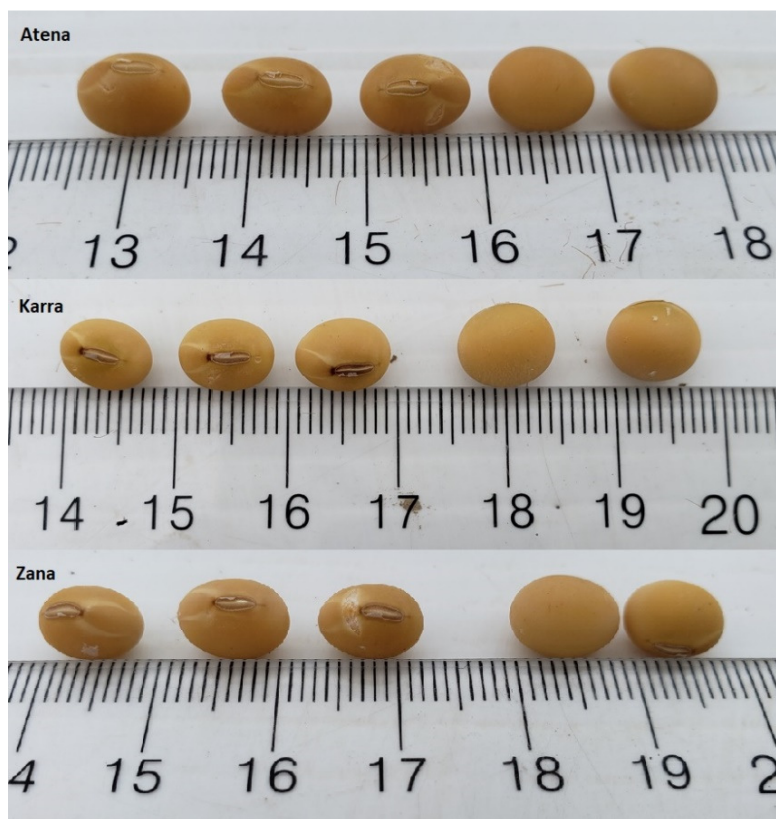
Time of maturity (number of days from planting to maturity)

| | | | |
|-----------|-----|-----|-----|
| mean 2020 | 124 | 132 | 132 |
| mean 2021 | 131 | 129 | 137 |

*reference varieties



Soybean: 'Atena' (left) with reference varieties 'Karra' (centre) and 'Zana' (right)



Soybean: 'Atena' (top) with reference varieties 'Karra' (centre) and 'Zana' (bottom)

Proposed denomination: 'Aurelina'
Application number: 20-10164
Application date: 2020/04/29
Applicant: Saatzucht Donau GesmbH & CoKG, Probstdorf, Austria
Agent in Canada: C & M Seeds, Palmerston, Ontario
Breeder: Bernhard Mayr, Saatzucht Donau Ges. m. b. h. & CoKG, Probstdorf, Austria

Varieties used for comparison: 'Asuka' and 'Jari'

Summary: *When 50% of the flowers are open, the terminal leaflet of 'Aurelina' is ovoid shaped whereas the shape of the terminal leaflet is elliptic for the reference varieties. When 95% of the pods are ripe, the pubescence on the middle third of the stem of 'Aurelina' is light tawny whereas it is tawny on the reference varieties. The plants of 'Aurelina' are taller than the plants of 'Asuka' and shorter than those of 'Jari'. The plants of 'Aurelina' mature earlier than the plants of 'Asuka' and later than those of 'Jari'. At maturity, the glaucosity on the seed of 'Aurelina' is of medium intensity whereas the glaucosity is weak on the seed of 'Asuka'. The seed weight of 'Aurelina' is less than that of the reference varieties.*

Description:

HYPOCOTYL: strong intensity of anthocyanin colouration

PLANT: food-grade type, indeterminate growth type, erect branch attitude, light tawny pubescence on middle third of main stem, begins flowering and matures very early to early season

