POTATO
(Solanum tuberosum)

Proposed denomination: **'AAC Africadie'**
Application number: 20-10067
Application date: 2020/01/08
Applicant: Agriculture & Agri-Food Canada, Fredericton, New Brunswick
Agent in Canada: Agriculture & Agri-Food Canada, Fredericton, New Brunswick
Breeder: Benoit Bizimungu, Agriculture & Agri-Food Canada, Fredericton, New Brunswick

Variety used for comparison: 'Norland'

Summary: *The shape of the lightsprout of 'AAC Africadie' is ovoid while that of 'Norland' is broad cylindrical. The base of the lightsprout for 'AAC Africadie' has an absent or very low proportion of blue in the anthocyanin colouration while that of 'Norland' has a medium proportion of blue in the anthocyanin colouration. The base of the lightsprout for 'AAC Africadie' has absent or very sparse pubescence while that of 'Norland' has dense pubescence. The lightsprout for 'AAC Africadie' has few root tips while that of 'Norland' has many root tips. The stem of 'AAC Africadie' has an absent or very low extent of anthocyanin coloration along the entire stem while the stem of 'Norland' has a low extent of anthocyanin colouration halfway up the stem. The plants of 'AAC Africadie' are taller than the plants of 'Norland'. The plants of 'AAC Africadie' have a very high frequency of flowers while those of 'Norland' have a medium frequency of flowers. The inner side of the corolla of 'AAC Africadie' has a high extent and strong intensity of anthocyanin colouration while the inner side of the corolla of 'Norland' has a medium extent and medium intensity of anthocyanin colouration. The plants of 'AAC Africadie' mature mid-season while those of 'Norland' mature early in the season. The tuber of 'AAC Africadie' has red parti-coloured skin and cream coloured flesh while the tuber of 'Norland' has red skin with white flesh.*

Description:
LIGHTSPROUT: large, ovoid, few root tips, medium length lateral shoots
LIGHTSPROUT BASE: strong intensity of anthocyanin colouration, absent or very low proportion of blue in anthocyanin colouration, absent or very sparse pubescence
LIGHTSPROUT TIP: large in relation to base, intermediate habit, medium intensity of anthocyanin colouration, dense pubescence

PLANT: leaf type foliage structure where foliage is closed and stems are not or hardly visible, spreading growth habit, very high frequency of flowers, matures mid-season

STEM: absent or very low extent of anthocyanin colouration along entire stem

LEAF: medium sized outline, closed, strong presence of secondary leaflets, medium green upper side, absent or very weak intensity of anthocyanin colouration on upper side of midrib, absent or very low frequency of coalescence of terminal and lateral leaflets
SECOND PAIR OF LATERAL LEAFLETS: large, leaflet is narrower than long
LEAFLET: medium degree of waviness of margin, shallow veins, medium glossiness on upper side

PEDUNCLE: absent or very low extent of anthocyanin colouration
INFLORESCENCE: large
FLOWER BUD: absent or very low extent of anthocyanin colouration
COROLLA: large
COROLLA (INNER SIDE): high extent and strong intensity of anthocyanin colouration, absent or very low proportion of blue in anthocyanin colouration

TUBER: long oval, cream coloured flesh
TUBER EYE: shallow, red at base
TUBER SKIN: red parti-coloured

