

# Cultural Information

CULTURE



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	Vigor	pH/EC	Rooting Out Temperature	Growing Temperature	Holding Temperature	Water Requirements	Planting and Timing	Finish Times in Weeks	Spring Outdoor Finish
ARTIST® <i>Ageratum</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate to Moist	Early Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Last to go outside
ANGELFACE® <i>Angelonia</i>	Vigor 3	5.8 - 6.2/6 -9	65-72° F (18-22° C)	70-75° F (21-24° C)	60-65° F (16-18° C)	Moderate to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-8; for 8", 7-9; for 10-12", 10-14	Do not finish outside
BUTTERFLY <i>Argyranthemum</i>	Vigor 3	5.8 - 6.2/6 -9	65-72° F (18-22° C)	60-65° F (16-18° C)	40-50° F (4-10° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-8; for 8", 7-9; for 10-12", 10-14	First to go outside
SILVER BULLET™ <i>Artemisia</i>	Vigor 3	5.8 - 6.5/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 8-10	First to go outside
PEGASUS® <i>Begonia</i>	Vigor 3	5.5 - 6.0 /6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	65-72° F (18-22° C)	Dry to Moderate	Spring to Fall Finish.	For 4-5", 5-7; for quarts, 6-8; for 6"/gal, 7-9; for 10-12". 10-12	Do not move outside until all danger of frost is past
SUREFIRE® <i>Begonia</i>	Vigor 4	5.5 - 6.2/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	65-72° F (18-22° C) outdoors	Dry to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 6-8; for 8", 7-9; for 10-12", 10-12	Do not move outside until all danger of frost is past
CAMPFIRE® Fireburst and GOLDLOCKS ROCKS® <i>Bidens</i>	Vigor 3	5.8 - 6.2/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Second to go outside
SUNDAZE® GOLDEN BEAUTY® <i>Bracteantha</i>	Vigor 1	5.5 - 6.2/ <.6	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Dry to Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Last to go outside
ENDLESS™ <i>Browallia</i>	Vigor 2	6.5 - 7.5/6 -9	70-85° F (21-29° C)	70-85° F (21-29° C)	70-85° F (21-29° C)	Moderate to Moist	Late Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 6-9; for 8", 8-9; for 10-12", 9-13	Last to go outside
ARTFUL® FIRE AND ICE® HEARTFIRE® <i>Caladium</i>	Vigor 2 Vigor 2	5.5 - 6.5/6 -9	70-85° F (21-29° C)	65-72° F (18-22° C)	65-72° F (18-22° C)	Moderate to Moist	Late Spring to Summer Finish. Standard Plants Per Container.	For 4-5", 8-10; for 6"/gallon, 9-11	Do not move outside until all danger of frost is past
LADY GODIVA™ <i>Orange Calendula</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C)	Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-9; for 8", 8-10; for 10-12", 10-12	Second to go outside
SUPERBELLS® <i>Calibrachoa</i>	Vigor 2	5.5 - 5.8/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Second to go outside
TOUCAN™ <i>Canna</i>	Vigor 4	6.2 -7.0/1.0 -2.0	75-85° F (24-30° C)	75-85° F (24-30° C)	65-72° F (18-22° C)	Moist	Late Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 6-8; for 6"/gallon, 6-8; for 8", 8-10; for 10-12", 10-12	Do not move outside until all danger of frost is past

