Grow with the Flow

Growing info on the 10 latest intros from California Spring Trials.

Complied by Jennifer Zurko

Sunfinity Interspecific Helianthus

By Dr. Alicain Carlson, Technical Scientist, Syngenta Flowers

Sunfinity Sunflower is the next generation of annual sunflower from seed that offers multiple branches and flowers all season long. Unlike the current pot-type sunflowers that flower once and die after a couple weeks, Sunfinity keeps branching and blooming for nine to 12 weeks! Since Sunfinity is unique compared to typical sunflowers, there are some key production factors you need to know to produce the best product.

Plug production

Photoperiod—Sunfinity is a facultative long-day flowering plant. Daylengths longer than 13.5 hours provided during the four weeks of propagation will initiate flowering and are highly recommended, as it reduces crop time by two to four weeks (See Figure 1).

PGRs—A Bonzi PGR (paclobutrazol) 2 to 3 ppm sprench (3 to 5 qts. per 100 sq. ft.) within 48 hours of sowing is recommended to control hypocotyl stretch and create a stacked plug. This PGR application is important for controlling internode length early to create a well-branched architecture for the finished plant.

Plug quality at finish—Be sure to transplant plugs on time (approximately four weeks after sow or when pullable) or apply another PGR if they're needed to be held to help avoid excessive internode stretch that will diminish finish quality. Expect plugs to be approximately 3- to 4-in. tall at transplant. Sunfinity can be produced in tray sizes from 128 to 50 cell, but a 72 cell is recommended.

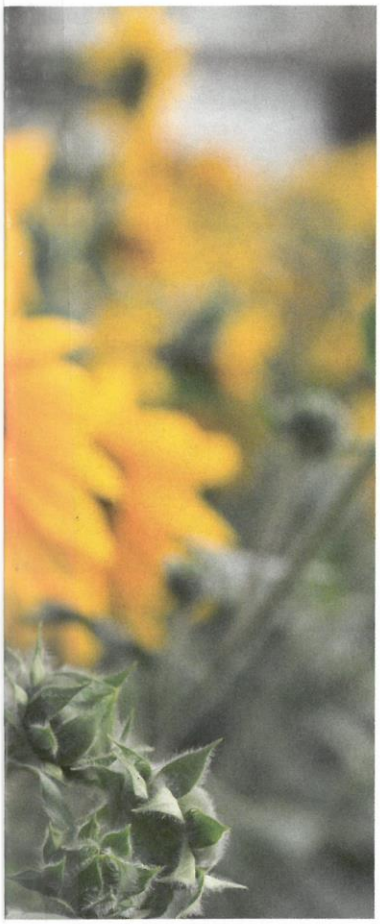
Finish production

Finish containers—Sunfinity is recommended for 2.5-qt. pots or larger. With its vigorous habit, Sunfinity performs well in large pot sizes that command higher value at retail. Branded pots are available in 2.5-qt. and 1.5-gal. sizes and Sunfinity pot tags are required. See Figure 2 for plants per pot recommendations.

Fertilization—Sunfinity are moderate to heavy feeding plants, therefore nitrogen concentrations should range from 150 to 200 ppm. Maintain constant liquid fertilization until market to supply your customers with sufficient nutrient charge for preliminary garden performance. Encourage retailers to supply gardeners with fertilizers to maintain tone and vigor for nine to 12 weeks.

Photoperiod—Sunfinity is a facultative long-day plant. If Sunfinity plugs were propagated under long days (>13 hours), then the finish photoperiod isn't critical and plants will be market-ready seven to eight weeks after transplant. If plugs were propagated under short days, then long days or a four-hour night interruption is highly recommended to speed flowering.

Pinching—Pinching is highly recommended, as it highlights the unique branching quality of Sunfinity. The pinch also helps to control vigor—un-pinched plants get quite tall. After six to seven nodes



develop, pinch leaving four nodes. The nodes of Sunfinity are opposite, so a pinch to four nodes would leave eight leaves. This is a hard pinch—similar to poinsettias. At this time, you'll also want to remove any early laterals that may be forming from the cotyledon or between the cotyledon and first node, as these can become dominant and cause uneven branching.

