






















**Table S1.** Morphological and horticultural characteristics of rose genotypes used in cryopreservation studies.

Character description	<i>Rosa x hybrida</i> (L.) genotypes		
	'Ioana'	'Mariana'	'Vulcan'
			
Plant habitus	upright	upright	upright
Plant height (cm)	91 ± 1.52a*	90 ± 1.55a	79.6 ± 1.62b
Young shoot (20 cm in length)	strong	strong	medium
Leaf length/color	medium/medium	high/intense	high/intense
Leaflet: undulation of margin	weak	strong	strong
Leaflet transversal section	slightly concave	slightly concave	straight
	weak	strong	strong
Glossiness of the upper surface of the leaf			
	curved/curved	curved/curved	curved/curved
Thorn shape at top/base			
Number of short thorns (length<5 mm)	small	small	very high
Number of long thorns (length>5 mm)	medium	medium	medium
Flowering shoots (number of flowers)	medium (5)	medium (5)	very high (9)

			
Flowering	early blooming; flowering period 104 days	early blooming; flowering period 96 days	late blooming; flowering period 87 days
	small	small	medium
Flower peduncle (number of hairs or thorns)			
	ovoid	ovoid	globose
Floral bud			
	semi-double	double	double
Inflorescence type			
Corolla shape	irregularly rounded	irregularly rounded	irregularly rounded
Flower color	white	pink	red
Diameter of flowers (cm)	$10.3 \pm 1.74a$	$11.6 \pm 1.52a$	$7.8 \pm 1.83b$
Number of petals/flower	$20 \pm 1.55b$	$35 \pm 1.73a$	$34.4 \pm 2.15a$

Petals size/shape	medium/obovate	high/obovate	medium/round
Sepals	short	medium	medium
Stamen (predominant color of filament)	pink	pink	yellow
Style (size/color)	medium/green-yellow	medium/green-yellow	medium/green-yellow

\*Values represent means  $\pm$  standard deviation (SD); Values followed by the same letter within a row are not significantly different ( $P \leq 0.05$ ).