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FLAMBE® Yellow <i>Chrysocephalum</i>	Vigor 2	6.0 - 6.5/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C) outdoors	Dry to Moderate	Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-6; for 6"/gallon, 6-8; for 8", 8-10; for 10-12", 10-12	Do not move outside until all danger of frost is past
PEQUEÑA and ROSALITA® <i>Cleome</i>	Vigor 4	5.8 - 6.2/1.0 - 2.0	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C) outdoors	Dry to Moderate	Mid-Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-6; for 6"/gallon, 6-8; for 8", 8-10; for 10-12", 10-12	Do not move outside until all danger of frost is past
FAIRY DUST™ Pink <i>Cuphea</i>	Vigor 3	6.0 - 6.5/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate	Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-9; for 10-12" 10-12	Last group to go outside
VERMILLIONAIRE® <i>Cuphea</i>	Vigor 3	6.0 - 6.5/6 -9	65-72° F (18-22° C)	70-75° F (21-24° C)	50-60° F (10-15° C) outdoors	Moderate to Moist	Late Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-6; for 6"/gallon, 8-10; for 10-12" 10-12	Last group to go outside
MYSTIC Illusion and DAHLIGHTFUL® <i>Dahlia</i>	Vigor 3	5.8 - 6.2/8 -1.2	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-15° C)	Moderate to Moist	Early Spring to Summer Finish. Standard Plants Per Container.	For 4-5", 5-6; for 6"/gallon, 6-8; for 8", 8-10; for 10-12", 10-12	Do not move outside
FLIRTATION® <i>Diascia</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C) outdoors	40-50° F (4-10° C)	Moderate to Moist Standard Plants Per Container.	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Second to go outside
DIAMOND FROST® DIAMOND DELIGHT® <i>Euphorbia</i>	Vigor 3 Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C) outdoors	Moderate to Moist	Early Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Do not move outside until all danger of frost is past
BLUE MY MIND® <i>Evolvulus</i>	Vigor 2	6 - 6.5/<.6	65-72° F (18-22° C)	70-75° F (21-24° C)	50-60° F (10-16° C) outdoors	Dry to Moderate	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 6-8; for 6"/gallon, 10-12; for 8", 10-12; for 10-12", 12-14	Last to go outside
STRATOSPHERE™ and KARALEE® <i>Gaura</i>	Vigor 3	5.8 - 6.2/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 6-8; for 6"/gallon, 7-10; for 8", 8-11; for 10-12", 12-14	First to go outside
HELLO!™ <i>Gerbera</i>	Vigor 2	5.5 - 6.2 /6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	45-50° F (7-10° C) outdoors	Moderate to Moist	Spring to Summer Finish. Standard Plants Per Container.	For 4-5", not recommended; for 6"/gallon, 8-12; for 8", 10-12; for 10-12", 10-14	Second to go outside
GRACEFUL GRASSES® Toffee Twist <i>Carex</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	40-50° F (4-10° C)	Moderate to Moist	Spring through Fall Finish. Standard Plants Per Container.	For 4-5" and QT, 6-8; for 6"/gallon, 8-10; for 7-9", 12-14	Last to go outside
GRACEFUL GRASSES® BABY TUT® KING TUT® PRINCE TUT™ <i>Cyperus</i>	Vigor 4 Vigor 4 Vigor 4	6 - 6.5/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-65° F (10-18° C)	Moderate to Moist	Early Spring through Summer Finish. Standard 1 liner per 6" container	For 4-5", 4-6; for 6"/gallon, 6-8; for 8", 7-9; for 10-12", 10-12	Do not finish outside
GRACEFUL GRASSES® BLUE MOHAWK® <i>Juncus</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	40-50° F (4-10° C)	Moist to Wet	Spring to Summer Finish. Standard Plants Per Container.	For 4-5" and QT, 4-6; for 6"/gallon, 6-8	Last to go outside

