



## APPLICATIONS UNDER EXAMINATION

## SOYBEAN

### SOYBEAN (*Glycine max*)

**Proposed denomination:** 'BY Rundle XT'  
**Application number:** 21-10644  
**Application date:** 2021/07/15  
**Applicant:** La Coop fédérée, Saint-Hyacinthe, Quebec  
**Breeder:** Jérôme Auclair, La Coop fédérée, Saint-Hyacinthe, Quebec

**Varieties used for comparison:** 'DKB0009-89', 'DKB006-29' and 'Vidar R2X'

**Summary:** *When 50% of the flowers are open, the branching attitude of 'BY Rundle XT' is semi-erect whereas it is semi-erect to horizontal for 'DKB006-29'. When 95% of the pods are ripe, the plants of 'BY Rundle XT' are shorter than the plants of the reference varieties. The intensity of brown colour on the pod of 'BY Rundle XT' is of medium intensity whereas it is dark brown for 'DKB006-29' and 'Vidar R2X'. The plants of 'BY Rundle XT' mature earlier than the plants of the reference varieties. The seed of 'BY Rundle XT' has an elongate flattened shape whereas it is spherical flattened for 'DKB009-89' and 'DKB006-29' and spherical for 'Vidar R2X'. The seed of 'BY Rundle XT' is medium in size whereas the seed is small for 'Vidar R2X'.*

#### **Description:**

**HYPOCOTYL:** medium intensity of anthocyanin colouration

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

**LEAF:** pointed ovate lateral leaflet, medium green colour

**FLOWER:** violet

**POD:** medium brown

**SEED:** medium size, elongate flattened, yellow ground colour of testa

**HILUM:** black

**REACTION TO PHOTOPERIOD:** sensitive

**Origin & Breeding History:** 'BY Rundle XT' (experimental designation C4M20366XT) originated from a cross between the variety 'Akra R2' and the line C411XK550.K01.K001 conducted in 2013 in Saint-Hyacinthe, Quebec. From 2014 to 2016, four generations were self-pollinated from the F1 to F4 generations in Puerto Rico, USA using the single seed descent method. Seedlings were then selected for uniformity in San Ramon, Chile, during the winter of 2015 to 2016, and replicated plots were assessed from 2016 to 2020 in Saint-Hyacinthe, Quebec. In 2017, the F5 generation, grown in Saint-Hyacinthe, Quebec, underwent selections based on a visual assessment of the resistance to lodging, yield and maturity date. 'BY Rundle XT' was identified at the F5 generation in 2017. In 2019, 25 lines were selected and bulked to produce the breeder seed.

**Tests & Trials:** The comparative trials of 'BY Rundle XT' were conducted at a production farm located in Saint-Simon, Quebec during the 2021 and 2022 growing seasons. The trial was arranged in a RCB design with four replicates per variety. Each 6 square metre plot consisted of 4 rows, each 4.5 metres long with a row spacing of 0.38 metres apart. The seeding density was such that it resulted in 40 plants per variety per square metre. For each variety, 20 measurements were taken to determine plant height. Mean differences are significant at the 5% probability level based on a Tukey test.

Comparison table for 'BY Rundle XT'

	'BY Rundle XT'	'DKB0009-89'*	'DKB006-29'*	'Vidar R2X**'
<i>Plant height (cm)</i>				
mean (2021)	56.9	64.8	65.1	65.5
std. deviation (2021)	3.8	5.3	5.7	3.2
mean (2022)	40.9	54.4	69.9	65.2
std. deviation (2022)	2.9	3.4	2.5	3.5
<i>Time of maturity (number of days from planting to maturity)</i>				
mean (2021)	111	114	120	117
mean (2022)	108	110	113	111

