perennial solutions

Dianthus gratianopolitanus 'Firewitch'

Find out why the Perennial Plant Association named this variety 2006 Plant of the Year.

By Paul Pilon

Dianthus gratianopolitanus — commonly called cheddar pinks — is one of the most widely grown and marketed dianthus species and is well suited for landscapes across much of the country. Based on its desirable characteristics and garden performance, 'Firewitch' is commonly produced by perennial growers and widely utilized in American gardens. This popularity coupled with its many desirable attributes caused the Perennial Plant Association to name *Dianthus gratianopolitanus* 'Firewitch' the 2006 Plant of the Year.

'Firewitch' bears numerous solid bright-magenta-pink flowers with serrated edges. The 1-inch flowers are held above blue-green foliage. Plants form small, compact mounds measuring about 7 inches tall by 12 inches wide and remain evergreen throughout the year.

'Firewitch' performs well throughout USDA Hardiness Zones 3-9 and AHS Heat Zones 8-1. It prefers to be grown in full sun, although locations receiving partial sun are often acceptable. *Dianthus gratianopolitanus* bloom prolifically in early summer and will continue to bloom sporadically throughout the season. Deadheading, or removing spent blooms, is highly recommended to promote a reflush of flowers.

Dianthus gratianopolitanus *produces an abundance of 1-inch bright pink flowers. All photos courtesy of Sawyer Nursery*

Propagation

'Firewitch' is most commonly vegetatively propagated by tip cuttings. Propagators have the most success when propagating during the early spring or late summer when the plants are not flowering and are growing vegetatively. Tip cuttings should measure approximately 2 inches and contain several nodes. The well-drained rooting media should be moistened prior to sticking. The base of the cuttings can be dipped into a rooting hormone, such as a solution of indolebutyric acid (IBA) at rates between 750 and 1,000 ppm prior to sticking.

Cuttings should be placed under low misting regimes for about the first two weeks of propagation. When possible, it is usually best to propagate under high humidity levels (90-percent relative humidity) with minimal misting. Prolonged exposure to mist may cause the leaves to rot during propagation. The misting can gradually be reduced as the cuttings callus and start to form roots. Plants will usually form roots within 3-4 weeks of sticking as long as soil temperatures range from 68 to 73° F. A liner takes approximately 4-6 weeks to become fully rooted and ready for transplant. Plugs acquired from propagators range in size from 128 cells up to 3-inch liners.

Production

For container production, 'Firewitch' is suitable for 1-qt. to 1-gal. containers. Most growers receive starting materials of *Dianthus gratianopolitanus* as finished plug liners. "Firewitch' can be started using bareroot materials; however, the quality of the finished product is often greatly reduced. Spring-planted dianthus often remain small and bloom before the plant has reached a marketable size. For spring sales, it is highly beneficial to plant plugs during the late summer of the previous year, allowing them to bulk up prior to over-wintering.

Dianthus performs best when it is grown in a well-drained, porous growing medium with a slightly acidic pH of 6.0-6.5. The plugs should be planted so the original soil line of the plug is even with the surface of the growing medium of the new container. Planting the crown too deeply will lead to crop variability and losses from crown rots. After planting, I recommend growers drench with a broad-spectrum fungicide such as Banrot (The Scotts Company LLC) or the combination of Subdue MAXX (Syngenta Professional Products) and Medallion (Syngenta Professional Products).

'Firewitch' requires an average amount of irrigation as it does not tolerate overly wet or dry conditions. When moist or wet conditions occur, plants are very susceptible to root rots. When irrigation is necessary, growers should water plants thoroughly, and then allow the soil to dry slightly between irrigations.

Brought to you by Yoder ...something to grow on Green Leaf Perennials Summit Plastic Company JanorPot

Dianthus is a moderate feeder; fertility can be delivered using water-soluble or controlled-release fertilizers. Growers using water-soluble fertilizers should either feed with a constant liquid fertilization program using rates of 50-75 ppm nitrogen with every irrigation or apply 100-150 ppm of nitrogen as needed. Growers commonly apply time-release fertilizers as a top-dress onto the media surface using the medium rate, or fertilizers are incorporated into the growing medium prior to planting at a rate equivalent to 1 lb. of nitrogen per yard of growing medium.