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<b>GRACEFUL GRASSES®</b> 'Fireworks' Purple Fountain Grass Red Riding Hood 'Sky Rocket' VERTIGO® <i>Pennisetum</i>	Vigor 3 Vigor 3 Vigor 2 Vigor 3 Vigor 4	5.8 - 6.2/6 -9	65-72° F (18-22° C)	70-75° F (21-24° C)	50-65° F (10-18° C) outdoors	Moderate to Moist	Spring to Fall Finish. Standard Plants Per Container.	For 4-5" and QT, 4-8; for 6"/gallon, 6-9 for 7-9", 8-10; for 10-12" and 2 gallon, 10-14	Do not move outside until all danger of frost is past
<b>GRACEFUL GRASSES®</b> Fiber Optic Grass <i>Scirpus</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	70-75° F (21-24° C)	50-65° F (10-18° C) outdoors	Moderate to Moist	Late Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-8; for 8", 7-9; for 10-12", 10-14	Do not move outside until all danger of frost is past
<b>HIPPO™</b> <i>Hypoestes</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	70-80° F (21-27° C)	65-70° F (10-18° C) outdoors	Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-9; for 8", 8-10; for 10-12", 10-12	Last to go outside
<b>ROCKAPULCO®</b> <i>Impatiens</i>	Vigor 2	5.8 - 6.2/7.5 -80	68-74° F (19-23° C)	65-75° F (18-24° C)	50-60° F (10-16° C)	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 6-9; for 6"/gallon, 7-9; for 8", 7-9; for 10-12", 10-12	Do not finish outside
<b>ILLUSION® and Sweet Caroline</b> <i>Ipomoea</i> Sweet Caroline Bewitched Green with Envy™	Vigor 3 Vigor 4	6.0 - 6.5/6 -9	65-72° F (18-22° C)	70-75° F (21-24° C)	50-60° F (10-16° C) outdoors	Moderate to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-6; for 6"/gallon, 6-8; for 8", 8-10; for 10-12", 10-12	Do not move outside until all danger of frost is past
<b>BETH'S BLUE®</b> <i>Isotoma</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	50-65° F (10-18° C)	40-50° F (4-10° C)	Moderate to Moist	Early Spring to Fall Finish. Standard Plants Per Container.	For 4-5", 5-6; for 6"/gallon, 8-9; for 8", 9-10; for 10-12", 10-12	First to go outside
<b>PINK CHABLIS®</b> <b>PURPLE CHABLIS™</b> <i>Lamium</i>	Vigor 3 Vigor 3	6.0 - 6.5/6-9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C)	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	First to go outside
<b>LUSCIOUS® BERRY BLEND™, CITRUS BLEND™, PINKBERRY BLEND™</b> Bananarama, Lemonade, Marmalade Grape, Royale Cosmo, Royale Piña Colada <i>Lantana</i>	Vigor 4 Vigor 3 Vigor 2	5.8 - 6.2/6-1.5	65-72° F (18-22° C)	70-75° F (21-24° C)	50-60° F (10-16° C)	Moderate to Moist	Spring through Summer Finish. Standard Plants	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9;	Do not finish outside
<b>LAGUNA™</b> <b>LUCIA®</b> <i>Lobelia</i>	Vigor 2 Vigor 2	5.8 - 6.2/6-9	65-72° F (18-22° C)	65-72° F (18-22° C)	40-50° F (4-10° C) outdoors	Moderate to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Second to go outside
<b>BLUSHING PRINCESS®</b> <b>DARK KNIGHT®</b> <b>SNOW PRINCESS®</b> <b>FROSTY KNIGHT®</b> <b>WHITE KNIGHT®</b> <i>Lobularia</i>	Vigor 4 Vigor 3 Vigor 4 Vigor 3 Vigor 3	6.0 - 6.5/6-9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-55° F (4-12° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 3-5; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	First to go outside
<b>GOLDDUST®</b> <i>Mecardonia</i>	Vigor 2	5.8 - 6.2/6-9	65-72° F (18-22° C)	70-75° F (21-24° C)	70-75° F (21-24° C)	Moderate to Moist	Spring through Summer Finish. Standard Plants per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Do not finish outside
<b>SUNSATIA®</b> <i>Nemesia</i>	Vigor 2	5.5 - 5.8/6-9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C)	Dry to Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; For 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Second to go outside