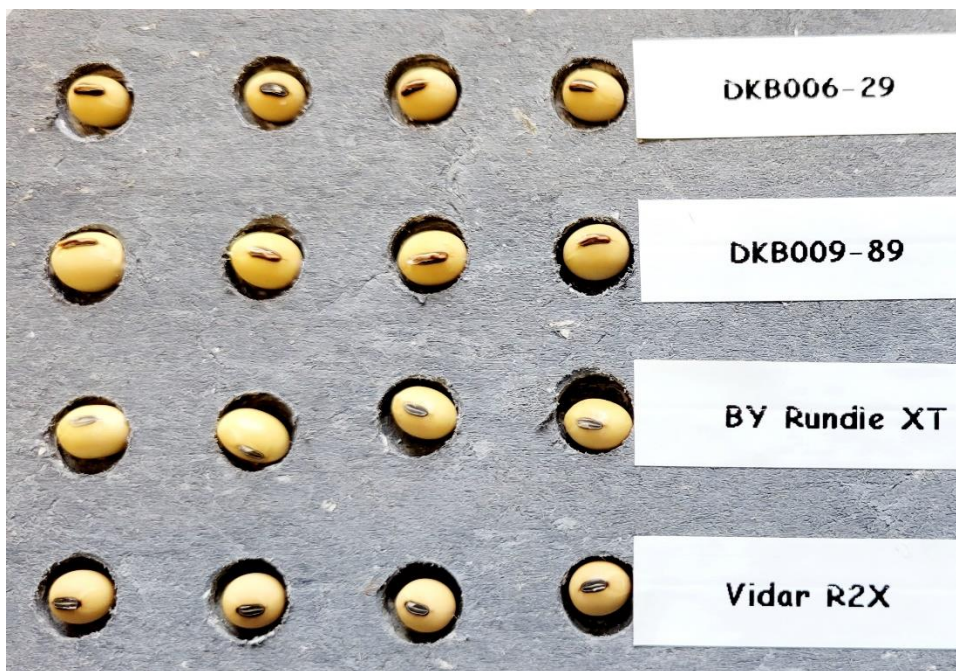
\*reference varieties



Soybean: 'BY Rundle XT' (left) with reference varieties 'DKB0009-89' (centre left), 'DKB006-29' (centre right) and 'Vidar R2X' (right)



Soybean: 'BY Rundle XT' (top left) with reference varieties 'DKB0009-89' (top right), 'DKB006-29' (bottom left) and 'Vidar R2X' (bottom right)



Soybean: 'BY Rundle XT' (centre bottom) with reference varieties 'Vidar R2X' (bottom), 'DKB006-29' (top) and 'DKB0009-89' (centre top)

**Proposed denomination:** 'Wolf R2X'  
**Application number:** 21-10645  
**Application date:** 2021/07/15  
**Applicant:** La Coop fédérée, Saint-Hyacinthe, Quebec  
**Breeder:** Jérôme Auclair, La Coop fédérée, Saint-Hyacinthe, Quebec

**Varieties used for comparison:** 'Akras R2', 'Nocomo R2' and 'Ekurana R2'

**Summary:** *The anthocyanin colouration on the hypocotyl of 'Wolf R2X' is of medium intensity whereas it is strong for 'Akras R2'. When 50% of flowers are open, the branching attitude of 'Wolf R2X' is semi-erect to horizontal whereas it is erect for the reference varieties. The plants of 'Wolf R2X' begin flowering early while the plants of 'Nocomo R2' begin flowering mid-season and those of 'Akras R2' and 'Ekurana R2' begin flowering mid to late season. When 95% of the pods are ripe, the plants of 'Wolf R2X' are shorter than those of 'Ekurana R2'. The intensity of brown colour on the pod of 'Wolf R2X' is light whereas it is of medium intensity for 'Nocomo R2' and 'Ekurana R2'. The plants of 'Wolf R2X' mature earlier than the plants of 'Ekurana R2'. The seed of 'Wolf R2X' is small whereas the seed is medium size for the reference varieties.*

**Description:**

HYPOCOTYL: medium intensity of anthocyanin colouration

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

LEAF: pointed ovate lateral leaflet, medium green colour

FLOWER: violet

POD: light brown

SEED: spherical flattened shape, yellow ground colour of testa

HILUM: imperfect black

REACTION TO PHOTOPERIOD: sensitive

**Origin & Breeding History:** 'Wolf R2X' (experimental designation C4M19343 XT) originated from a cross between the variety 'Akras R2' and the line C411XK550.K01.K001 conducted in 2013 in Saint-Hyacinthe, Quebec. From 2014 to 2016, four generations were self-pollinated from the F1 to F4 generations in Puerto Rico, USA using the single seed descent method. Seedlings were then selected for uniformity in San Ramon, Chile, during the winter of 2015 to 2016, and replicated plots were assessed from 2016 to 2020 in Saint-Hyacinthe, Quebec. In 2017, the F5 generation, grown in Saint-Hyacinthe, Quebec, underwent selections based on a visual assessment of the resistance to lodging, yield and maturity date. 'Wolf R2X' was identified at the F5 generation in 2017. In 2019, 16 lines were selected and bulked to produce the breeder seed.

**Tests & Trials:** The comparative trials of 'Wolf R2X' were conducted at a production farm located in Saint-Simon, Quebec during the 2021 and 2022 growing seasons. The trial was arranged in a RCB design with four replicates per variety. Each 6 square metre plot consisted of 4 rows, each 4.5 metres long with a row spacing of 0.38 metres apart. The seeding density was such that is resulted in 40 plants per variety per square metre. For each variety, 20 measurements were taken to determine plant height. Mean differences are significant at the 5% probability level based on a Tukey test.