Best quality is achieved when plants are grown in full sun or greenhouses with high light intensities; 3,000-5,000 foot-candles is sufficient. When produced under lower light levels, the stems will become leggy, and overall plant quality will be reduced. During the winter months, crop quality can be greatly improved when 400-500 foot-candles of supplemental lighting is provided.

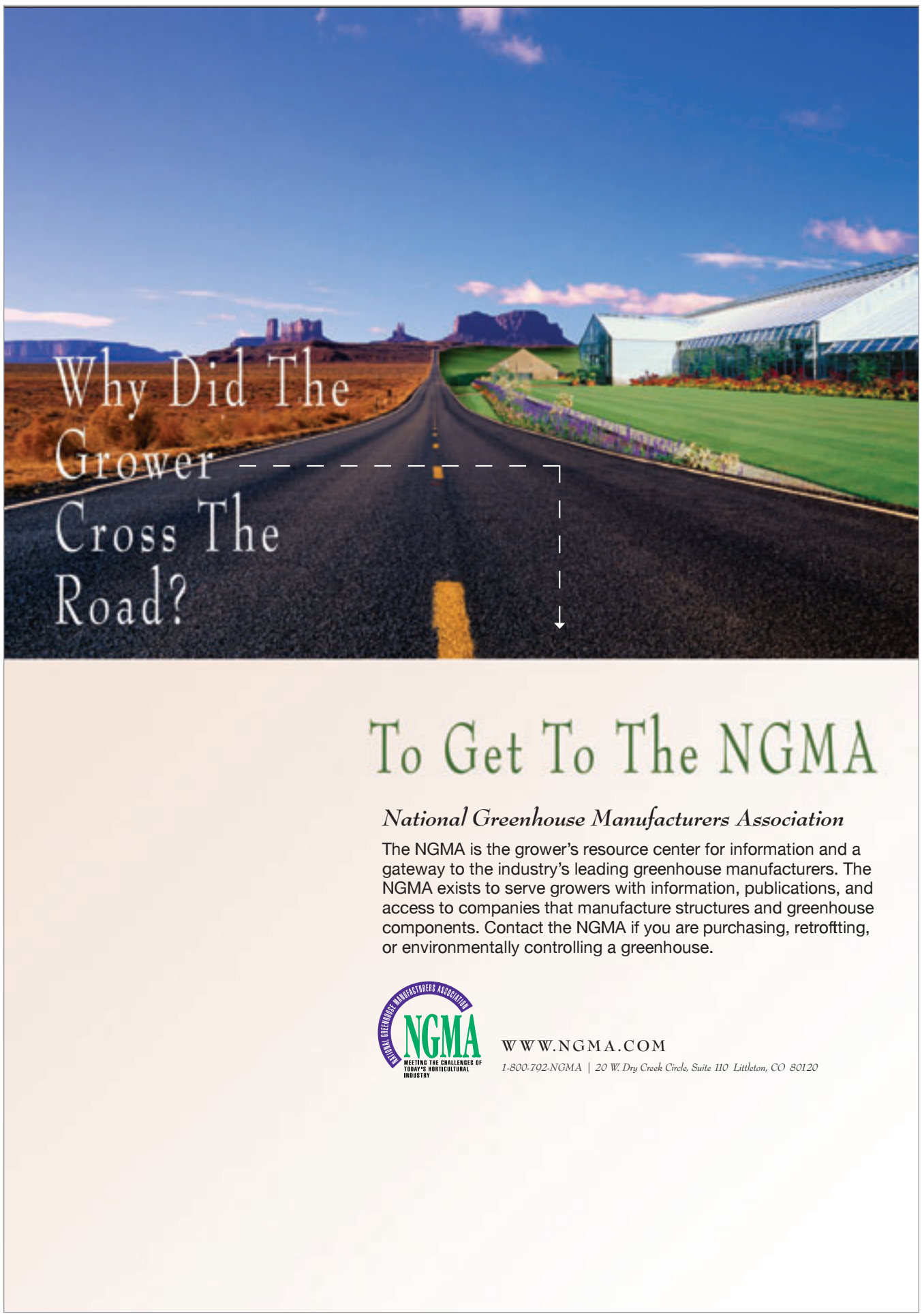
'Firewitch' liners take approximately 4-6 weeks to become fully rooted and ready to transplant.