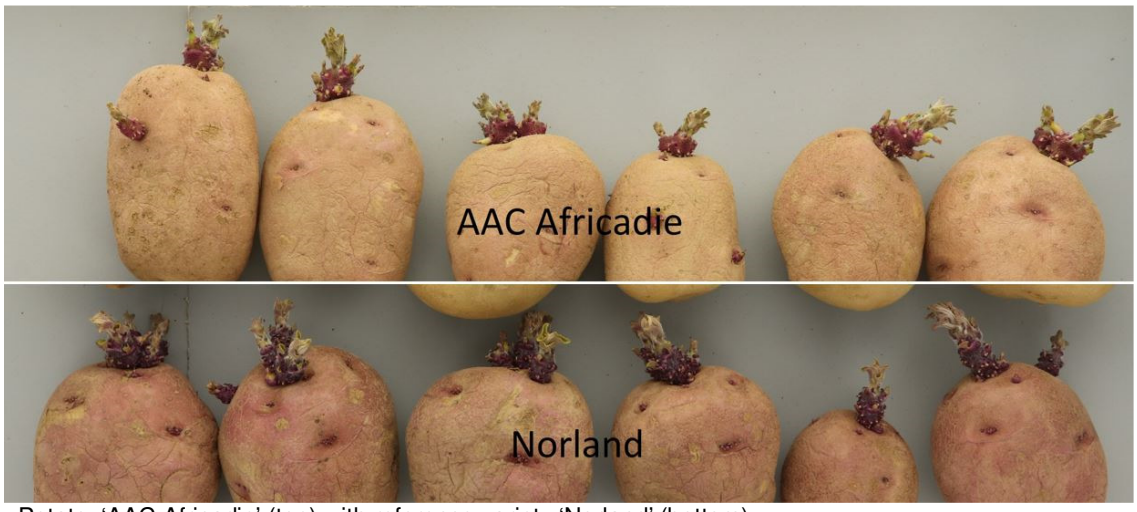
Origin and Breeding: 'AAC Africadie' (experimental designations AR2015-16, V07148-2) originated from a cross made between the variety 'Cara' and experimental line FV12486-2 conducted at the Agriculture and Agri-Food Canada's Lethbridge Research and Development Centre, in Lethbridge, Alberta, in 2007. In 2008, the true potato seed resulting from the cross was sown in a greenhouse at the Agriculture and Agri-Food Canada's Lethbridge Research and Development Centre and the resulting seedling tubers planted at the Vauxhall Research Substation of Agriculture and Agri-Food Canada near Lethbridge, Alberta. A clone designated as V07148-2 was selected in 2009 from a single hill trial based on vine maturity, tuber numbers, tuber appearance, shape, size and flesh colour.

Tests and Trials: The comparative trial for 'AAC Africadie' was conducted at Agriculture and Agri-Food Canada's Fredericton Research and Development Centre, in Fredericton, New Brunswick during the 2021 growing season. The field trial consisted of 2 replicates per variety, arranged in a RCB design. Each replicate was a 12 metre long row containing 40 plants spaced 0.25 metres apart with 0.9 metre inter-row spacing. Measurements were taken from 10 plants, or 10 parts of plants, of each variety. The mean differences were significant at the 5% probability level based on a paired Student's t-test. Lightsprout characteristics were assessed on 6 tubers harvested from the comparative trial and observed approximately five months after harvest following normal dormancy breakage.

Comparison table for 'AAC Africadie'

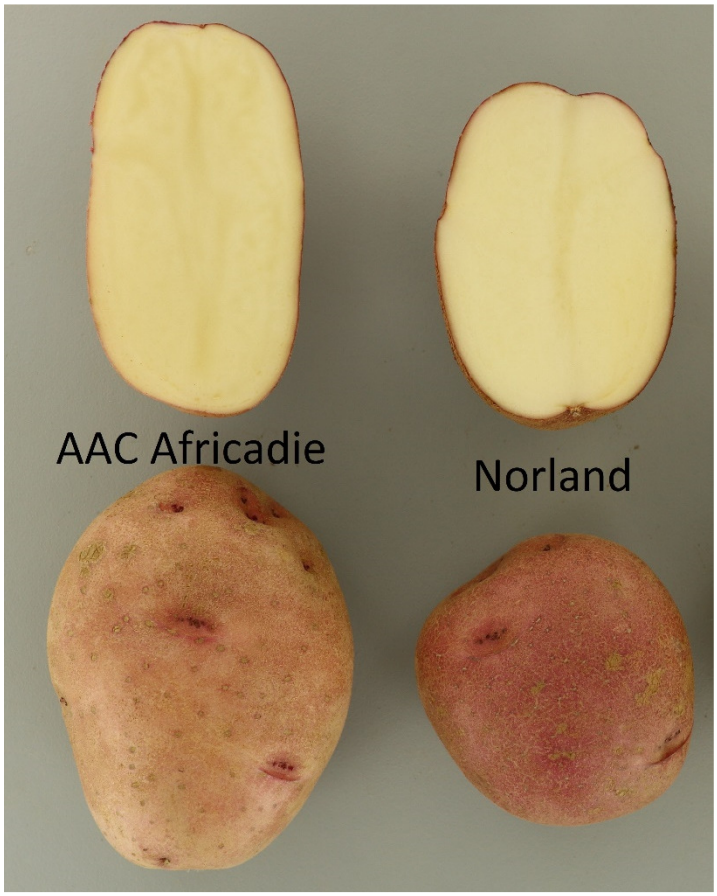
	'AAC Africadie'	**'Norland'***
Plant height (cm)		
mean	21	17
std. deviation	3	2

