

Researchers from the Floriculture Program at Michigan State University (MSU) share research-based information on some of the top perennial performers from the past few years.

Production Tips For Top Performers **Coreopsis 'Limerock Dream'** and **'Limerock Passion'**

Two new coreopsis introductions are temperennials with great vigor.

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THE Floriculture Research Program at Michigan State University typically evaluates herbaceous perennials hardy in the northern United States, but occasionally, this rule is broken to

Passion.' These two new hybrids performed exceptionally in our greenhouse and garden trials (Figure 1).

One of the highlights of these coreopsis cultivars is their great vigor. During our experiments, plants almost immediately took off once planted. We have trialed some pink-colored coreopsis cultivars that are less vigor-

(Figure 2). When planted in the garden early in the spring, the flower color of 'Limerock Dream' was lighter and it deepened as the summer progressed. The flowers of 'Limerock Passion' were bright pink and very appealing as well (Figure 2). Like many other herbaceous perennials, the flower size of Limerock cultivars depended on growing temperature, with the flower size decreasing in the heat of the summer.

The Limerock cultivars are very versatile and their flower power can be enjoyed in gardens and containers alike. They are attractive when massed or grown as specimens, and also combine well with other herbaceous plants and ornamental grasses. Limerock cultivars can be easily incorporated in mixed containers and hanging baskets. Due to their vigor, plants fill the containers easily. Shearing the plants back after the first bloom reportedly initiates a second flush of flowers later in the season.

Starting Material

The Limerock hybrids are patented by Blooms of Bressingham and propa-



Figure 1. Coreopsis 'Limerock Dream' (left) and 'Limerock Passion' (right) performed beautifully in the trial gardens at Michigan State University.

accommodate exceptional new plants. Recently trialed coreopsis 'Limerock Dream' and 'Limerock Passion,' two new introductions from Blooms of Bressingham, were candidates worthy of this exception. After all, these tender perennials, reportedly hardy in Zones 7 to 9, are indeed hardy somewhere, just not in the northern United States. Previously introduced, 'Limerock Ruby' is a great tender perennial, or "temperennial," hardy to Zones 8 to 9 and has good plant vigor, produces copious unique maroon-colored flowers and performs well in the gardens and containers. Reportedly, 'Limerock Passion' is a natural sport of 'Limerock Ruby' while 'Limerock Dream' is a natural sport of 'Limerock

ous or show yellowing or brown spotting of foliage when grown at 68°F. Typically, these symptoms decreased or even disappeared when plants were forced at 79°F as in the case of 'Sweet Dreams.' The foliage of both new Limerock cultivars remained deep green at 68°F in the greenhouse. Additionally, plants produced hundreds of flowers per plant in 5.5-inch containers and when planted in the landscape.

We were particularly impressed with 'Limerock Dream' due to its unique peachy-coral flower color that has expanded the coreopsis color palette from yellow, red and pink to shades of orange



Figure 2. Flower close-ups of coreopsis 'Limerock Dream' (left) and 'Limerock Passion' (right).

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gation without appropriate license is prohibited. Rooted 72-cell liners provided by Green Leaf Perennials were used as starting material for the experiments. The liners appeared to have been previously pinched and then further grown. A few liners had visible buds at receipt and hence, at the initiation of the study, all liners were pinched to reset the flowering clock (Figure 3). Since we received robust rooted liners for these

experiments, bulking was unnecessary and liners were transplanted upon receipt. However, when starting with smaller liners, bulking under short-day photoperiods of less than 12 hours may be beneficial.

Forcing Requirements

Both Limerock hybrids performed similarly with respect to flowering requirements and time, plant vigor, finished crop quality and garden performance. 'Limerock' cultivars did not require a cooling treatment for



Figure 3. We started with 72-cell rooted liners of coreopsis 'Limerock Dream' and 'Limerock Passion' that were pinched at the initiation of the experiment.

flowering but they stored well for 10 weeks in the coolers set at 41°F under a nine-hour photoperiod provided by fluorescent lamps.

Like many other coreopsis species and hybrids tested by us, all Limerock hybrids are essentially long-day plants (Figure 4). Although we did not test the critical photoperiod of these two, the critical photoperiod of several other *Coreopsis grandiflora* and *C. verticillata* cultivars is about 13 hours and plants remain vegetative and rosette under shorter photoperiods. Hence, Limerock cultivars should be forced under photoperiods of more than 13 hours.

Coreopsis are full-sun plants and thrive under high light intensity both in the greenhouses and landscapes. During our trials, plants grown under higher light intensity provided by high-pressure sodium lamps were more compact, had stronger stems and produced more inflorescences and lateral branches compared with plants grown under low light intensity.

Flowering Time

We forced 72-cell pinched liners of 'Limerock Dream' and 'Limerock Passion' in 5.5-inch containers under a nine- or 16-hour photoperiod in a glass greenhouse set at 68°F. One group of plants was forced without cooling in early spring while the second group was cooled at 41°F for 10 weeks and forced later in the spring. All cooled and non-cooled plants of both cultivars flowered only under 16-hour photoperiods. The non-cooled plants flowered in about 7 weeks while cooled plants flowered in about 5 weeks. We believe that the hastening of flowering of cooled plants was likely due to the development of liners in the coolers and elevated greenhouse temperatures

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during the late-spring forcing.

Plant Growth Regulation

As previously mentioned, the Limerock cultivars are very vigorous and were tall and somewhat unruly in our 5.5-inch containers. A larger, 1-gallon container may have been more appropriate. Alternatively, application of plant growth retardants would easily

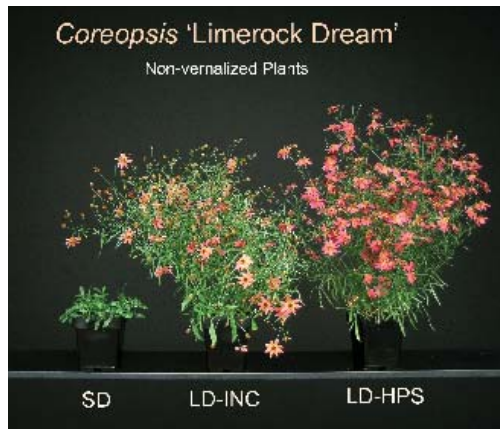


Figure 4. Coreopsis 'Limerock Dream' flowered when forced under long-day photoperiods and remained vegetative under short-day photoperiods. In this figure, SD denotes a short-day photoperiod of nine hours while LD denotes a long-day photoperiod of 16 hours. Long-day photoperiod was created by extending the day-length using incandescent (INC) or high-pressure sodium (HPS) lamps. Plants forced under HPS lamps received about 30 percent more total light than plants under SD and LD-INC treatments.

control the height of the Limerock cultivars. We have previously found that the height of 'Limerock Ruby' was effectively controlled by spray application of ancymidol (A-Rest), daminozide (B-Nine), paclobutrazol (Bonzi) or uniconazole (Sumagic) at the manufacturer's recommended rates. We anticipate that the response of these Limerock cultivars to plant growth retardants will be similar to that of 'Limerock Ruby.'

Pest Management

During our experiments, both cultivars were sprayed with pesticides to control aphids, thrips and powdery mildew. Spacing containers to allow air movement between plants may be beneficial for minimizing the proliferation of powdery mildew.

Cultural Conditions

Liners were transplanted in a peat-based medium and fertilized at every watering with 125 ppm nitrogen from a complete fertilizer with micronutrients. Plants were forced in a glass greenhouse set at 68°F and grown under a nine- or 16-hour photoperiod.

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