Due to its naturally small growth habit, controlling plant height with chemical growth regulators should not be necessary. However, during the winter months and periods of low light levels or when grown at high plant densities, excessive plant stretching might occur, especially as 'Firewitch' begins to develop flowers. During these times, 'Firewitch' may require some type of height-management strategy. The height of dianthus can often be effectively controlled by providing adequate spacing between plants. *Dianthus gratianopolitanus* can be grown at high plant densities throughout most of the production cycle. As flower buds develop and stems begin to elongate, typically the last few weeks of production, it is beneficial to space pots slightly further apart.

Insects And Diseases

Aphids, caterpillars and thrips occasionally become problematic. The primary insect observed feeding on dianthus is aphids. Although dianthus is an acceptable food source for aphids, it does not seem to be their main preference. With aphids and other insect pests only occurring occasionally, growers do not have to implement preventative programs but can detect their presence through weekly scouting activities to determine if control measures are necessary.

Dianthus can generally be grown free of plant pathogens. The primary diseases growers should watch for are Pythium and Rhizoctonia crown and root rots. Plants are most susceptible to these diseases when they are grown under cool and wet conditions, such as going into or coming out of winter dormancy. Growers should also be on the lookout for various leaf spots caused by



Write in 405

the fungal pathogens Alternaria, Cladosporium and Phyllosticta.

As with many perennials, the occurrence of plant diseases on dianthus can be negated or greatly reduced when the proper cultural practices are followed. To control these diseases, it is best to manage the environment by providing proper plant spacing and adequate air movement and controlling the humidity. Growers should carefully watch the moisture levels during adverse times of the year and avoid overwatering their plants. Routine scouting is useful and recommended to detect plant diseases early, allowing the appropriate control strategies to be implemented before significant crop injury or mortality occurs.

Forcing

When producing blooming plants is the goal, a few requirements should be met to achieve consistent, high-quality flowering plants. It is recommended to begin the forcing process using plant materials that have been "bulked up" to nearly fill out the container they are being produced in.

'Firewitch' has an obligate cold requirement for flowering. It will flower sporadically and have low bud counts when vernalization is omitted. It is recommended to cool large containers of 'Firewitch' that have been bulked up for 6-9 weeks at 35-44° F. Plugs for spring transplanting into small containers can successfully be vernalized prior to planting as well.

After the cold requirement is achieved, 'Firewitch' can be grown at any day length, as they are day-neutral plants. The length of the photoperiod does not have any effect on the number of blooms produced. Dianthus are considered long-day-beneficial plants, as they flower faster when grown under higher light intensities and/or long-day conditions.