*reference variety



Potato: 'AAC Africadie' (top) with reference variety 'Norland' (bottom)

Potato: 'AAC Africadie' (left) with reference variety 'Norland' (right)



Potato: 'AAC Africadie' (left) with reference variety 'Norland' (right)

Proposed denomination: **'AAC Burcadie'**
Application number: 20-10068
Application date: 2020/01/08
Applicant: Agriculture & Agri-Food Canada, Fredericton, New Brunswick
Agent in Canada: Agriculture & Agri-Food Canada, Fredericton, New Brunswick
Breeder: Benoit Bizimungu, Agriculture & Agri-Food Canada, Fredericton, New Brunswick

Variety used for comparison: 'Yukon Gold'

Summary: *The shape of the lightsprout of 'AAC Burcadie' is conical while that of 'Yukon Gold' is spherical. The base of the lightsprout for 'AAC Burcadie' has a weak intensity of anthocyanin colouration with an absent or low proportion of blue and sparse pubescence while that of 'Yukon Gold' has a medium intensity of anthocyanin colouration with a medium proportion of blue and a medium density of pubescence. The plants of 'AAC Burcadie' have a semi-upright growth habit while those of 'Yukon Gold' have an upright growth habit. The stem of 'AAC Burcadie' has a low extent of anthocyanin coloration along the entire stem while the stem of 'Yukon Gold' has a low extent of anthocyanin colouration halfway up the stem. The plants of 'AAC Burcadie' are shorter than the plants of 'Yukon Gold'. The plants of 'AAC Burcadie' mature late in the season while those of 'Yukon Gold' mature mid-season. The tuber of 'AAC Burcadie' is long with cream coloured flesh while the tuber of 'Yukon Gold' is oval with light yellow flesh.*

Description:
LIGHTSPROUT: small to medium sized, conical, few root tips, short lateral shoots
LIGHTSPROUT BASE: weak intensity of anthocyanin colouration, absent or low proportion of blue in anthocyanin colouration, sparse pubescence
LIGHTSPROUT TIP: medium to large in relation to base, closed to intermediate habit, absent or very weak intensity of anthocyanin colouration, sparse to a medium density of pubescence

PLANT: intermediate type foliage structure where foliage is half open and stems are partly visible, semi-upright growth habit, medium frequency of flowers, matures late in the season

STEM: low extent of anthocyanin colouration along the entire stem

LEAF: medium sized outline, closed, medium presence of secondary leaflets, medium to dark green upper side, absent or very weak intensity of anthocyanin colouration on upper side of midrib, absent or very low frequency of coalescence of terminal and lateral leaflets
SECOND PAIR OF LATERAL LEAFLETS: large, leaflet is narrower than long
LEAFLET: weak degree of waviness of margin, medium to deep veins, dull on upper side

PEDUNCLE: absent or very low extent of anthocyanin colouration
INFLORESCENCE: large
FLOWER BUD: absent or very low extent of anthocyanin colouration
COROLLA: large
COROLLA (INNER SIDE): medium extent and medium intensity of anthocyanin colouration, medium proportion of blue in anthocyanin colouration

TUBER: long, cream coloured flesh
TUBER EYE: shallow, red at base
TUBER SKIN: yellow