LEAF: ovoid shaped terminal leaflet, pointed ovate lateral leaflet

FLOWER: violet

POD: medium intensity of brown

SEED: small to medium sized, elongated to elongated flattened shape, yellow ground colour of testa, medium intensity of glaucosity

HILUM: yellow, yellow funicle

Origin and Breeding: 'Aurelina' (experimental designation SZD5729) originated from a cross made in Reichersberg, Austria between 'SY Eliot' and 'Gallec' in 2011. The crossed material was derived using a single-pod descent technique until the F4 generation when a single plant was selected for maturity, protein content, yield, lodging resistance and resistance to pod shattering in 2012. Seed from this plant was harvested and maintained by pedigree selection until the F4:7 generation when 9 plants were selected to morphological uniformity in 2015 to establish the breeder seed.

Tests and Trials: The comparative trials for 'Aurelina' were conducted at C&M Seeds in Palmerston, Ontario, Canada in 2020 and 2021. The trials were planted in a RCB design with 4 replicates per variety. Each plot was 4 square metres and consisted of 4 rows space 0.4 metres apart with a seeding density of 70 seeds per square metre. Measurements were taken from 20 plants or parts of 20 plants of each variety per year. Mean differences were significant at the 5% probability level based on LSD values.

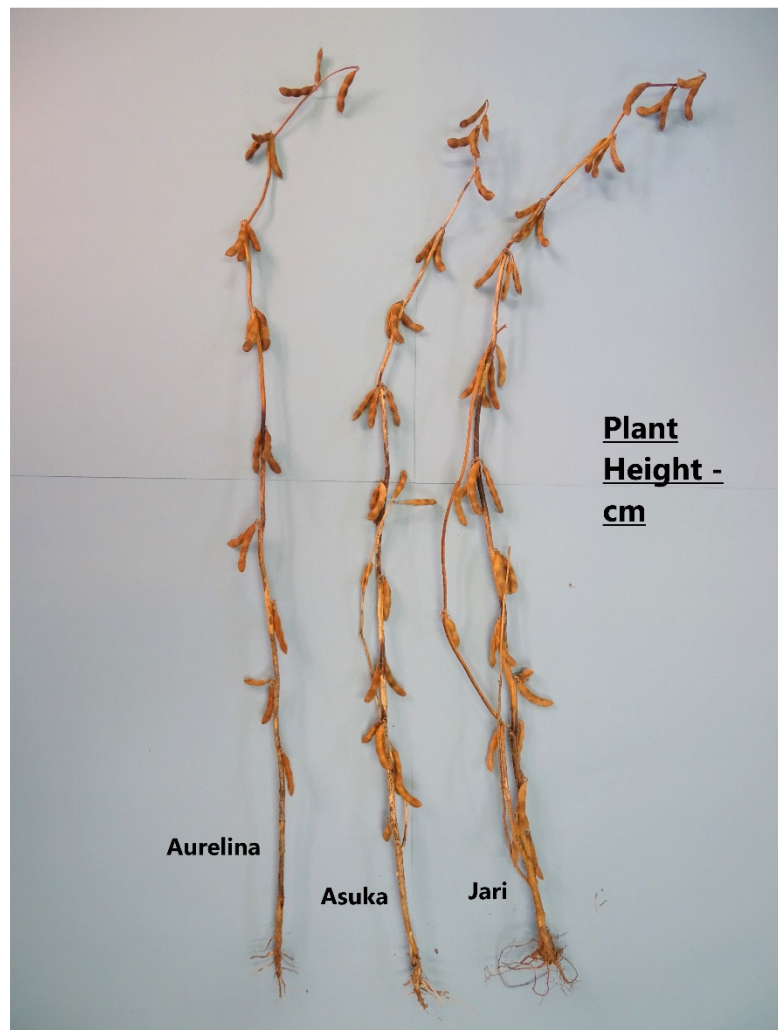
Comparison table for 'Aurelina'