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<b>INNOCENCE®</b> <i>Nemesia fruticans</i>	Vigor 2	5.5 - 5.8/6-9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	First to go outside
<b>INFINITY®</b> <b>RUFFLES™</b> <i>New Guinea Impatiens</i>	Vigor 1 Vigor 1	6.0-6.5/2-6	65-72° F (18-22° C)	65-75° F (18-24° C)	65-68° F (18-20° C)	Moderate to Moist	Spring through Summer Finish. 4-5" 1 ppp, 6-8" and Gallons; 3 ppp, 10" 4-5 ppp.	For 4-5", 6-8; for 6"/gallon, 8-10; for 8", 8-10; for 10-12", 12-14	Do not finish outside
<b>LEMON DROP®</b> <i>Oenothera</i>	Vigor 2	5.6 - 6.2/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C)	Moderate to Moist	Spring to Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 12-14	Last to go outside
<b>SOPRANO® and BRIGHT LIGHTS™ Yellow</b> <i>Osteospermum</i>	Vigor 2	5.8 - 6.2/6-9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Dry to Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Last to go outside
<b>SYMPHONY</b> <i>Osteospermum</i>	Vigor 2	5.8 - 6.2/6 -9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Dry to Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	First to go outside
<b>CHARMED® Wine</b> <i>Oxalis regnellii</i>	Vigor 1	5.8 - 6.2/6 -9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate to Moist	Early Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Do not finish outside
<b>BOLDLY® and TIMELESS™</b> <i>Pelargonium</i>	Vigor 3 Vigor 2	6.0 - 6.5/1.0-1.5	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate	Spring through Summer Finish. 4-8" pots, 1 ppp, 10" and larger, 3 ppp	For 4-5", 6-8; for 6"/gallon, 8-9; for 7-9", 7-9; for 10-12", 10-12	Do not move outside until all danger of frost is past
<b>SUPERTUNIA®</b> except Giant Pink, Pretty Much Picasso®, and Vista <i>Petunia</i>	Vigor 3 Vigor 4	5.5 - 5.8/1.0-2.0	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 8-10	First to go outside
<b>INTENSIA®</b> <i>Phlox</i>	Vigor 2	5.8 - 6.2/1.0-2.0	65-72° F (18-22° C)	55-65° F (12-18° C)	40-50° F (4-10° C) outdoors	Dry to Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Second to go outside
<b>MOJAVE®</b> <i>Portulaca</i>	Vigor 2	6.0 - 6.5/<6	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Dry to Moderate	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 7-9; for 8", 8-10; for 10-12", 10-12	Last to go outside
<b>ABLAZIN®</b> <i>Salvia</i>	Vigor 3	5.5 - 6.2/6-9	65-72° F (18-22° C)	55-65° F (12-18° C)	50-60° F (10-16° C)	Moderate to High	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-5; for 6"/gallon, 7-9; for 8", 10; for 10-12", 9-11	Last to go outside
<b>ROCKIN™</b> <i>Salvia</i>	Vigor 4	5.8 - 6.2/6-9	65-72° F (18-22° C)	55-65° F (12-18° C)	50-60° F (10-16° C)	Moderate	Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon (best), 7-9; for 8", 8-10; for 10-12", 10-12	Second to go outside
<b>Sunbini®</b> <i>Sanvitalia</i>	Vigor 2	5.8 - 6.2/0-6	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Dry to Moderate	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Do not finish outside

