



APPLICATIONS UNDER EXAMINATION

ARGYRANTHEMUM

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*(Argyranthemum frutescens)*

**Proposed denomination:** 'G15101'  
**Trade name:** Golden Butterfly  
**Application number:** 17-9312  
**Application date:** 2017/10/23  
**Applicant:** GardenGenetics LLC, Bellefonte, Pennsylvania, United States of America  
**Agent in Canada:** BioFlora Inc., St. Thomas, Ontario  
**Breeder:** Irene E. Palmer, Bellefonte, Pennsylvania, United States of America  
 Michael S. Owen, Cascade, Montana, United States of America

**Varieties used for comparison:** 'Butterfly' and 'Beauty Yellow'

**Summary:** *The fully developed leaf of 'G15101' is longer than the fully developed leaf of 'Butterfly' and 'Beauty Yellow'. The flower head of 'G15101' is smaller in diameter than the flower head for 'Butterfly'. The ray floret of 'G15101' is shorter than the ray floret of 'Butterfly' while it is longer than that of 'Beauty Yellow'. When aged, the colour of the inner side of the ray floret for 'G15101' is slightly darker yellow than that of both reference varieties.*

**Description:**

PLANT: rounded growth habit, dense

STEM: no anthocyanin colouration

LEAF (UPPER SIDE): medium green

LATERAL LOBE OF LEAF: deep marginal incisions

FLOWER HEAD: semi-double type, medium number of ray florets

RAY FLORET: straight along longitudinal axis

RAY FLORET (INNER SIDE): yellow (RHS 5A-B) when newly opened, yellow (RHS 5B, 4A) when fully opened and yellow (RHS 4A-B) when aged

RAY FLORET (OUTER SIDE): yellow green (closest to RHS 4C) when fully opened

DISC: yellow orange

**Origin and Breeding:** 'G15101' was bred and developed by the breeders, Irene E. Palmer and Michael S. Owen, both employees of GardenGenetics LLC, Bellefonte, Pennsylvania, USA. It originated from an induced mutation of the variety 'Butterfly' on May 29, 2014. 'G15101' was selected on the basis of flower colour and colour stability in October 2014. Asexual reproduction of 'G15101' was first conducted by vegetative cuttings on November 17, 2014, in Bellefonte, Pennsylvania, USA.

**Tests and Trials:** The comparative trial for 'G15101' was conducted in a polyhouse during the spring and summer of 2018 at Bioflora Inc., in St. Thomas, Ontario. The trial included a total of 20 plants each of the candidate and reference varieties. The plants were grown from rooted cuttings and transplanted into 11.5 cm pots on April 9, 2018. The observations and measurements were taken from 10 plants, or 10 parts of plants, of each variety, on June 14, 2018. All colour determinations were made using the 2007 Royal Horticultural Society (RHS) Colour Chart.

**Comparison table for 'G15101'**

	'G15101'	'Butterfly'*	'Beauty Yellow'*
<i>Leaf length (cm)</i>			
mean	7.8	7.0	6.7
std. deviation	0.42	0.47	0.28