| | 'Aurelina' | 'Asuka'* | 'Jari'* |
|--|------------|----------|---------|
| <i>Plant height (cm)</i> | | | |
| mean 2020 (LSD=1.20) | 99.00 | 95.00 | 102.00 |
| std. deviation 2020 | 1.41 | 2.00 | 2.07 |
| mean 2021 (LSD=1.14) | 89.00 | 85.00 | 98.00 |
| std. deviation 2021 | 2.18 | 1.44 | 1.48 |
| <i>Seed weight (grams per 100 seeds) (g)</i> | | | |
| mean 2020 (LSD=0.33) | 20.7 | 21.5 | 21.4 |
| std. deviation 2020 | 0.53 | 0.54 | 0.43 |
| mean 2021 (LSD=0.37) | 20.7 | 21.0 | 21.3 |
| std. deviation 2021 | 0.66 | 0.48 | 0.57 |

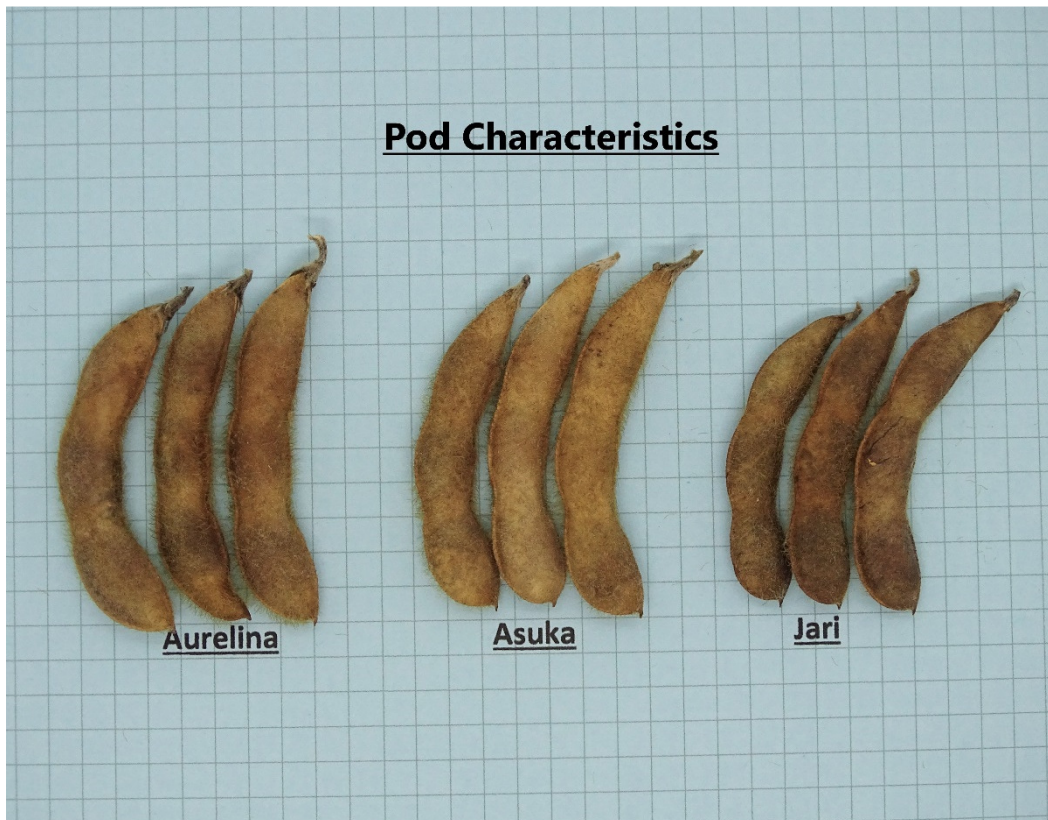
Number of days to maturity (from planting to maturity)

| | | | |
|-----------|-----|-----|-----|
| mean 2020 | 114 | 116 | 112 |
| mean 2021 | 114 | 117 | 111 |

