

Lilies are the most important specialty cut flower grown in the United States. In 2015 the value of cut lilies was over \$60 million. Considering their value and importance to so many growers, in 2016 the ASCFG coordinated a trial of lily cultivars in cooperation with Zabo Plants and Our American Roots.

Large-scale production of cut lilies is usually accomplished in heated greenhouses using bulb crates. However, many small-scale producers grow in high tunnels, either in the ground or in crates, and some growers produce lilies in the field. In this program, most of the trialers grew the lilies in high tunnels. However, NC State University grew their lilies in a heated greenhouse, and two of the trialers grew the lilies in the field. At NC State, we also planted the bulbs in the field after harvest. We have heard that some growers do this and wanted to see for ourselves how the practice works, and then collect data. We will report on this method in the future.

Of the 23 cultivars from two companies, the top-ranked cultivars were 'Francesca', 'Garnacha', 'Logan', 'Paramillo', and 'Revello', based on the combined ratings score: market appreciation + repeat again + ease of cultivation. Not only will these cultivars be nominated for the ASCFG Cut Flower of the Year, but they are a great place to start talking about the results of the Trial.

'Francesca' produced beautiful rosy pink flowers on 33-inch stems. Bud count was relatively low, 2.5, for single-stem or florist sales, but flowers were great for bouquets. This LA hybrid flowered an average of 80 days from planting. Note that the crop time was an average of the relatively fast flowering in the greenhouse and the slower flowering in the field; see table for the range in crop times.

The LA 'Garnacha' was noted by participants for its rich red color and very large flowers. Stems averaged 36 inches long with a little over three buds per stem. It was one of the last cultivars to flower.

'Logan' had a relatively high bud count, averaging a little over four per 38-inch stem. The creamy white flower of this LA hybrid had a few burgundy specks at the base of the petals.

'Obvio' had a lightly sweet fragrance on a nice-sized white bloom, all were ready to harvest on the same day, that was nice.

The golden-yellow flowers of 'Paramillo' were very large. Buds counts averaged 2.4 on 39-inch stems. This LA hybrid flowered an average of 88 days from planting.

One trialer remarked about the "stunning orange flowers" of the LA hybrid 'Revello'. Stems averaged close to three buds each and were about 42 inches long.

Other notable cultivars include 'Vierne', which had the highest bud count in the trial, almost five per stem. The flowers were white and stems averaged 35 inches long. 'Paciano' had the second highest bud count, close to 5 per stem, and the longest stems in the trial. Petals were a beautiful

soft pink. 'Royal Sunset' is well named as one trialer noted that "the colors definitely remind me of the colors of a sunset". Stems had close to four buds each and flowered relatively quickly in 79 days.

Interpreting the trial results: The numbers reported are averages of all the respondents and many factors will affect the success of any plant species. Our participants grow and harvest trial plants using several methods. After looking at the average, check the range of responses listed below each number to see how the cultivar performed at its best and its worst. If the range of responses in the ratings is nar-



'Pedara'

Photos by Tanis Clifton



row and high, i.e., 3-5 or 4-5, the plant was a winner for most of the respondents and is likely to do well for you. The 'Repeat Again Rating' is particularly important because it indicates if the trialer would take the time, money, and space to actually grow the cultivar again. Review the trial results carefully. If a variety sounds interesting, but did not appear to do well, try it anyway; it may work well for you.

Acknowledgments: A major thank you to each of the seven evaluators who returned their trial reports. The Lily Trial was more involved than our typical Seed Trial, and we greatly appreciate the time and energy of the trialers. We also want to thank Zabo Plants and Our American Roots for providing such great cultivars. Congratulations to Tanis Clifton for being the first trialer to return her evaluations! We would also like to thank Nathan Jahnke, Ben Bergmann, and Peyton Daly for assisting with the NCSU trials. In preparing the report we did a bit of editing of the comments for space and clarity; our apologies if we've altered the tone or content of anyone's comments.