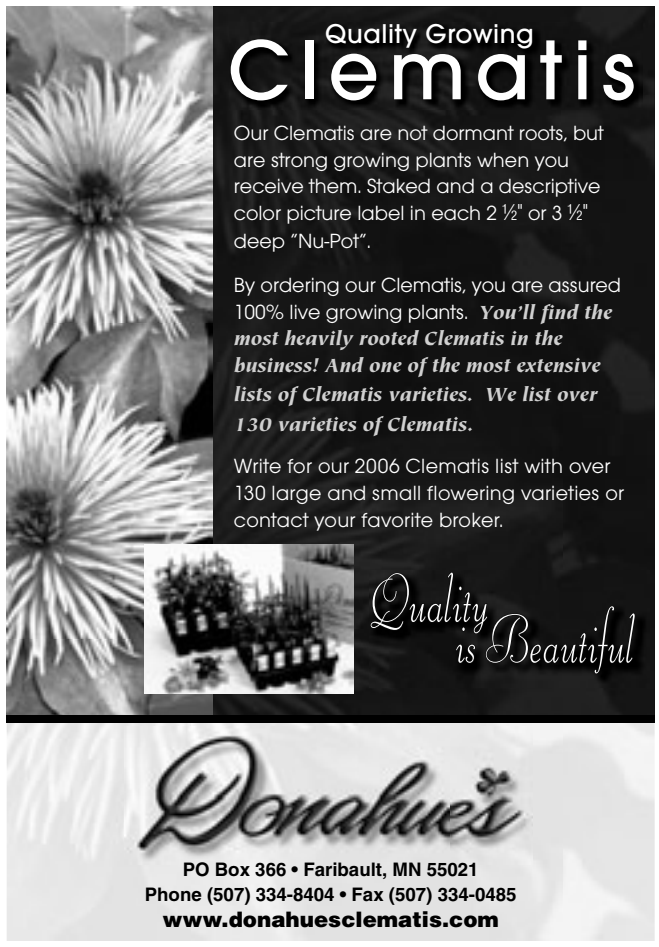
The time to bloom after vernalization is a function of light intensity, photoperiod and temperature. 'Firewitch' will reach full bloom in approximately 7-8 weeks when plants have been grown at temperatures averaging 65° F. Producing them at cooler temperatures increases time to flower but will improve the overall quality characteristics of the plant, such as color intensity of the foliage and flowers. To achieve the highest plant quality, I recommend growers produce dianthus using cool temperatures, such as 60-65° F.

Availability

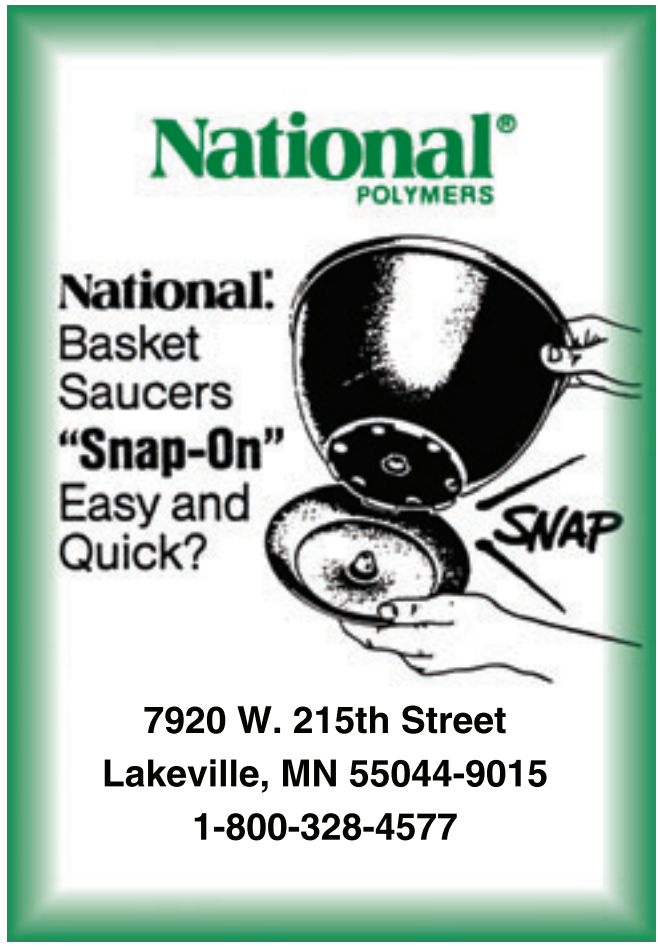
'Firewitch' liners are widely available through numerous perennial propagators and plant brokers. Finished containers can be purchased from many reputable growers throughout the country. GPN

Paul Pilon is president of Perennial Solutions Consulting, Jenison, Mich. He can be reached by phone at (616) 366-8588 or E-mail at paul@perennial-solutions.com.

LearnMore
For more information related to this article, go to www.gpnmag.com/lm.cfm/gp010607



Write in 439



Write in 438

Write in 425