*reference varieties



Soybean: 'Aurelina' (left) with reference varieties 'Asuka' (centre) and 'Jari' (right)



Soybean: 'Aurelina' (left) with reference varieties 'Asuka' (centre) and 'Jari' (right)

Proposed denomination: 'Liska'
Application number: 20-10351
Application date: 2020/09/16
Applicant: Semences Prograin Inc., Saint-Césaire, Quebec
Breeder: Éric Gagnon, Semences Prograin Inc., Saint-Césaire, Quebec

Varieties used for comparison: 'Siberia' and 'Hana'

Summary: When 50% of the flowers are open, 'Liska' has pointed ovate lateral leaflet whereas the lateral leaflet of 'Hana' has a triangular shape. When 95% of the pods are ripe, the plants of 'Liska' mature earlier than the plants of 'Hana' and later than the plants of 'Siberia'. At maturity, the seed weight of 'Liska' is greater than that of 'Siberia' and 'Hana'.

Description:

HYPOCOTYL: anthocyanin colouration present

PLANT: oilseed type, indeterminate growth type, erect to semi-erect branch attitude, tawny pubescence on middle third of main stem, begins flowering very early to early, matures early

LEAF: pointed ovate lateral leaflet

FLOWER: violet

SEED: spherical flattened, yellow ground colour of testa

HILUM: imperfect yellow

Origin and Breeding: 'Liska' (experimental designation PR110196Z012) originated from a biparental cross conducted in 2011 in Saint-Cesaire, Quebec, Canada. A modified single seed descent method was used to develop the variety. From 2011 to

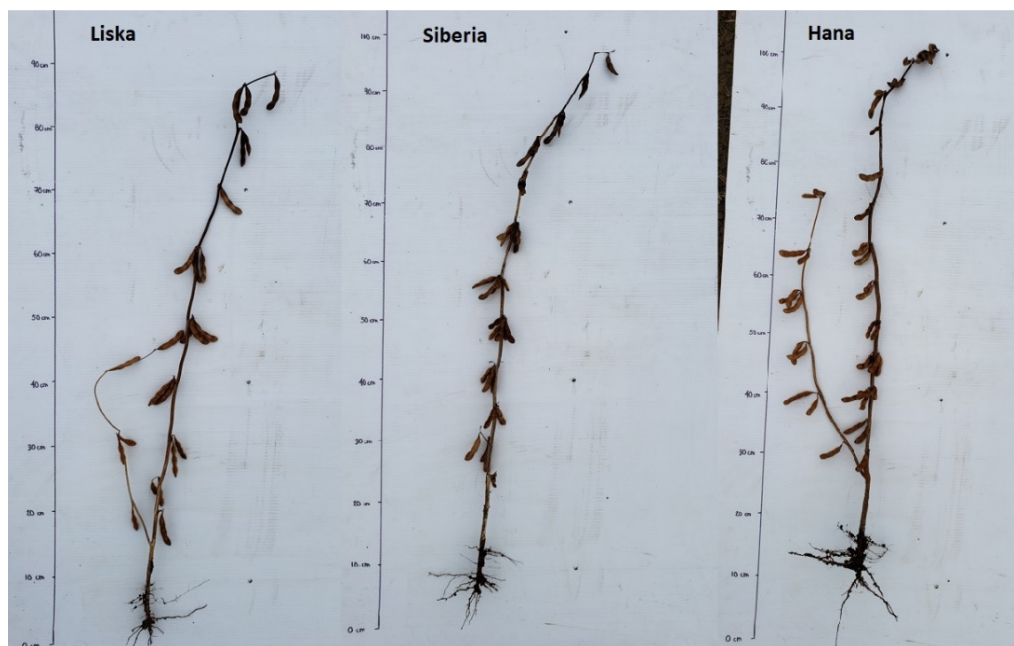
2012, the F1 to F3 generations were grown and harvested in bulk between a winter nursery in Massai, Chile and Saint-Cesaire, Quebec. In 2013, individual plants were selected from the F4 generation in Saint-Cesaire based on visual assessment of lodging resistance, yield, maturity, and disease resistance. From 2016 to 2017, 'Liska' was tested in replicated private trials in Quebec and Ontario and, based on its performance, advanced to public trials in Quebec and Ontario starting in 2018. At the F9 generation, row plots were grown, and selections made for uniformity in flower colour, pod colour, pubescence colour, hilum colour, seed weight as well as protein and oil content to produce breeder seed.