Participating Companies

Zabo Plant

Pittsburgh, Pennsylvania www.zaboplant.com

Our American Roots

Woodland, Washington www.americanlilies.com

Participating Trialers and Production Information

Emily Capule

The Honey Bee and the Hound, Corpus Christi, Texas

Planted Zabo lilies March 13 and Our American Roots lilies April 15 in the field.

Tanis Clifton

Happy Trails Flower Farm, Dennis, Mississippi

Planted Zabo lilies March 14 and Our American Roots lilies April 10 in a high tunnel. Temperatures were average, but did reach 100 a couple of times in early June in the high tunnel. Shade cover installed May 31. All lilies were planted in crates in our own soil mixture of composted bark mulch, sand, and sphagnum peat moss. Lilies were planted, then stored in the cooler at 50 degrees for 3 weeks, to establish roots before placing into the high tunnel.

Thea Folls

Folls Flower Farm, Auburn, New York

Planted Zabo lilies March 15 and Our American Roots lilies April 17 in the field.

Jim Kelly

Emerald Farm, Glen Cove, New York

Planted Zabo lilies March 15 and Our American Roots lilies April 8 in the field.

Ingram McCall and John Dole

North Carolina State University, Raleigh, North Carolina

Planted Zabo lilies March 10 and Our American Roots lilies April 7 in a greenhouse.

Kathryn Klotzbach

Flower Fields Forever, Lyndonville, New York

Planted Zabo lilies March 16 and Our American Root lilies April 7 in a high tunnel.

Quinton Tschetter

Tschetter Flowers, Oskaloosa, Iowa

Planted Zabo lilies March 12 and Our American Root lilies April 6 in a high tunnel.

Paula Rice

BeeHaven Flower Farm, Bonners Ferry, Idaho

Planted Zabo lilies March 11 in a high tunnel in crates and Our American Root lilies April 28 in the field.

Summary of Comments

Note: many respondents did not make specific comments on each cultivar and in a few cases, comments have been shortened because of limited space.

'Abrazo' (**Zabo Plant**) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.

Comments: This lily produced a fluorescent red flower with enormous blooms!; Nice deep rich jewel tone red, freckles with slight or deep in center, large plum buds, very fleshy feeling, even with the low bud count, still very usable and actually very manageable; Red with yellow throat—loved it.

'Canino' (Zabo Plant) LA hybrid. No bud drop or abortion reported by any trialers; one trialer reported leaf yellowing. *Comments:* This lily produced a beautifully-colored orange flower, I would grow again in a larger size bulb to get more buds, 1-2 buds is not acceptable for our purposes; I can always use fewer amounts of buds, especially in today's design work, often times the others just have too many, but for making florist bunches it doesn't work; Beautiful, good vase life, brilliant orange.

'Dolly Madison' (Our American Roots) Asiatic hybrid. Five out of seven trialers reported bud drop or abortion; two trialers reported leaf yellowing.

Comments: Only 20% of our stems did not have aborted buds, vase life was 8.5 days; This cultivar was a pretty pink with freckles, the shape reminded me of an Oriental lily, it was somewhat fragile and did not hold up as well as other lilies; May have planted too late in season—stems yellowed, barely produced buds; Beautiful clear, clean dark pink; Weak stems, small buds, beautiful.

'Eniac' (Zabo Plant) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.

Comments: Inconsistent bud formation from none to 4 buds, for this reason I would never grow this again; Super clear, clean orange; There was one plant with no blooms.

'Francesca' (Zabo Plant) LA hybrid. No bud drop or abortion reported by any trialers; one trialer reported leaf yellowing. *Comments:* Buds clustered close together and straight up, which is nice for bouquet work, but the bud count was too low

with only two buds, also, petals did not maintain a nice smooth texture in a vase, after only a few days they got a slight crinkled appearance like an aged bloom; Nice-sized blooms; Bulbs were sprouted when received.

'Garnacha' (Zabo Plant) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.