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WONDER WHIRLWIND® <i>Scaevola</i>	Vigor 3	5.5 - 5.8/6-9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Do not finish outside
LEMON CORAL™ <i>Sedum</i>	Vigor 2	5.8 - 6.2/ <.6	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Dry to Moderate	Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 6-7; for 6"/gallon, 8-9; for 8", 8-10; for 10-12", 10-12	Last to go outside
COLORBLAZE® Dark Star, 'Sedona' ALLIGATOR TEARS™, APPLE BRANDY®, LIME TIME™, ROYAL GLISSADE®, VELVETEEN® Dipt in Wine, KEYSTONE KOPPER®, Kingswood Torch, MAROONED® <i>Solenostemon</i>	Vigor 2 Vigor 3 Vigor 4	6.0 - 6.5/0.6-0.9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate to High	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-6; for 6"/gallon, 6-8; for 8", 8-10; for 10-12", 10-12	Do not finish outside
SNOWSTORM® Blue and Pink GIANT SNOWFLAKE® and SNOW GLOBE® <i>Sutera</i>	Vigor 2 Vigor 3	5.5 - 5.8/1.0-2.0	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C) outdoors	Moderate to Moist	Early Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 8-10	Last to go outside
A-PEEL® <i>Thunbergia</i>	Vigor 4	5.8 - 6.2/6-9	65-72° F (18-22° C)	70-80° F (21-27° C)	65-70° F (18-21° C)	Moderate	Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-9; for 8", 8-10; for 10-12", 10-12	Last to go outside
CATALINA® and SUMMER WAVE® <i>Torenia</i>	Vigor 2 Vigor 3	5.5 - 6.2/6-9	65-72° F (18-22° C)	70-75° F (21-24° C)	70-75° F (21-24° C)	Moderate to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Do not finish outside
SUPERBENA® <i>Verbena</i>	Vigor 3	5.8 - 6.2/6-9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 8-10	Last to go outside
TUKANA® <i>Verbena</i>	Vigor 3	5.5 - 6.2/6-9	65-72° F (18-22° C)	60-70° F (16-21° C)	40-50° F (4-10° C) outdoors	Moderate to Moist	Early Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 4-6; for 6"/gallon, 5-7; for 8", 7-9; for 10-12", 10-12	Last to go outside
METEOR SHOWER® <i>Verbena</i>	Vigor 3	5.5 - 6.2/6-9	65-70° F (18-21° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate to Moist	Spring through Fall Finish. 4" container - 1PPPP 6" container - 1-3PPP 10" or larger - 3-5PPP	For 4-5", 5-6; for 6"/gallon, 8-10; for 10-12", 10-12	Second to go outside

**VIGOR KEY** – 1 to 4, with 1 representing the slower, smaller growers and 4 representing the quickest, largest growers. For combinations, choose varieties with the same vigor rating to ensure success.

## Online Cultural Guide

When you have growing questions, you can access our **online growing guide** for answers.

By providing easy, 24/7 access to this information, we save you time – and money – so you can spend it tending to business and building that business, too.

### Grower Culture on provenwinners.com

- Culture search by variety
- Culture groups
- New variety culture
- Flowering timing charts
- Outdoor growing tips
- Perennial timing

## Cultural Information and Growing Tips

To produce the highest quality plant material, growers must have detailed crop culture information. In order to help our grower customers produce the best finished crops, our propagators have developed this user-friendly guide which categorizes plants by their basic cultural needs – pH, growing temperature, and fertilization. The goal is to aide our grower customers in setting up custom growing environments for plants grouped by their basic needs. Visit provenwinners.com for more detailed cultural information on all Proven Winners varieties.