Tests and Trials: The comparative trials for 'Liska' were conducted in 2020 and 2021 at the research farm in Saint-Cesaire, Quebec, Canada. The trials were arranged in a RCB design with 2 replicates per variety. Each 14 square metre plot consisted of 2 rows, each 5 metres long with inter-row spacing 0.76 metres. Plants were spaced 0.033 metres apart and the planting density resulted in a total of 350 plants per variety. Measurements were taken from 20 plants or parts of 20 plants of each variety per year except for the seed weight with 5 measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Comparison table for 'Liska'

| | 'Liska' | 'Siberia'* | 'Hana'* |
|--|---------|------------|---------|
| <i>Seed weight (grams per 100 seeds) (g)</i> | | | |
| mean 2020 (LSD=1.00) | 21.7 | 15.6 | 18.1 |
| std. deviation 2020 | 0.89 | 0.29 | 0.65 |
| mean 2021 (LSD=1.09) | 21.9 | 20.66 | 16.14 |
| std. deviation 2021 | 1.69 | 0.27 | 0.63 |
| <i>Time of maturity (number of days from planting to maturity)</i> | | | |
| mean 2020 | 108 | 92 | 120 |
| mean 2021 | 111 | 107 | 120 |

*reference varieties



Soybean: 'Liska' (left) with reference varieties 'Siberia' (centre) and 'Hana' (right)



Soybean: 'Liska' (top) with reference varieties 'Siberia' (centre) and 'Hana' (bottom)

Proposed denomination: 'Maya'
Application number: 20-10352
Application date: 2020/09/16
Applicant: Semences Prograin Inc., Saint-Césaire, Quebec
Breeder: Éric Gagnon, Semences Prograin Inc., Saint-Césaire, Quebec

Varieties used for comparison: 'Kyoto' and 'Hana'

Summary: *When 50% of the flowers are open, the branching attitude of 'Maya' is erect to semi-erect whereas it is semi-erect on 'Kyoto'. When 95% of the pods are ripe, the plants of 'Maya' mature earlier than the plants of 'Kyoto'. At maturity, the seed weight of 'Maya' is greater than that of 'Hana'.*

Description:
 HYPOCOTYL: anthocyanin colouration present

PLANT: oilseed type, indeterminate growth type, erect to semi-erect branch attitude, tawny pubescence on middle third of main stem, begins flowering early to mid-season, matures early

LEAF: pointed ovate lateral leaflet

FLOWER: violet

SEED: yellow ground colour of testa

HILUM: imperfect yellow

Origin and Breeding: ‘Maya’ (experimental designations PR110197Z037, SYN110197037) originated from a biparental cross conducted in 2011 in Saint-Cesaire, Quebec, Canada. A modified single seed descent method was used to develop the variety. From 2011 to 2013, the F1 to F3 generations were grown and harvested in bulk between a winter nursery in Massai, Chile and Saint-Cesaire, Quebec. In 2013, individual plants were selected from the F4 generation in Saint-Cesaire based on visual assessment of lodging resistance, yield, maturity, and disease resistance. From 2016 to 2017, ‘Maya’ was tested in replicated private trials in Quebec and Ontario and, based on its performance, advanced to public trials in Quebec and Ontario starting in 2018. At the F9 generation, row plots were grown, and selections made for uniformity in flower colour, pod colour, pubescence colour, hilum colour, seed weight as well as protein and oil content to produce breeder seed.