Comments: Deep rich color!! high bud count, super tall—the tallest of them all, very uniform and awesome all the way around, stood out among all the rest; A pure deep red, petals were slightly textured, kind of thick-like with a few freckles deep in the throat; Huge blooms, beautiful color.

'John Hancock' (Our American Roots) Asiatic hybrid. Two out of six trialers reported bud drop or abortion; two trialers reported leaf yellowing.

Comments: Lots of aborted buds, this cultivar had very weak stems, vase life was 8.5 days; This cultivar was beautiful and unusual with a deep burgundy splotch on each yellow petal, very interesting; Clients liked color combinations, secondary flowers held longer than 'Yellow Diamond'; May have planted too late in season—stems yellowed, barely produced buds; This is weird but this came up in mixed colors; Weak stems, sprawling.

'Logan' (Zabo Plant) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.

Comments: Nice creamy white color; Clients liked the "freckles"; Nice, smaller blooms.

'Meryl' (Our American Roots) Oriental lily. One trialer reported bud drop or abortion; one trialer reported leaf yellowing. *Comments:* Several stems had brown spots on the buds, vase life was 12 days; This cultivar is similar to a 'Stargazer' in ap-

'John Hancock' was beautiful and unusual with a deep burgundy splotch on each yellow petal, very interesting.





'Meryl' was late flowering...
like waiting for Godot; hot,
dry summer may have
contributed.

pearance, blooms are side facing which makes them easier to design with, farmers' market customers love this type of lily, but not enough market to grow Oriental lilies so would probably not grow it on a commercial scale, this cultivar got so tall that the stems bent, so they had to be staked; Late flowering... like waiting for Godot, hot, dry summer may have contributed, had to be staked which I rarely do; May have planted too late in season—stems yellowed, barely produced buds; Beautiful, large, customers loved them.

'Obvio' (Zabo Plant) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.

Comments: Slightly sweet fragrance on a nice-sized white bloom, all were ready to harvest on the same day, that was nice; Really nice and plump buds, clear cream color (could be called a cream or white) sporadic bud count, but I have many types of markets so can get away with that; There was one plant with no blooms; Unique bloom, large, good vase life.

'Paciano' (Zabo Plant) LA hybrid. No trialers reported bud drop or abortion; one trialer reported leaf yellowing.

Comments: Nice to have a lily with higher bud count than most of the others trialed; Super light pink with a few dark freckles, half bloomed early and half bloomed later; Splotchy colored flowers, 'Tsaijkovski' was far superior in my view; Excellent cut flower; Very strong stems, good bud count.

'Palentino' (**Zabo Plant**) LA hybrid. One trialer reported bud drop or abortion; one trialer reported leaf yellowing.

Comments: The blooms were enormous; Huge flowers, but stems collapsed in the wind, where most others did not; There was one plant with no buds; Deformed buds, good vase life though.

'Paramillo' (Zabo Plant) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.

Comments: Nice bright yellow color with black speckles and a slight fragrance, blooms were huge!, I would grow this one again; This was a beautiful jewel-toned yellow, very rich and nice and deep golden color, this one I tortured a bit as it was the furthest away and in a corner, so maybe other

trialers had more buds on average, I really like the color of this yellow; In general clients like "freckles" on otherwise solid color flowers; Loved the flower and petal shape, good; Nice yellow lily.

'Pedara' (Zabo Plant) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.

Comments: The most unusual white LA hybrid. It had a slight blush pink/coral undertone to the white bloom. Can't decide if I like it or if it looks like a washed-out white; Later blooming than other LAs, in general, I avoid white varieties due to staining; Lovely peach turns to white.

'Ravello' (Zabo Plant) LA hybrid. No bud drop or leaf yellowing reported by any trialers.

Comments: Very uniform, pretty much all the same; Stunning orange flowers, but good number flopped over; Rich color, good vase life vibrant; Just average to small size bloom, standard orange color.

'Rokanje' (Zabo Plant) LA hybrid. No bud drop or abortion or leaf yellowing reported by any trialers.