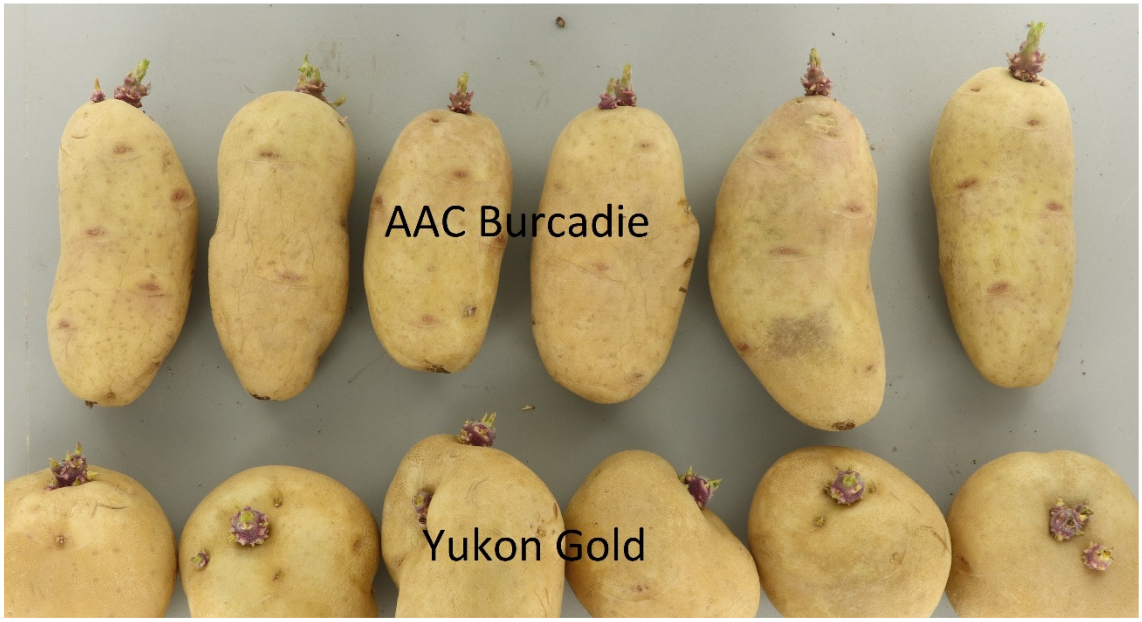
Origin and Breeding: 'AAC Burcadie' (experimental designations AR2015-03, F10012, 15675-02) originated from a cross made between experimental lines F93043 and F00102 conducted at the Agriculture and Agri-Food Canada's Fredericton Research and Development Centre, in Fredericton, New Brunswick, in 2008. In 2008, the true potato seed resulting from the cross was sown in a greenhouse at the Agriculture and Agri-Food Canada's Fredericton Research and Development Centre and the resulting seedling tubers planted at the Benton Research Substation of Agriculture and Agri-Food Canada near Fredericton, New Brunswick in 2009. A clone designated as 15675-02 was selected in 2009 from a single hill trial based on vine maturity, tuber numbers, tuber appearance, shape and size.

Tests and Trials: The comparative trial for 'AAC Burcadie' was conducted at Agriculture and Agri-Food Canada's Fredericton Research and Development Centre, in Fredericton, New Brunswick during the 2021 growing season. The field trial consisted of 2 replicates per variety, arranged in a RCB design. Each replicate was a 12 metre long row containing 40 plants spaced 0.25 metres apart with 0.9 metre inter-row spacing. Measurements were taken from 10 plants, or 10 parts of plants, of each variety. The mean differences were significant at the 5% probability level based on a paired Student's t-test. Lightsprout characteristics were assessed on 6 tubers harvested from the comparative trial and observed approximately five months after harvest following normal dormancy breakage.

Comparison table for 'AAC Burcadie'

	'AAC Burcadie'	**'Yukon Gold'***
Plant height (cm)		
mean	19	26
std. deviation	2	4

*reference variety



Potato: 'AAC Burcadie' (top) with reference variety 'Yukon Gold' (bottom)

Potato: 'AAC Burcadie' (left) with reference variety 'Yukon Gold' (right)