

STUDIES CONCERNING A NEW ASSORTMENT OF *GLADIOLUS HYBRIDUS* IN U.S.A.M.V. CLUJ-NAPOCA COLLECTION

STUDII PRIVIND UN NOU SORTIMENT LA *GLADIOLUS HYBRIDUS* ÎN COLECȚIA U.Ș.A.M.V. CLUJ-NAPOCA

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Abstract: *In Romania, Gladiolus is grown extensively as are commercial crop, as cut flowers and also are used as landscape plants. Researching activity for diversification of Gladiolus assortment by introducing of the new foreign Gladiolus cultivars is one of the objectives of the Floricultural Department at the University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca.*

In this paper was studied the main morphological characteristics of ten new Gladiolus cultivars which was received from the firm Peeters Enterprises, Ontario, Canada.

Rezumat: *Activitatea de cercetare privind diversificarea sortimentului la specia Gladiolus hybridus, prin introducerea în colecția didactică a celor mai noi soiuri românești și străine reprezintă unul din obiectivele Disciplinei de Floricultură de la USAMV Cluj-Napoca. Lucrarea de față prezintă principalele caracteristici morfo-decorative la 10 soiuri noi de gladiole care au fost primite de la firma Peeters Enterprises, Ontario – Canada, urmând ca cele mai valoroase să fie recomandate în producție sau utilizate ca material biologic în lucrările de ameliorare.*

MATERIALS AND METHODS

The new *Gladiolus* varieties subject to research in our labs during 2003-2005 periods, were received from the firm Peeters Enterprises, Ontario, Canada. There are 10 Canadian *Gladiolus* varieties: *Perth Pearl, Huron Lady, Silver Green, Huron Darkness, Stephanie, Liena, Rover, Loulou, Early Riser and Yellow Dragon*.

These were observed in our Transylvanian behaviors and recorded for the following characteristics: blooming time, color of florets, plant height, spike length, number of florets per spike, media florets diameter and number of florets open in the same time.

The varieties were compared with the Romanian cultivar *Speranta*. The observations were made for 20 plants from each variety.

Data obtained were statistical interpretation. The results were calculated and analyzed, using the standard deviation and the coefficient of variability for each characteristic of the plants.

RESULTS AND DISCUSSION

* *Color of florets*

The cultivars studied have a rich range of colors from white (*Huron Lady, Perth Pearl*), salmon (*Loulou*), purple rose (*Early Riser*), red (*Rover*) to lavender (*Liena*). The varieties with various stripped or different colors on lip petals or midribs are completing the range of the colors (*Liena, Stephanie, Yellow Dragon*). There is a large variation of varieties regarding the color intensity and clarity.

Table 1

Colours and other characteristics of the flowers

<i>Variety</i>	<i>Colour</i>	<i>Characteristics</i>
<i>Yellow Dragon</i>	yellow with red blotches on lower petals	- the petals gives us the impression of a dragon's fiery mouth; - very good health and propagation;
<i>Perth Pearl</i>	clean creamy white, ruffled florets	- good flower head length with very good mechanics; - extremely healthy and easy propagator;
<i>Huron Lady</i>	pure white clean white stamens, lightly ruffled	- ramrod straight spikes and stiff stems attributes to this well standing glad; - flowerheads are florets superior formal placement;
<i>Silver Green</i>	the name of this one describes the colour explicitly	- very simply ruffled florets; - very straight, consistent and the good propagator of beautiful healthy corms;
<i>Huron Darkness</i>	very dark red, stays almost black until florets are open	- extremely healthy, nice dark foliage and a prolific propagator of beautiful corms and cornels;
<i>Stephanie</i>	a real eye catcher, this punchy purple with sharp contrasting white center	- a nice addition to it's colour class; - can make an excellent show spike;
<i>Liena</i>	vibrant lavender with prominent white blotch	- good formal and balanced placement, nice ruffling; - has vigorous green foliage;
<i>Rover</i>	striking rose-red	- excellent green foliage and heat tolerant; - can be an excellent commercial variety for early in the season;
<i>Loulou</i>	salmon that has creamy throat with cherry lines, beautiful ruffled	- very formal placement and self dresser; - the spikes are borne on green healthy foliage;
<i>Early Riser</i>	purple rose has deeper rose and white midribs on the center	- very early and is a pleasure to grow; - impeccable cutflower and very healthy;
<i>Speranța</i>	move - cyclamen with light yellow throat	- Romanian variety, extremely unique colour; - beautiful placement of florets; - superior cut flower and corm producer.

* *Blooming time (days)*

It is a very important to know the blooming time of the cultivars for echelon the flowering on this species on a longer period.

The majority of Canadian *Gladiolus* varieties need for blooming over 100 days. Bloom early and very early: Rover (69 days), Yellow Dragon (85 days), and Early Riser (74 days). Varieties Stephanie blooming late after 118 days, also Liena after 126 days.