Comments: All the bud counts were either 3 or 5; Smaller white bloom than most LA hybrids I've grown, nice bud count though; Whites are difficult to bring to market; Very nice; Large buds, beautiful pure white.

'Royal Sunset' (Our American Roots) LA hybrid. One trialer reported bud drop or abortion; two out of seven trialers reported leaf yellowing.

Comments: Vase life was 10.5 days; The colors definitely reminded me of the colors of a sunset, perfect name, I like this cultivar but the petals seem somewhat fragile; Have grown for years, originally thought it might be too radical for my customers, but they loved them; I love this lily; May have planted too late in season—stems yellowed, barely produced buds; I'm not sure what may have different about this 'Royal Sunset' but it was so much more vibrant than any 'Royal Sunset' I have grown before, it amazed me; Customers loved it, but it was not as strong as past years that we have grown it.

'Sorbonne' (Our American Roots) Oriental hybrid. One trialer reported bud drop or abortion; one trialer reported leaf yellowing. *Comments:* This cultivar is similar to 'Stargazer' in appearance, blooms are downward facing which makes it difficult to design with, farmers' market customers love this type of lily, but not enough

I'm not sure what may have different about this 'Royal Sunset' but it was so much more vibrant than any 'Royal Sunset' I have grown before, it amazed me.

market to grow Oriental lilies so would probably not grow it on a commercial scale; Beautiful color and markings, customers liked it; Vase life was 10 days; I always grow, very pretty pink variety, standard for florists with "pink" clients; May have planted too late in season—stems yellowed, barely produced buds.

'Sweet Desire' (**Zabo Plant**) LA hybrid. One trialer reported bud drop or abortion; two out of six trialers reported leaf yellowing. *Comments:* The blooms opened cream with burgundy speckles, then changed to more of a creamy yellow in the cooler, pretty unique color, people either loved it or did not care for it; Huge flowers, but stems could not support them in a breeze or wind; There were two plants that did not produce buds; Good vase life, customers loved it, speckled.

'Tayrona' (Zabo Plant) LA hybrid. One trialer reported bud drop or abortion; one trialer reported leaf yellowing. *Comments:* The blooms were huge; Beautiful large white, simple yet striking.

'Tsjaikovski' (**Zabo Plant**) LA hybrid. One trialer reported bud drop or abortion; one trialer reported leaf yellowing.

Comments: This pink lily was inconsistent in bud count, also experienced bud abortion on a few stems, for this reason I would not grow this one again; Nice compact heads; Petals shattered easily; Best pink variety in the LA group; Pastel, maybe too light, used in a wedding and the customer loved it.

'Vierne' (Zabo Plant) LA hybrid. No trialers reported bud drop or abortion; two out of six trialers reported leaf yellowing. *Comments:* The bloom was on the small side and a basic white, no wow factor; Customers like freckles, one very short stem; Beautiful but opened too quickly.

'Yellow Diamond' (Our American Roots) LA hybrid. Four out of six trialers reported bud drop or abortion; one trialer reported leaf yellowing.

Comments: Vase life was 7.5 days; Nothing special about this yellow lily and inconsistent bud development will deter me from growing this cultivar; 'John Hancock' was superior in many ways; This was the only variety from Our American Roots to perform; Nice.



Trial Results for lilies. First row of data for each cultivar is the average and the second row is the range of responses. Note when only one response is listed in the range line, several trialers responded and all gave the same rating.