*Flower head diameter (cm)*

mean	5.6	6.0	5.4
std. deviation	0.18	0.27	0.18

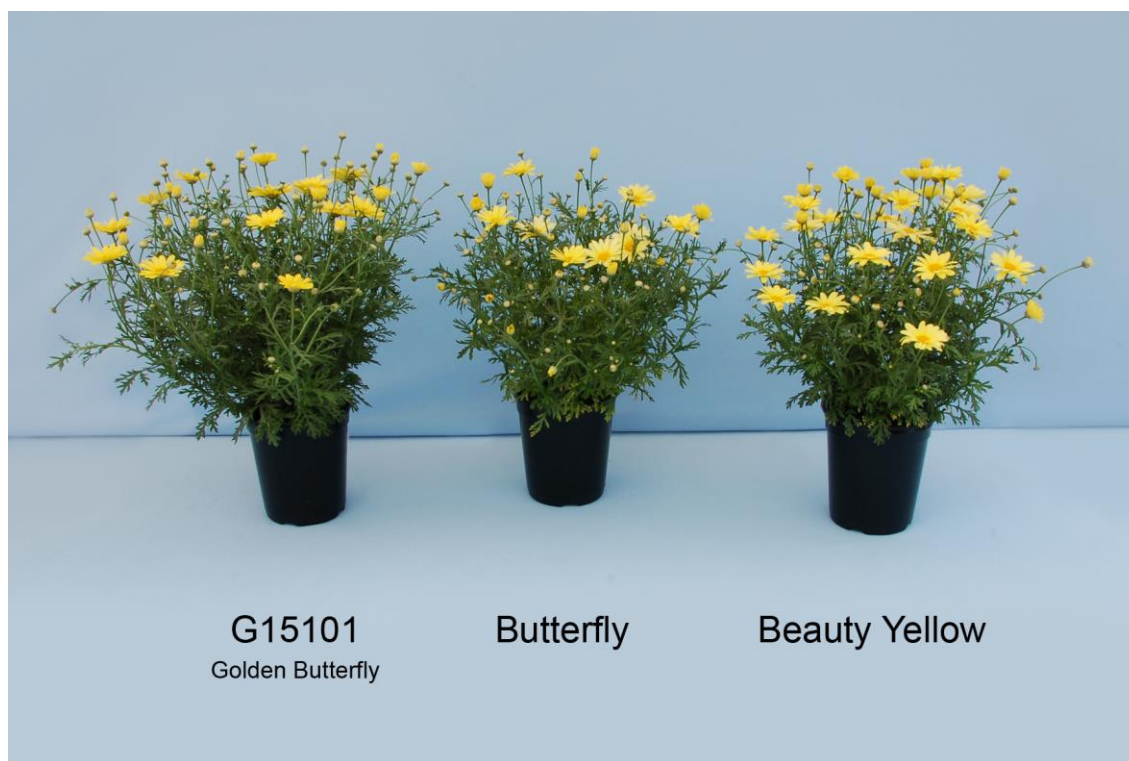
*Ray floret length (cm)*

mean	2.5	2.8	2.4
std. deviation	0.05	0.14	0.04

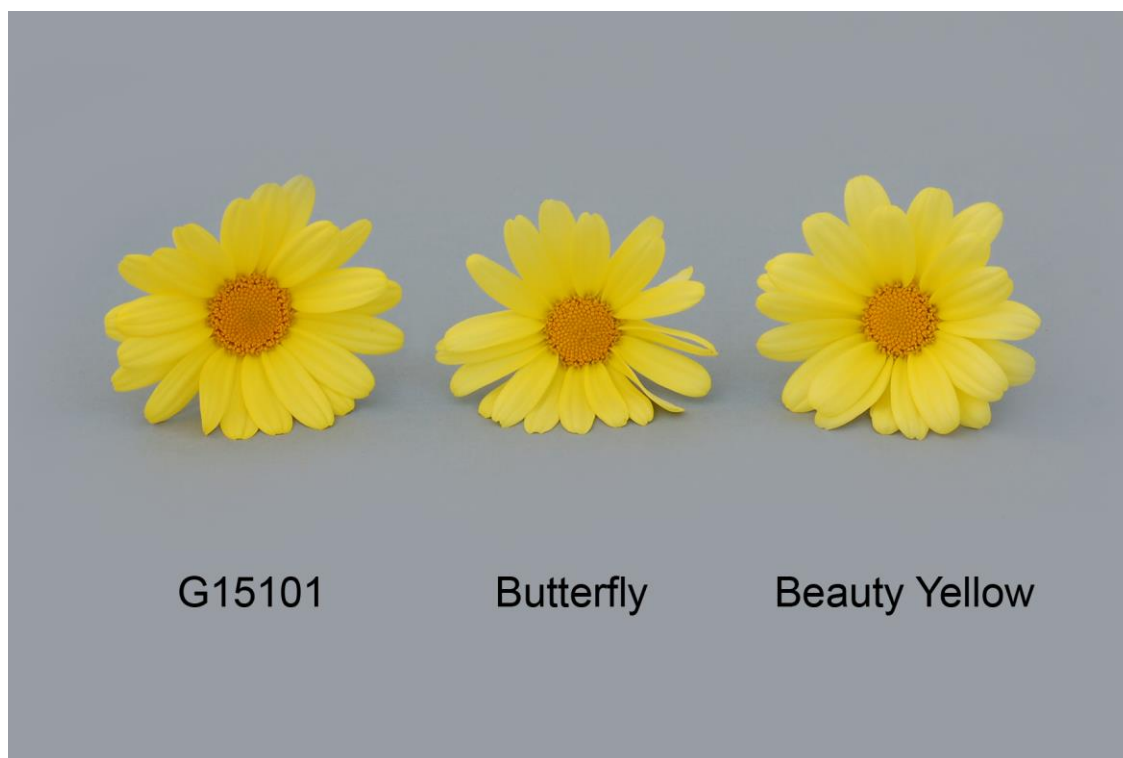
*Colour of inner side of ray floret (RHS)*

newly open	5A-B	3A	3A
fully open	5B, 4A	4C with 4A at base	5B, 4A
aged	4A-B	4C	3D,4C

\*reference varieties



Argyranthemum: 'G15101' (left) with reference varieties 'Butterfly' (centre) and 'Beauty Yellow' (right)



Argyanthemum: 'G15101' (left) with reference varieties 'Butterfly' (centre) and 'Beauty Yellow' (right)



