

## Varieties of roses of the thea group used in landscaping in Timisoara and their morphological behaviours

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**Abstract** For over 5,000 years, rose and chrysanthemum have been the favourite flowers in Japan and China. Rose, known from times immemorial, is present, nowadays, in almost all of our gardens. About 400 rose species are known, of which over 200 originate in the northern hemisphere, together with an impressive number of rose cultivars – about 20,000. The features of this flower consist in its particular beauty, in its wide range of colours (from white to different shades of cream, pink, yellow, orange, red, and even purple and blue). Due to these considerations, we have carried out a trial for two years (2011 and 2012) in the open in the climate conditions of the Municipality of Timișoara.

### Key words

rose, cultivar, cut, morphology, observations

The first civilised peoples that used roses to decorate their parks and gardens were the peoples of Near East (Persia and Syria), Far East (India, China, and Japan), and the Mediterranean (Italy and Greece) (*Stelian Popesc, 1986*).

Around the year 500 BC, the Chinese Confucius wrote about the roses cultivated in the Imperial Gardens and mentioned a library containing hundreds of books on rose cultivation (*Ehart Haenchen, 2005*).

In Europe, one of the first proofs attesting the presence of roses is a fresco in the Palace of King Minos in Knossos (Crete), representing a 16-petal rose (*Șt. Wagner, 2002*).

Arpad Muhle (1920-1930) in Timișoara and R. Palocsay (1935-1960) in Cluj are among those who made an important contribution to improving roses in Romania. (*Șt. Wagner, 2002*).

Rose flowers have various forms: they are segmented, shapeless, rosette-like, cup-shaped, or flat. The genus contains hundreds of cultivars and varieties. The colours vary from white to different shades of cream, yellow, pink, orange, red, purple and even bi-colour (yellow with pink margins, white spotted with pink, cream and red-orange) (*Șt. Wagner, 2010*).

### Material and Method

For our trial, we have chosen to analyse the behaviour of 10 rose cultivars from the point of view of their cutting method and the impact of cutting methods on their morphological features. The trial was carried

out over two years (2011 and 2012) in the open, in the climate conditions of the Municipality of Timișoara. The rose cultivars we studied are Barkarole, Ambassador, Golden Elegance, Acapella, Pascali, Mainzner Fastnacht, Madona, Doamna în mov, Imperatrice Farah, and Double Delight. We measured the floral stem length, the floral bud diameter, and the flower diameter. The roses were planted 0.5 m far from one another, at a row distance of 0.7 m. At the end of March – beginning of April, we cut the roses above the second, fifth and seventh leaf buds. During vegetation, we did the current maintenance works: digging, cutting shoots, applying phyto-sanitary treatments, and watering.

Measurements were made in 15 plants per cultivar and data were calculated and statistically processed through the variance analysis method.

### Results and Discussions

According to Table 1, cutting the floral stem above the second leaf bud resulted in very significant positive differences in the Barkarole rose cultivar compared to the control (the control represented the average of the trial). In the Golden Elegance rose cultivar, the differences were significantly positive. In the Doamna în mov and Double Delight rose cultivars, the differences were distinctly significant negative. There was a significant negative difference in the Mainzner Fastnacht rose cultivar. There was no significance at all in the Pascali, Acapella, Madona and Imperatrice Farah rose cultivars.

Table 1

Impact of cutting type on flower stem length (above the second leaf bud) (cm)

Nr. crt.	Cultivar	Cutting types at 2 buds						
		R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	average	%	diffrence	significance
1	Barkarole	125	130	105	120	140.90	34.83	***
2	Pascali	80	85	70	78.33	91.97	-6.83	-
3	Acapella	95	90	100	95	111.54	9.83	-
4	Golden elegance	115	105	95	105	123.28	19.83	*
5	Ambasador	110	115	90	105	123.28	19.83	*
6	Maizner Fastnacht	80	70	55	68.33	80.23	-16.83	0
7	Madona	75	90	80	81.66	95.89	-3.5	-
8	Doamna in mov	70	55	50	58.33	68.49	-26.83	00
9	Imperatrice Farah	70	80	90	80	93.93	-5.16	-
10	Double delight	70	60	50	60	70.45	-25.16	00
11	The control	89	88	78.5	85.16	100	mt	mt
DL5% 14.96		DL1% 20.52			DL0.1% 27.93			