### Proven Winners® Annuals

Growing Temp	A pH 5.5 - 5.8	B pH 5.8 - 6.2	C pH 6.0 - 6.5
<b>A</b> 55°-65° F (12-18° C)	Superbells® <i>Calibrachoa</i> , Sunsatia® and other <i>Nemesia</i> , Supertunia® <i>Petunia</i>	Butterfly <i>Argyranthemum</i> , Campfire® Fireburst and Goldilocks Rocks® <i>Bidens</i> , Sundaze® Golden Beauty® <i>Bracteantha</i> , Lady Godiva™ Orange <i>Calendula</i> , Flirtation® <i>Diascia</i> , Karalee® and Stratosphere™ <i>Gaura</i> , Beth's Blue® <i>Isotoma</i> , Lemon Drop® <i>Oenothera</i> , Symphony, Soprano® and Bright Lights™ <i>Osteospermum</i> , Intensia® <i>Phlox</i> , Ablazin'® <i>Salvia</i> and Rockin'™ <i>Salvia</i>	Silver Bullet™ <i>Artemisia</i> , Pink Chablis® and Purple Chablis™ <i>Lamium</i> , Princess and Knight <i>Lobularia</i>
<b>B</b> 65°-72° F (18-22° C)	Pegasus® <i>Begonia</i> , Pink Wonder®, New Wonder®, and Whirlwind® <i>Scaevola</i> , and Snowstorm® <i>Sutera</i> (Bacopa)	Artist® <i>Ageratum</i> , Surefire® <i>Begonia</i> , Toffee Twist <i>Carex</i> , Señorita Rosalita®, Señorita Blanca®, Señorita Mi Amor® and Pequeña Rosalita® <i>Cleome</i> , Mystic and Dahlightful® <i>Dahlia</i> , Diamond Frost® and Diamond Delight® <i>Euphorbia</i> , Hello!™ <i>Gerbera</i> , Rockapulco® <i>Impatiens</i> , Blue Mohawk® <i>Juncus</i> , Laguna™ and Lucia® <i>Lobelia</i> , Charmed® <i>Oxalis</i> , Vertigo® <i>Pennisetum</i> , Sunbini™ <i>Sanvitalia</i> , Lemon Coral™ <i>Sedum</i> , Superbena®, Tukana® and Meteor Shower® <i>Verbena</i>	Artful® <i>Caladium</i> , Flambé® <i>Chrysocephalum</i> , Fairy Dust™ <i>Cuphea</i> , ColorBlaze® <i>Coleus</i> , Baby Tut®, King Tut® and Prince Tut™ <i>Cyperus</i> , Boldly® and Timeless™ <i>Pelargonium</i> , Mojave® <i>Portulaca</i>
<b>C</b> 70°-75° F (21-24° C)		Angelface® <i>Angelonia</i> , Hippo™ <i>Hypoestes</i> , Luscious® <i>Lantana</i> , GoldDust® <i>Mecardonia</i> , 'Fireworks', Purple Fountain Grass, Red Riding Hood, and 'Sky Rocket' <i>Pennisetum</i> , Fiber Optic Grass <i>Scirpus</i> , A-Peel® <i>Thunbergia</i> , Catalina® and Summer Wave® <i>Torenia</i>	Endless™ <i>Browallia</i> , Vermillionaire® <i>Cuphea</i> , Blue My Mind® <i>Evolvulus</i> , Illusion® and Sweet Caroline <i>Ipomoea</i> , Infinity® and Ruffles™ <i>New Guinea Impatiens</i>

In growing group codes, the first letter represents the Growing Temp and the second letter represents the pH.

**Fertilizer rate for all plants listed above is 150-200 Constant Liquid Feed (CLF) with the following exceptions:**

#### 75-100 CLF

Endless™ *Browallia*  
Artful® *Caladium*  
100-150 CLF  
Sundaze® *Bracteantha*  
Toffee Twist *Carex*  
Rockapulco® *Impatiens*  
Ruffles™ and Infinity® *New Guinea Impatiens*  
'Fireworks', Purple Fountain Grass, Red Riding Hood, 'Sky Rocket' and Vertigo® *Pennisetum*  
Mojave® *Portulaca*  
Sunbini™ *Sanvitalia*  
Fiber Optic Grass *Scirpus*  
Lemon Coral™ *Sedum*

#### 100-200 CLF

Hello!™ *Gerbera*

#### 130-150 CLF

Princess and Knight *Lobularia*

#### 200-300 CLF

Toucan™ *Canna*  
Señorita Rosalita®, Señorita Blanca®, Señorita  
Mi Amor® and Pequeña Rosalita® *Cleome*  
Illusion® and Sweet Caroline *Ipomoea*  
Boldly® and Timeless™ *Pelargonium*  
Intensia® *Phlox*  
Supertunia® *Petunia*  
A-Peel® *Thunbergia*

## Proven Winners® Perennials

### Soil pH 5.5-5.8

Fruit Punch® *Dianthus* – Growing Temp 62-65°F (16-18°C)  
Paint the Town *Dianthus* – Growing Temp 62-65°F (16-18°C)