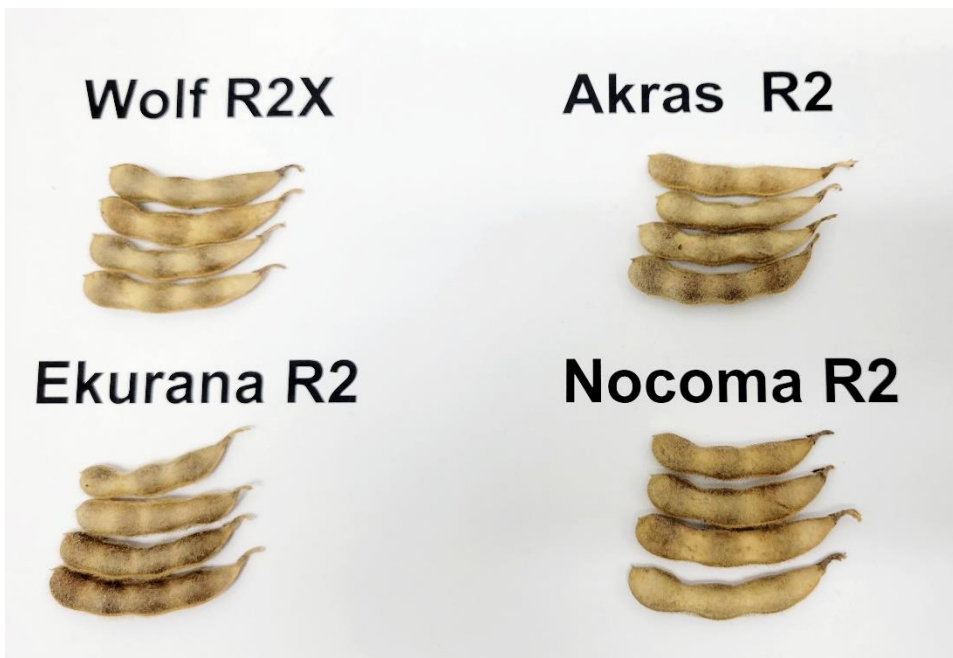
**Comparison table for 'Wolf R2X'**

	'Wolf R2X'	'Akras R2'*	'Nocomo R2'*	'Ekurana R2'*
<i>Plant height (cm)</i>				
mean (2021)	41.1	38.6	45.5	68.0
std. deviation (2021)	3.2	2.1	2.8	3.3
mean (2022)	58.4	57.2	54.1	78.6
std. deviation (2022)	3.3	5.5	2.7	3.5
<i>Time of maturity (number of days from planting to maturity)</i>				
mean (2021)	113	114	114	121
mean (2022)	105	109	103	114

\*reference varieties

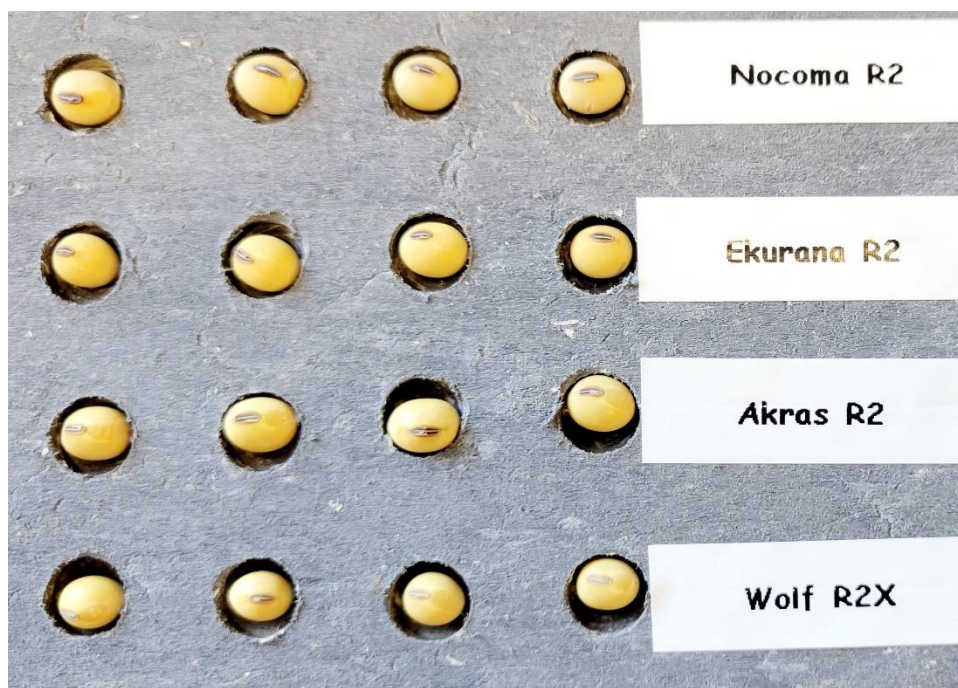


Soybean: 'Wolf R2X' (centre left) with reference varieties 'Akras R2' (centre right), 'Nocoma R2' (right) and 'Ekurana R2' (left)



Soybean: 'Wolf R2X' (top left) with reference varieties 'Akras R2' (top right), 'Ekurana R2' (bottom left) and 'Nocoma R2' (bottom right)





Soybean: 'Wolf R2X' (bottom) with reference varieties 'Akras R2' (centre bottom), 'Ekurana R2' (centre top) and 'Nocoma R2' (top)