Argyanthemum: 'G15101' (left) with reference varieties 'Butterfly' (centre) and 'Beauty Yellow' (right)

**Proposed denomination:** 'G15104'  
**Trade name:** Vanilla Butterfly Improved  
**Application number:** 17-9313  
**Application date:** 2017/10/23  
**Applicant:** GardenGenetics LLC, Bellefonte, Pennsylvania, United States of America  
**Agent in Canada:** BioFlora Inc., St. Thomas, Ontario  
**Breeder:** Irene E. Palmer, Bellefonte, Pennsylvania, United States of America  
 Michael S. Uchneat, Bellefonte, Pennsylvania, United States of America

**Varieties used for comparison:** 'Butterfly' and 'G14420' (Pure White Butterfly)

**Summary:** *The plants of 'G15104' are taller than the plants of 'Butterfly' and 'G14420'. The curvature of the longitudinal axis of the ray floret for 'G15104' is reflexed while it is straight for both reference varieties. The ray floret of 'G15104' is narrower than the ray floret of both reference varieties. The inner side of the ray floret of 'G15104' is yellow green and white, while the ray floret of 'Butterfly' is yellow when newly open, yellow green with yellow at the base when fully open and yellow green when aged and the ray floret of 'G14420' is always white.*

**Description:**

PLANT: upright to rounded growth habit, medium to dense

STEM: no anthocyanin colouration

LEAF (UPPER SIDE): medium green

LATERAL LOBE OF LEAF: medium to deep marginal incisions

FLOWER HEAD: semi-double type, medium number of ray florets

RAY FLORET: reflexed along longitudinal axis

RAY FLORET (INNER SIDE): yellow green (RHS 1D) with white (RHS NN155A)

RAY FLORET (OUTER SIDE): white (RHS NN155A)

DISC: yellow orange

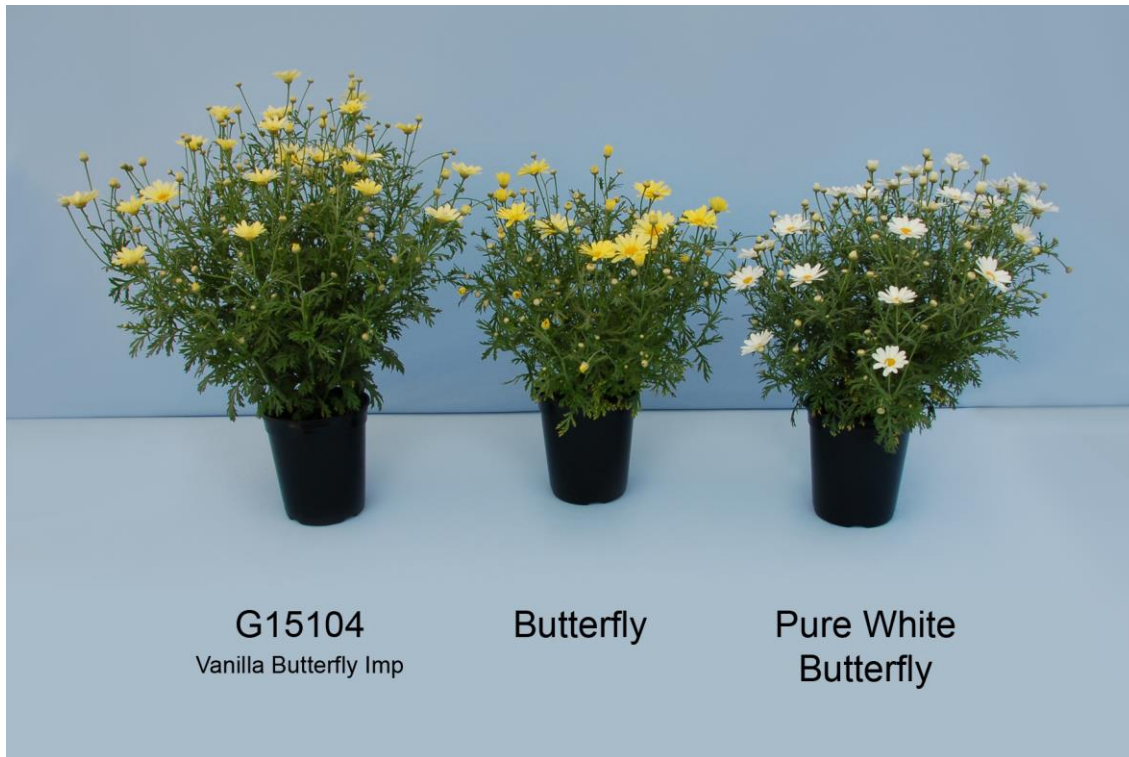
**Origin and Breeding:** 'G15104' was bred and developed by the breeders, Irene E. Palmer and Michael S. Uchneat, both employees of GardenGenetics LLC, Bellefonte, Pennsylvania, USA. It originated from an induced mutation of the variety 'Butterfly' on May 29, 2014. 'G15104' was selected on the basis of flower colour, colour stability and flower size in August 2014. Asexual reproduction of 'G15104' was first conducted by vegetative cuttings on November 17, 2014, in Bellefonte, Pennsylvania, USA.