PGRs—Sunfinity will require PGRs during finish at a minimum of three key times: 1) 2 to 3 ppm Bonzi drench one to two weeks after pinching; 2) 2 to 3 ppm drench at first sign of visible buds; and 3) 2 ppm drench when flowers start cracking color (or just before) to hold for finish. Higher rates (4 to 6 ppm) may be necessary under high light, long days and high temperatures (summer programs).

It's very important to control Sunfinity early on with PGRs. The first PGR helps to set the branching architecture that started with the PGR during propagation. The second and third applications help to control the peduncle stretch that's common as the buds swell, especially under long days. We've found that the *timing* of the PGR is more critical than the rate applied. Extremely high rates applied too late will not be effective. Excessively high PGR rates early in production (>8 to 10 ppm) can suppress garden vigor and minimize the true potential of Sunfinity.

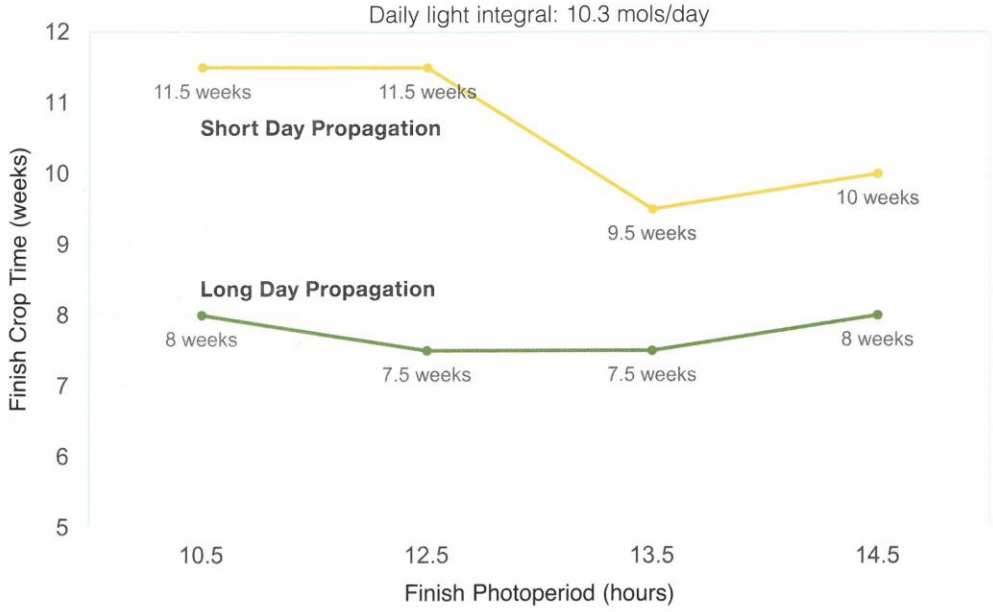
Pests and diseases—Pests to prevent are aphids, spider mites, thrips, whitefly and caterpillars. Insecticides, such as Mainspring and Flagship brand insecticides, are recommended for control of chewing insects on outdoor plants. Avid 0.15 EC miticide/insecticide is also effective for caterpillars, whitefly and spider mites in warm, dry conditions. Preventive fungicide applications for powdery and downy mildew are recommended, especially in high humidity environments. Palladium, Micora and Segovis fungicides are effective.

For more information on Sunfinity culture (including videos!) and Syngenta's branded program, please visit www.SyngentaFlowers-US.com/Sunfinity.

Figure 1

Effect of Propagation and Finish Photoperiod on Finish Time

Container: 2.5 qt. Average daily temperature: 67 F (19.4 C)
Daily light integral: 10.3 mols/day



Source: August-December 2016, Gilroy, CA

Figure 2

Effect of Pinching on Branching

All plants were grown under the same conditions and transplanted and pinched (where applicable) at the same time.

No Pinch = One Stem/One Flower at First Flush

Pinched to 2 Nodes = 4 Branches/Flowers at First Flush

Pinched to 4 Nodes = 8 Branches/Flowers at First Flush

Source: March-May 2017, Gilroy, CA