



Pacific Plug & Liner's gerbera trial provided a fair, unbiased production presentation of a seed-grown crop.

Production trial sheds light on most uniform gerbera series

By Gary Vollmer and Alex Iniakov

Gerbera trials at Pacific Plug & Liner in Watsonville, Calif., began as an idea from the production staff as something that could be done for our April open house. PP&L is a producer of a diverse variety of seed and vegetative material, including annuals, herbs and perennials.

The purpose of the gerbera trial was to provide a fair, unbiased production demonstration of seed-grown crops. We wanted to gain

information for our internal use as well as provide open house visitors with trial results.

Gerbera is a high-value crop and is very diverse from series to series. We conducted a high-density, 4-inch pot trial because this container size represents the largest and fastest-growing segment of the gerbera market.

Trial criteria

With the goal of doing high-density, 4-inch production, we selected

specific parameters to judge trialed varieties. To simplify the trial we grew series mixes. This enabled us to compare time to flower between series as well as separate colors within each series. The second parameter compared plant habit — both foliage and flower height. The third parameter compared flower form and color. The fourth parameter compared the overall appearance of each series,

series should definitely be a consideration for growers who only do a mix.

Plant shape and vigor

Rather than allowing the plants to grow naturally, the decision was made to apply a plant growth regulator (B-Nine) to match the culture most growers would use to finish a gerbera crop. B-Nine may have had some effect on flowering timing and

This year's gerbera trial at Pacific Plug & Liner helped its production staff identify the best series for high-density, 4-inch production.

including color mix and all of the other parameters combined.

The series in the trial were Festival Dark Eye Mix, Festival Grower Select Mix, Fortune Mix, Hummingbird Mix, Jaguar Mix, Living Color Mix, Revolution Formula Mix, Samurai Mix and straight colors in the Royal series. Plantings were done during weeks 3, 4 and 5.

Not all of the series made all of the sow dates. Hummingbird Mix and Samurai Mix were produced from only second and third sowings. The Royal series was produced only in the last sowing and plants came to us from another grower as 128 plugs grown on the same schedule we used for the other series.

Each crop was started from six-week-old 128 plugs that had received 18 hours of light. The plants were grown in one greenhouse bay with all of the same inputs except for growth regulator applications.

B-Nine was applied to some of the plants at rates of 1,000 and 1,500 parts per million.

Flowering differences

Across all of the series for all three plantings, the red cultivars were the first to flower. This is a trend we have observed for several years, which makes it difficult to put together a balanced color mix.

As far as timing, the clear winner was the Royal series. The series exhibited a little variance in bloom time color by color, but it was far less than any other series.

Jaguar Mix clearly had most of its colors flower simultaneously. This

other characteristics. Rates of 1,000 and 1,500 ppm were used and the applications were repeated as the grower deemed necessary.

The series with the most uniform plants was Jaguar Mix. Overall plant shape and flower height of this mix were the best of all the series.

The Royals also were more uniform than most of the other series' mixes. Looking at the blocks of Royal straight colors was not the same as looking at the mixes, but the Royal plants were very close to the Jaguars in uniformity. The other advantage of the Royals and Jaguars was that they stayed uniform with little or no need for growth regulator treatment.

Fortune Mix required more growth regulator, but the result was a nice uniform crop at finish. Some colors in the Fortune series are more compact or sensitive to B-Nine, which caused some height variability at finish.

Revolution Mix also presented a uniform crop at finish with an even plant habit throughout the production cycle.

Samurai Mix required no growth regulator and displayed a nice tight leaf habit, but its plants showed some variability in flower height. This may be helped with a low-rate growth regulator application.

Living Color Mix required more growth regulator applications than any other series. Even with three B-Nine applications at 1,500 ppm, the plants were large with some variability in flower height.

The Festivals have a larger than average leaf size that could be a



The production staff selected Royal as best-performing series.



Jaguar is an excellent series that is easy to grow, early to flower and uniform in flower color and height.



Samurai Mix required no growth regulator and had a nice tight leaf habit. Its variability in flower height might be helped by a light growth regulator application.