Table 2

Impact of cutting type on flower stem length (above the fifth leaf bud) (cm)

Nr.crt.	Cultivar	Cutting types at 5 buds						
		R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	average	%	diffrence	significance
1	Barkarole	95	92	93	93.33	125.05	18.7	***
2	Pascali	70	72	73	71.66	96.02	-2.96	-
3	Acapella	89	92	95	92	123.26	17.36	***
4	Golden elegance	96	98	95	96.33	129.07	21.7	***
5	Ambasador	95	93	92	93.33	125.05	18.7	***
6	Maizner Fastnacht	60	57	62	59.66	79.94	-14.96	000
7	Madona	68	70	67	68.33	91.55	-6.3	0
8	Doamna in mov	49	47	48	48	64.31	-26.63	000
9	Imperatrice Farah	70	73	78	73.66	98.70	-0.96	-
10	Double delight	50	55	45	50	66.99	-24.63	000
11	The control	74.2	74.9	74.8	74.63	mt	mt	
DL5% 4.70		DL1% 6.45			DL0.1% 8.87			

When cutting the rose stem above the fifth leaf bud, we could notice the following compared to the average of the 10 rose cultivars: in the Barkarole, Acapella, Golden Elegance and Ambasador rose cultivars, the differences were very significantly positive. In the Mainzner Fastnacht, Doamna în mov

and Double Delight rose cultivars, the differences were very significantly negative. The Madona rose cultivar had significantly negative differences, and there was no significance in the Pascali and Imperatrice Farah rose cultivars.

Table 3

Impact of cutting type on flower stem length (above the seventh leaf bud) (cm)

Nr.crt.	Cultivar	Cutting types at 7 buds						
		R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	average	%	diffrence	significance
1	Barkarole	70	60	75	68.33	101.93	1.3	-
2	Pascali	60	65	67	64	95.47	-3.03	-
3	Acapella	80	85	87	84	125.31	16.96	***
4	Golden elegance	90	93	95	92.66	138.23	25.63	***
5	Ambasador	80	82	85	82.33	122.82	15.3	***
6	Maizner Fastnacht	40	45	45	43.33	64.64	-23.7	000
7	Madona	65	70	72	69	102.93	1.96	-
8	Doamna in mov	40	40	45	41.66	62.15	-25.36	000
9	Imperatrice Farah	80	70	75	75	111.88	7.96	*
10	Double delight	40	60	50	50	74.58	-17.03	000
11	The control	64.5	67	69.6	67.03	mt	mt	
DL5% 7.65		DL1% 10.50			DL0.1% 14.29			

According to the data recorded when cutting above the seventh leaf bud, we could notice the following significances: in the Acapella, Golden Elegance and Ambassador rose cultivars, the difference

was significantly positive. In the Mainzner Fastnacht, Doamna în mov and Double Delight there were very significantly negative differences, and in the Barkarole, Pascali and Madona rose cultivars was no significance.

## Conclusions

Table 4

Results concerning the behaviour of rose cultivars in the three cutting methods

Nr.crt	Cultivar	Significance 2 buds	Significance 5 buds	Significance 7 buds
1	Barkarole	***	***	-
2	Pascali	-	-	-
3	Acapella	-	***	***
4	Golden elegance	*	***	***
5	Ambasador	*	***	***
6	Mainzner Fastnacht	0	000	000
7	Madona	-	0	-
8	Doamna in mov	00	000	000
9	Imperatrice Farah	-	-	*
10	Double delight	00	000	000

Analysing data recorded after the cuttings in the 10 rose cultivars we studied (above the second, fifth and seventh leaf bud), we can draw the conclusion that cutting above the fifth leaf bud resulted in the most numerous very significantly positive differences (Table 4). Therefore, we recommend this type of cutting for the roses of the Thea group planted in the climate conditions of Timișoara.

In the Barkarole rose cultivar, cuttings can also be done above the second leaf bud. In the Acapella, Golden Elegance and Ambassador rose cultivars, we also recommend cutting above the seventh leaf bud, since it has a very significantly positive impact on the floral stem length.

We recommend these types of cutting to get the longest floral stems possible. These rose cultivars can be used as protection belt along traffic roads and as decoration.

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