								Ratings ² _	
Cultivar	Days to 1st flower 1	Days to last flower 1	Low bud count	High bud count	Average bud count	Stem length (in.)	Market appreciation	Ease of cultivation	Grow again
'Abrazo'	86	92	2.1	3.4	2.6	32	3.8	4.7	3.5
	61-106	63-116	2-3	3-5	2-4	23-43	2-5	4-5	1-5
'Canino'	79	85	1.0	3.2	1.9	37	3.7	4.8	3.0
	52-101	56-110	1-1	2-4	2	30-40	2-5	4-5	1-5
'Dolly Madison'	' 80	85	3.0	6.0	4.6	32	3.5	4.0	3.6
	60-103	64-110	1-5	2-9	2-7	24-38	1-5	1-5	1-5
Eniac'	88	92	2.8	4.7	3.7	42	5.0	4.8	4.0
	55-110	56-116	0-5	3-7	2-6	33-55	5-5	4-5	1-5
Francesca'	80	85	1.9	3.6	2.5	33	4.8	5.0	4.2
	52-101	52-110	1-2	2-5	2-4	24-36	4-5	5	3-5
'Garnacha'	88	94	2.0	4.7	3.2	36	5.0	5.0	4.8
	55-106	57-121	1-4	3-7	2-6	24-50	5	5	4-5
John Hancock'		80	2.0	4.1	3.1	35	3.8	3.8	4.0
	62-88	69-89	0-3	0-7	0-5	24-48	1-5	1-5	1-5
'Logan'	87	92	2.9	5.3	4.2	38	4.8	4.8	4.7
	55-108	57-116	2-4	3-7	3-5	30-50	4-5	4-5	3-5
'Meryl'	98	103	2.3	5.1	3.6	40	3.8	3.7	3.2
	78-114	83-120	1-4	2-7	2-6	24-50	1-5	1-5	1-5
'Obvio'	91	97	2.0	5.2	3.6	37	4.3	5.0	4.4
	67-109	74-116	0-3	4-6	3-4	33-45	3-5	5	3-5
'Paciano'	86	91	3.9	5.9	5.0	42	4.3	4.8	4.2
	71-103	74-116	2-5	4-7	4-6	33-53	2-5	4-5	1-5
Palentino'	79	84	2.5	5.0	3.8	38	4.0	4.4	3.6
	52-98	54-103	0-3	4-7	3-5	28-47	3-5	3-5	1-5
Paramillo'	88	92	1.5	3.1	2.4	39	5.0	4.9	4.6
	52-111	56-116	1-2	3-4	2-3	32-53	5	4-5	3-5
Pedara'	86	90	2.5	3.7	3.0	42	4.3	4.8	4.2
	52-104	56-111	2-3	3-5	2-4	33-54	3-5	4-5	3-5
'Ravello'	82	86	2.6	4.6	3.8	35	5.0	4.8	4.3
	55-97	59-101	2-3	4-5	3-5	26-53	5	4-5	3-5
'Rokanje'	84	89	2.8	5.3	4.2	34	4.4	4.9	3.9
	52-107	56-112	2-4	5-7	3-6	30-40	4-5	4-5	2-5
'Royal Sunset'	79	86	2.1	5.6	3.8	31	4.2	4.1	4.0
	62-88	71-96	1-4	2-7	2-6	24-40	1-5	1-5	1-5
'Sorbonne'	82	90	1.7	4.3	3.8	35	3.8	3.8	3.6
	69-95	74-108	0-5	0-7	2-5	24-48	1-5	1-5	1-5
'Sweet Desire' 'Tayrona'	76	80	2.0	4.5	3.2	36	4.0	4.8	3.6
	52-96	56-96	0-3	3-5	3-4	29-44	3-5	4-5	1-5
	82	85	2.0	3.3	2.6	35	4.0	4.8	3.8
	61-98	61-104	1-3	3-5	2-3	28-51	3-5	4-5	2-5
Tsjaikovski'	84	89	2.3	5.1	3.8	41	4.5	4.8	4.0
	61-101	61-112	1-3	4-7	3-5	33-52	3-5	4-5	1-5
Vierne'	81	87	3.7	5.5	5.1	35	4.7	4.8	3.8
	94-96	63-110	2-6	5-7	4-7	26-49	4-5	4-5	2-5
Yellow	65	71	2.4	5.7	3.9	32	3.3	4.2	2.8
Diamond'	43-81	43-88	1-3	4-7	3-5	24-41	2-5	3-5	1-5

¹Crop time varied greatly since the plants were grown in a broad range of environments from heated greenhouse to high tunnels to field.

²1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesalers, retailers or final consumers.