Tests and Trials: The comparative trials for ‘Maya’ were conducted in 2020 and 2021 at the research farm in Saint-Cesaire, Quebec, Canada. The trials were arranged in a RCB design with 2 replicates per variety. Each 14 square metre plot consisted of 2 rows, each 5 metres long with inter-row spacing of 0.76 metres. Plants were spaced 0.033 metres apart and the planting density resulted in a total of 350 plants per variety. Measurements were taken from 20 plants or parts of 20 plants of each variety per year except for the seed weight with 5 measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

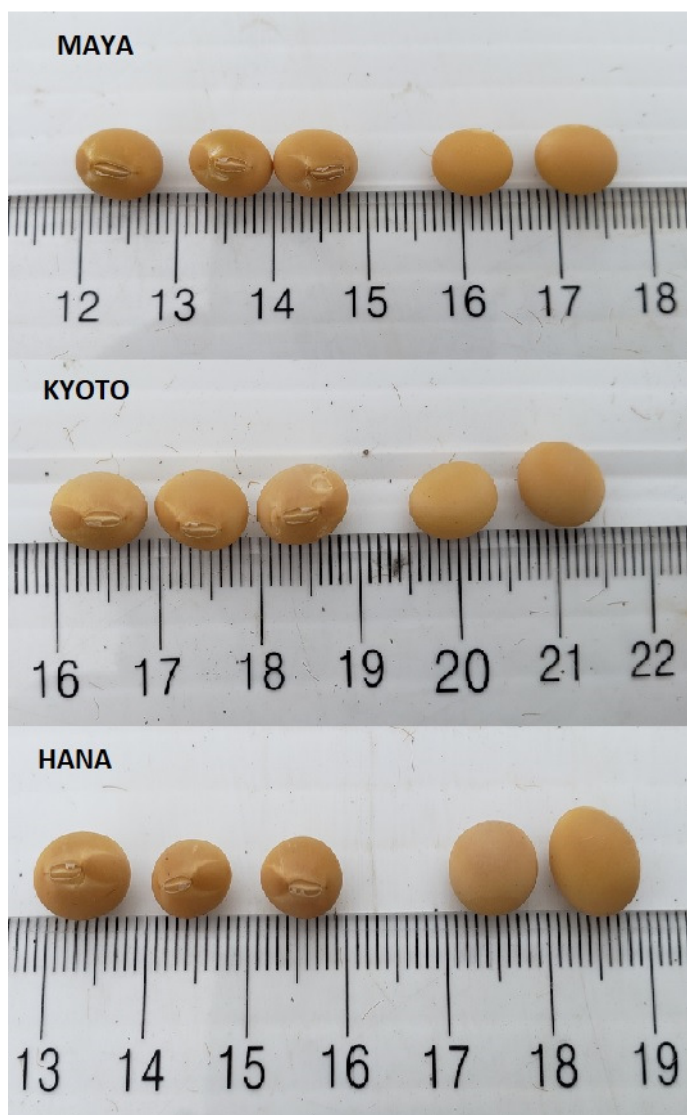
Comparison table for ‘Maya’

| | ‘Maya’ | ‘Kyoto’** | ‘Hana’** |
|--|--------|-----------|----------|
| <i>Seed weight (grams per 100 seeds) (g)</i> | | | |
| mean 2020 (LSD=1.85) | 19.04 | 16.33 | 16.56 |
| std. deviation 2020 | 1.65 | 1.23 | 0.65 |
| mean 2021 (LSD=0.42) | 21.58 | 22.58 | 16.14 |
| std. deviation 2021 | 0.38 | 0.31 | 0.63 |
| <i>Time of maturity (number of days from planting to maturity)</i> | | | |
| mean 2020 | 117 | 124 | 120 |
| mean 2021 | 119 | 122 | 120 |

*reference varieties



Soybean: ‘Maya’ (left) with reference varieties ‘Kyoto’ (centre) and ‘Hana’ (right)



Soybean: 'Maya' (top) with reference varieties 'Kyoto' (centre) and 'Hana' (bottom)