



## APPLICATIONS UNDER EXAMINATION

## RAPHANOBRASSICA

### RAPHANOBRASSICA (*Raphanus x Brassica*)

**Proposed denomination:** 'Pallaton'  
**Application number:** 19-10047  
**Application date:** 2019/11/25  
**Applicant:** Forage Innovations Limited, Christchurch, New Zealand  
**Agent in Canada:** Smart & Biggar LP, Ottawa, Ontario  
**Breeder:** Andrew Dumbleton, Lincoln, New Zealand

**Variety used for comparison:** 'Corona'

**Summary:** *The cotyledon of 'Pallaton' is narrower than the cotyledon of 'Corona'. The leaf of 'Pallaton' has medium to many lobes while the leaf of 'Corona' has very many lobes. The leaf margin of 'Pallaton' has many indentations while the leaf margin of 'Corona' has very many indentations. The upper side of the leaf of 'Pallaton' has absent or very sparse hairs while that of 'Corona' has dense hairs. At mid-season and at the end of the season, the plants of 'Pallaton' are taller than those of 'Corona'.*

#### **Description:**

COTYLEDON: broad, medium in length

PLANT: forage type, winter type, very tall at end of season

LEAF: medium to dark green on upper side, medium to many lobes, medium to long, medium width, absent or very sparse hairs on upper side

LEAF MARGIN: sharp, many indentations of medium depth

PETIOLE: medium length

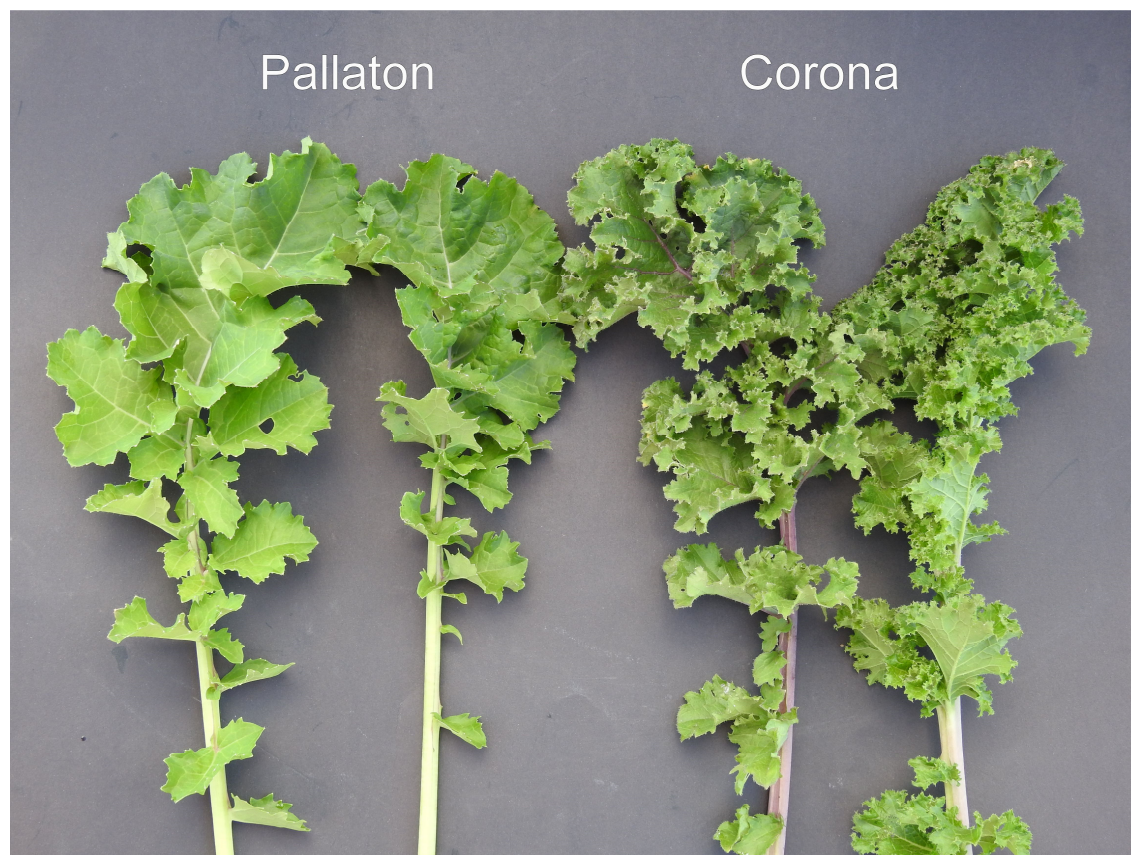
**Origin and Breeding:** 'Pallaton' was selected from an existing *Rhaphanobrassica* sp. population designated 'Colano'. A total of 5000 single plants of the open pollinated population were selected in the 2003-2004 and 2004-2005 growing seasons based on reduced bolting and forage yield. The selections were self-pollinated in a pollen proof glasshouse and the resulting seed was field planted. Two further cycles of field planted selections with subsequent self-pollination in a glasshouse, were conducted based on plant persistence under heavy grazing, clubroot resistance, flowering time and reduced bolting. In the 2009-2010 growing season selections were mass-pollinated in an isolation cage and grown in replicated plot trials across New Zealand as 6059-30. Further selections were made in 2011-2012 from multiple trials on the basis of forage yield, flowering time and reduced bolting. These selections were self-pollinated in a glasshouse and trialed across New Zealand as 30.7.B. In 2013-2014, further selections were made from multiple trials based on flowering time, reduced flowering, water use efficiency and invitro screening for clubroot resistance and evaluated in replicated plot trials across New Zealand. Pre-nucleus seed production was conducted in isolation cages in 2014-2015 with nucleus seed production commencing in 2015-2016.

**Tests and Trials:** The comparative trial for 'Pallaton' was conducted during the 2022 growing season in Central Blissville, New Brunswick. As winter types of *Rhaphanobrassica* sp. do not exhibit good survival rates under Canadian winter conditions, the trial was planted in the spring, allowing for the observation of only the vegetative characteristics for both varieties in the trial. The field trial consisted of an 18 square meter plot per variety. Each plot was a 9.0 metre row consisting of a minimum of 300 plants. There was 0.5 metre spacing between the plots. The measured characteristics were based on 30 measurements. Mean differences were significant at the 2% probability level based on LSD values. The results were supported by the official technical examination report, application number CRM018, acquired from the New Zealand Plant Variety Rights Office in Christchurch, New Zealand. The trials were conducted in Lincoln, New Zealand during the 2016-2017 and 2017-2018 growing seasons.

Comparison table for 'Pallaton'

	'Pallaton'	'Corona'*
<i>Cotyledon width (mm)</i>		
mean	12.4	13.6
std. deviation	1.2	1.6
<i>Leaf number of lobes (count)</i>		
mean	11.2	19.9
std. deviation	3.3	4.8
<i>Plant height (mid-season, 66 days from planting )(cm)</i>		
mean	55.6	42.9
std. deviation	4.5	2.5

\*reference variety



Raphanobrassica: 'Pallaton' (left) with reference variety 'Corona' (right)



Raphanobrassica: 'Pallaton' (left) with reference variety 'Corona' (right)