**Tests and Trials:** The comparative trial for 'G15104' was conducted in a polyhouse during the spring and summer of 2018 at Bioflora Inc., in St. Thomas, Ontario. The trial included a total of 20 plants each of the candidate and reference varieties. The plants were grown from rooted cuttings and transplanted into 11.5 cm pots on April 09, 2018. The observations and measurements were taken from 10 plants, or 10 parts of plants, of each variety, on June 14, 2018. All colour determinations were made using the 2007 Royal Horticultural Society (RHS) Colour Chart.

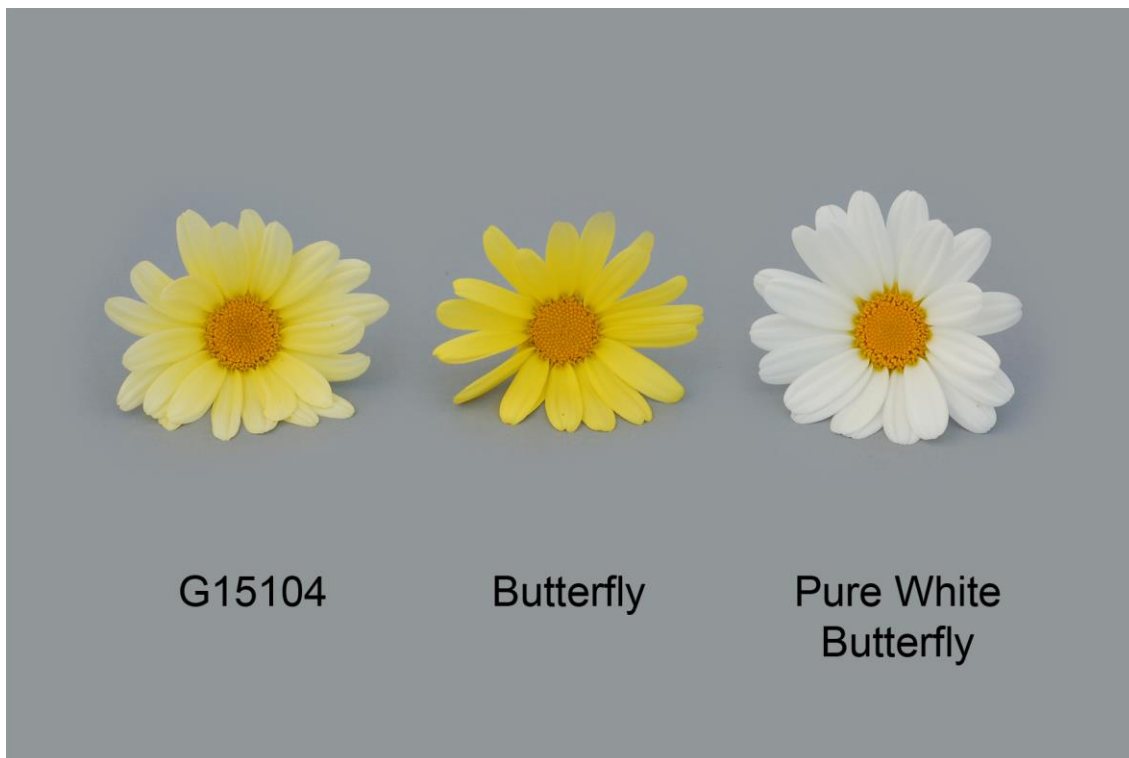
**Comparison table for 'G15104'**

	'G15104'	'Butterfly'*	'G14420'*
<i>Plant height (cm)</i>			
mean	62.9	48.4	51.2
std. deviation	3.14	4.70	4.02
<i>Ray floret width (cm)</i>			
mean	0.7	0.8	0.8
std. deviation	0.05	0.05	0.05
<i>Colour of inner side of ray floret (RHS)</i>			
newly open	1D, NN155A	3A	N155D
fully open	1D, NN155A	4C with 4A at base	N155D
aged	1D, NN155A	4C	N155D

\*reference varieties



Argyanthemum: 'G15104' (left) with reference varieties 'Butterfly' (centre) and 'G14420' (right)



Argyanthemum: 'G15104' (left) with reference varieties 'Butterfly' (centre) and 'G14420' (right)



Argyanthemum: 'G15104' (left) with reference varieties 'Butterfly' (centre) and 'G14420' (right)