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'CANDIDA ALI' AND 'EXCELSA' - ROMANIAN *Gladiolus* CULTIVARS RECENT HOMOLOGATED

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Abstract

Gladiolus x hybridus L. is a popular bulb plant grown in Romania in field for cut flowers in summer season. Nowadays in Romania the activity for improve the assortment of gladiolus by breeding program is limited. This is because of the small number of researchers devoted to sustainable breeding work. The Floriculture Department of University Agricultural Sciences and Veterinary Medicine Cluj, in collaboration with Research Fruit Station Cluj, do an intensive from many years until the present. 'Candida Ali' and 'Excelsa' cultivars have recently been registered and patented (2011) having a great floral potential do to their color and good morpho-decorative characteristics.

Key words: *cultivar, breeding, characters, selection, bulb plant.*

INTRODUCTION

Gladiolus x hybridus L. is a popular floricultural crop in Romania grown mainly for cut flowers. The modern *Gladiolus* cultivars offer a diversity of colors, shapes, and sizes that is available in few other flowering plants (Cantor and Tolety, 2010).

During the last quarter of a century an increasing interest was generated in new crops. Dozens of new species and genera enter the commercial arena each year. Some new cultivars are only selections; others are results of intra-and interspecific hybridizations (Craig, 2003).

Currently many hybridizers work on creating new Gladiolus cultivars, but in Romania this activity is limited. This is because of the small number of researchers devoted to sustainable work for improving the Gladiolus assortment by breeding in order to obtain new varieties with superior characteristics and more adapted to the climate of Romania.

Gladiolus cultivars suitable for cultivation under the temperate climate of the Transylvanian areas of Romania have been developed by the Floriculture Department, University of Agricultural Sciences and Veterinary Medicine, from 1998 until the present. A total of 14 new *Gladiolus* cultivars that have a broad spectrum of colors and desirable characters such as: multiple flowering, vigor, resistance to pests and diseases, different colors etc. 'Candida Ali' and 'Excelsa' have recently been registered and patented.

Origin

'Candida Ali', tested as H 1/20, resulted from a controlled cross between 'Early Riser' and 'Priscilla', made by M. Cantor and L.M. Chis at UASVM Cluj-Napoca in 2001, fallowed by clonally selection and vegetative multiplication by corms (Figure 1). Further characterization of this hybrid began in 2007 at ISTIS Bucharest (The State Institute for Variety Testing and Registration).

'Excelsa' resulted from the intraspecific hybridization method between the cultivars 'Priscilla' and 'Speranta'. The cross was made in 2001 by M. Cantor, and it was selected as a hybrid H 18/1 in 2003 (Figure 2).

The purity certificate no 1324/2009 was obtained in 2009 under the name 'Candida Ali' and 'Excelsa' after being tested in ISTIS Bucharest on the base of the DUS (distinctivity, uniformity and stability) test and was recommended for introduction as commercial crops in Romania.

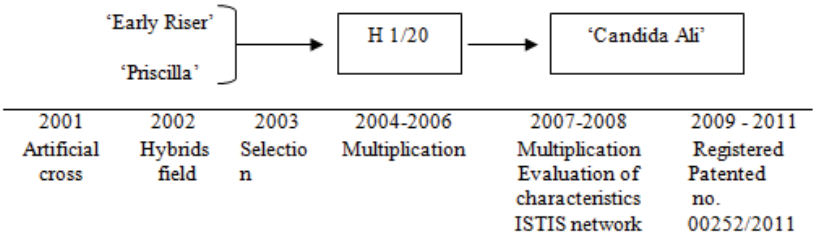

Figure 1. Pedigree of 'Candida Ali'

'Excelsa' resulted from the intraspecific hybridization method between the cultivars 'Priscilla' and 'Speranta'. The cross was made in 2001 by M. Cantor, and it was selected as a hybrid H 18/1 in 2003 (Figure 2).

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In 2011 'Candida Ali' (patent no. 00252) and 'Excelsa' (patent no. 00251) were patented as protected cultivars (Figure 3A, B).

To maintain the characteristics of those cultivars, they must be vegetative propagated by corms and cormels.

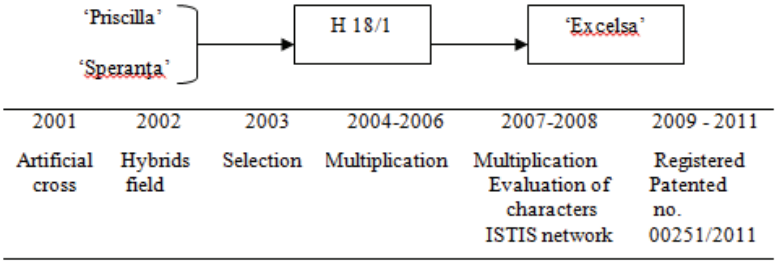

Figure 2. Pedigree of 'Excelsa'

Figure 3. A. Candida Ali (H 1/20)

Figure 4. Excelsa (H 18/1)

Description

'Candida Ali' cultivar has a delicate color of florets (dark pink bronze with intense pink neck, white stripes) and it is currently a popular cultivar on the market (Table 1). It is an early midseason bloomer in Transylvania area. The flowers are bell-shaped when open and have good longevity in the vase as cut flowers. It has a good vigor (112.1 cm), a long spike and prolific corm producer (115 cormels/corm) which facilitates multiplication (Table 3).

The performances of the new cultivars were compared with a very popular cultivar in Romania, 'Priscilla' which is also one of the parents in the cross-breeding process.

In 2009 the cultivar 'Candida Ali' received a Diploma and Silver Medal at the International Salon of Research and Invent 'PROINVENT' Cluj-Napoca.

Table 1. Morphological characteristics of the new Gladiolus cultivars

Cultivars	Flower color	Floret shape	Spot	Another color	Use
Candida Ali	Dark pink bronze with intense pink neck, white stripes	Round	yes	purple	Cut flower, border or group in the field
Excelsa	Purple red with white narrow	Round	none	white	Landscape design Cut flower
Priscilla-control	Light rose with dark rose lines	Round	yes	white rose	Cut flower, garden

Table 2. Quantitative characteristics of the new gladiolus cultivars

Cultivars	Days to flowering from planting	Plant height (cm)	Spike length (cm)	No. of florets/ flower	Flower width (cm)	No. of simultaneously flowering florets	Vase life (days)
Candida Ali	77	112.1	74.0	15.4	11.5	5.7	5.4
Excelsa	66	100.4	45.0	14.3	11.4	5.2	5.0
Priscilla-control	82	121.3	86.2	15.0	11.5	5.1	4.7

Table 3. Corm productivities of new Gladiolus cultivars

Cultivars	No. of cormel/plant	Circumference of corm (cm)	Corm weight (g)
Candida Ali	115	14.4	42.5
Excelsa	42	13.8	33.7
Priscilla-control	65	14.0	41.3

The ‘Excelsa’ cultivar is characterized by the remarkable achievement of combining superior morphological characteristics. This cultivar blooms earlier than many commercial *Gladiolus* cultivars, 66 days from planting, and it has a lovely color that looks beautiful in vases (Table 2).

As a conclusion the new cultivars represents a step forward in combining a high qualities in genus *Gladiolus*, they contributed to improving the Romanian assortment.

Availability

Limited quantities of ‘Candida Ali’ and ‘Excelsa’ cultivars may be obtained from UASVM Cluj-Napoca, by addressing requests to Maria Cantor at the Department of Floriculture, room 91.

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