* *Plant height*

The varieties Stephanie and Huron Lady are the most vigorous ones; over 120 cm, while varieties Rover and Early Riser are with less vigorous, less than 95 cm. Analyzing this characteristic we can conclude that the varieties with less vigorous can be attractive for use for landscape and gardening in Romania because here exist a few small *Gladiolus* varieties.

Table 2

Quality indices of Canadian *Gladiolus* varieties

Variety		Plant height - cm -	Spike length - cm -	No. florets/spike	Floret's size - cm -	No flower open	Blooming time - days -
Yellow Dragon	M	120***	82.00	21*	13.00	7.00	85 ⁰⁰⁰
	s	5.16	3.56	6.88	4.16	4.97	4.40
	s%	4.30	4.34	32.76	32.03	70.95	5.17
Perth Pearl	M	115.00	75.00	17.00	13.00	6.00	100.00
	s	4.40	4.76	3.65	1.83	3.46	4.24
	s%	3.82	6.35	21.48	14.04	57.74	4.24
Huron Lady	M	121***	79**	28***	12.00	9 ^{***}	92 ⁰⁰⁰
	s	3.37	5.72	1.41	8.16	2.58	2.94
	s%	2.78	7.23	4.71	68.04	36.89	3.20
Silver Green	M	118**	78.00	25**	13.00	8*	104.00
	s	3.92	1.83	3.16	4.08	3.65	4.55
	s%	3.32	2.34	12.65	31.40	45.64	4.37
Huron Darkness	M	98 ⁰⁰⁰	61 ⁰⁰⁰	22*	10.00	8*	107.00
	s	1.83	2.94	4.08	1.83	4.16	3.92
	s%	1.86	4.83	18.56	18.26	52.04	3.66
Stephanie	M	124***	92***	20.00	12.00	7.00	118***
	s	3.65	4.08	2.16	3.37	3.65	2.58
	s%	2.94	4.44	10.80	28.05	52.16	2.19
Liena	M	112.00	76.00	22*	11.00	6.00	126***
	s	4.83	5.16	8.16	1.83	2.58	3.37
	s%	4.31	6.79	37.11	16.60	43.03	2.67
Rover	M	95 ⁰⁰⁰	64 ⁰⁰⁰	13.00	9.00	6.00	69 ⁰⁰⁰
	s	2.58	3.74	4.97	1.83	3.65	2.16
	s%	2.72	5.85	38.20	20.29	60.86	2.35
Loulou	M	115.00	77.00	26**	12.00	7.00	113**
	s	2.58	3.16	9.35	4.40	4.16	4.16
	s%	2.25	4.11	35.94	36.64	59.48	3.68
Early Riser	M	95 ⁰⁰⁰	68 ⁰⁰⁰	15.00	10.00	5.00	74 ⁰⁰⁰
	s	1.83	2.58	5.48	4.76	3.16	3.37
	s%	1.92	3.80	36.51	47.61	63.25	3.78
Speranta Mt	M	110.00	79.00	13.00	13.00	6.00	105.00
	s	4.40	5.72	4.40	4.08	4.76	4.08
	s%	4.00	7.23	33.82	31.40	79.35	3.89
DL_5% =		5.07	5.05	7.33	5.58	1.55	5.47
DL_1% =		6.83	6.80	9.88	7.52	2.09	7.37
DL_0.1%=		9.07	9.03	13.11	9.98	2.78	9.79

* *Spike Length*

For cut flower it is very important to obtain varieties with long, rigid spike and that will conserve its elasticity characteristic during the storing.

The spike length has between 61 cm (Huron Darkness) to 92 cm (Stephanie). This property it is very important for cut flower and the vigorous cultivars would make an exceptional cut flower for exhibition, good for marketing, terrific arrangements and corsages.

* *Number of florets*

The varieties under study show a between 13 up to 28 florets per spike. We should mention the varieties, which are more florets per spike: Huron Lady (28 buds), and Loulou (26 buds). The majority of Canadian varieties have more florets than Romanian varieties. Generally the florets have a good placement and attachment and can make nice show spikes with commercial attributes.

CONCLUSIONS

* These varieties can be used primarily for viewing where planted, in the cutting garden. They are very attractive, are very good qualities, very lovely and would blend beautifully or accent perennial garden, landscape, especially the miniatures (Early Riser, Rover, Huron Darkness).

* They can be special cut flower for any occasions or make beautiful in the vase (Stephanie, Silver Green, Huron Lady, Loulou).

* Most of them have a color very unique, beautifully sculptured recommended for show and excellent commercial glads (Liena, Yellow Dragon, Stephanie, Loulou).

* The most representative of this Canadian *Gladiolus* varieties can be also use in our future breeding program as parents for hybridizing.

* The variation coefficient for all these varieties is not significant for plant height, spike length and blooming time.

* For the others characteristic studied the variation was medium to very high for the majority varieties.

* The coefficient of variability shows the modality of transmission of these characters to descendants.

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