Series comparisons

Earliest series to flower	Comments
Royal (separate colors)	Plants were grown in the last planting and flowered with some of the earliest varieties from the first planting. The Royals were also more uniform to flower within the colors than most of the other series.
Jaguar Mix	This series flowered more uniformly from color to color.
Samurai Mix	There was a bit more of a spread from color to color in this series than either the Royals or Jaguars.
Fortune Mix, Revolution Formula Mix	Our biggest concern about the Fortune and Revolution series is how early the red and rose colors were compared to the rest of the colors.
Living Color Mix	
Festival Dark Eye Mix, Festival Grower Select Mix	The Dark Eye Mix was slightly earlier than the Grower Select Mix.
Hummingbird Mix	This series was about 1 week later than the average time to flower, and about two weeks behind the Royals.

problem in high-density production, but overall plants were uniform.

Hummingbird Mix has large leaves and formed many more leaves before flowering, making it more difficult for high-density production.

Flower characteristics

We also evaluated the form, size and uniformity of the series' flowers. Royal and Jaguar displayed the most uniform flower size. However, both of these series are color challenged.

The Festivals, both Dark Eye Mix and Grower Select Mix, have excellent uniformity in flower size and color clarity.

Fortune Mix has an excellent range of colors. Several colors in the series have flowers that are too small and detract from the look of the Mix.

Among all of the series trialed, Samurai Mix has the broadest range of flower colors and forms. It has semi-double dark eyes as well as pastel colors not in the other mixes.

Both Revolution Mix and Living Color Mix presented uniform, large flowers, but both contained too high a percentage of red and rose shades for our taste.

Hummingbird Mix contained a good mix of larger blooms in both light and dark eye forms, but there is a major concern with flower time between colors.

Best overall flower presentation goes to the Royal series, which had the most uniform flower size, flower height and number of flowers per plant.

The Festivals have a uniform flower size and form in both the Dark Eye Mix and the Grower Select Mix. The Dark Eye Mix is heavier in reds and the Grower Select Mix is heavier in pinks than we like.

Jaguar Mix was considered the best in terms of overall plant uniformity, but lacked depth in colors and was considered too heavy a yellow-based mix for the North American market.

And the winners are ...

After reviewing all of the trial parameters, we selected Royal as the best-performing series. This new

series was the earliest to flower and exhibited very uniform flowering time between colors, as well as a very consistent flower height and size. The colors are solid with a shaded orange dark eye that is unique and outstanding. We feel this series represents the best breeding to date for seed gerbera. We would like to see more colors added to the series, but we're willing to wait to ensure that the new colors truly match the rest of the series.

Based on parameters other than color selection and lack of colors, Jaguar is an excellent series. It was

B-Nine applications made to gerbera

Variety	Date of application/rate		
	Feb. 17	Feb. 22	Feb. 27
Festival Dark Eye Mix	1,000 ppm		
Festival Grower Select Mix	1,000 ppm		
Fortune Mix	1,500 ppm	1,500 ppm	
Hummingbird Mix	1,500 ppm		1,500 ppm
Jaguar Mix	1,000 ppm		
Living Color Mix	1,500 ppm	1,500 ppm	1,500 ppm
Revolution Mix	1,500 ppm		
Royal (3rd planting)	No growth regulator applied.		
Samurai Mix	No growth regulator applied.		

easy to grow, early to flower and uniform in flower color and height. We rated the Jaguars a solid runner-up to the Royals.

After the Royals and Jaguars, the differences in the series are more difficult to define. The Fortunes are a solid series despite some variability.

After reviewing all of the trial parameters, we selected Royal as the best-performing series.

Revolution Mix rated slightly below the Fortunes, but also was a solid, easy-to-grow, early mix.

Festivals are excellent in their uniformity, but we don't like their lateness and large foliage.

Samurai is easy to grow, fast and had a lot of colors, but lacked uniformity.

Living Colors is too vigorous and variable.

Considering the fact that time is money, Hummingbird Mix rated low on our list because of its lateness.

Future trials

PP&L's production staff truly enjoyed doing this trial. They learned a lot about the diversity among the series. The gerbera trial will be conducted next year with the added parameter of usable seedling count. We plan to back up the sow dates a few weeks to ensure that the timing differences are more apparent to visitors during our spring open house.

We are also investigating the possibility of conducting a calibrachoa trial, which we consider to be another high-value crop. PP&L's production staff places 100 percent integrity behind the trials it conducts and invites all those in the floriculture industry to visit the company's 2004 open house, March 29 - April 5.

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