### Soil pH 5.5-6.2

Dolce® *Heuchera* – Growing Temp 65-72°F (18-22°C)  
Primo™ *Heuchera* – Growing Temp 65-72°F (18-22°C)  
Fun and Games® *Heucherella* – Growing Temp 65-72°F (18-22°C)  
Summerific® *Hibiscus* – Growing Temp 70-75°F (21-24°C)  
Magic Show® *Veronica* – Growing Temp 65-72°F (18-22°C)

### Soil pH 5.5-6.5

Lakota™ Santa Fe *Echinacea* – Growing Temp 65-70°F (18-21°C)  
'Cutting Edge' *Tiarella* – Growing Temp 62-68°F (16-20°C)

### Soil pH 5.8-6.2

'Storm Cloud' *Amsonia* – Growing Temp 60-65°F (15-18°C)  
Festival Star™ *Gypsophila* – Growing Temp 65-72°F (18-22°C)  
Tuscan *Heliopsis* – Growing Temp 55-65°F (12-18°C)  
Sweet Romance® *Lavandula* – Growing Temp 60-65°F (15-18°C)  
Amazing Daisies™ *Leucanthemum* – Growing Temp 55-65°F (12-18°C)  
'Bottle Rocket' *Ligularia* – Growing Temp 68-72°F (20-22°C)  
Pardon My and Leading Lady *Monarda* – Growing Temp 65-72°F (18-22°C)  
Opening Act *Phlox* – Growing Temp 60-65°F (15-18°C)  
Color Spires® *Salvia* – Growing Temp 55-65°F (12-18°C)

### Soil pH 5.8-6.5

'Chantilly Lace' *Aruncus* – Growing Temp 55-65°F (12-18°C)  
Decadence® *Baptisia* – Growing Temp 55-60°F (12-15°C)  
Shadowland® *Hosta* – Growing Temp 55-60°F (12-15°C)  
Prairie Winds® 'Desert Plains' *Pennisetum* – Growing Temp 65-72°F (18-22°C)  
'Midnight Masquerade' *Penstemon* – Growing Temp 55-65°F (12-18°C)  
'Denim 'n Lace' *Perovskia* – Growing Temp 68-74°F (20-23°C)  
'Cloudburst' *Phlox* – Growing Temp 55-65°F (12-18°C)  
Rock 'n Grow® *Sedum* – Growing Temp 55-65°F (12-18°C)  
'Charlotte's Web' *Tradescantia* – Growing Temp 65-68°F (18-20°C)

### Soil pH 6.0-6.5

'Stand By Me' *Clematis* – Growing Temp 50-55°F (10-12°C)  
Rainbow Rhythm® *Hemerocallis* – Growing Temp 55-65°F (12-18°C)  
'Cat's Meow' *Nepeta* – Growing Temp 60-65°F (15-18°C)  
Prairie Winds® *Panicum* – Growing Temp 65-75°F (18-24°C)  
Prairie Winds® 'Blue Paradise' *Schizachyrium* – Growing Temp 68-75°F (20-24°C)

See perennial chart on p. 142-143 for more detailed cultural information.

## Culture Notes and Groups:

### pH:

A: pH 5.5-5.8  
B: pH 5.8-6.2  
C: pH 6.0-6.5

### EC:

A: < .6  
B: .6-.9  
C: 1.0-2.0

### Well-Balanced Fertilizer

N-P-K, 2:1:1.5 with adequate amounts of micronutrients  
Low: 100-150 ppm Constant Liquid Feed  
Medium: 150-200 ppm Constant Liquid Feed  
High: 200-300 ppm Constant Liquid Feed

### Fertilizer Disclaimer:

It is a good practice to clear water (leach) once every 3-4 times you water to lower soluble salt levels in the media. EC should also be monitored using weekly EC measurements.

### Rooting Out Temperatures:

The first 10 days of container growth: establishing root system to outside edge of container from the newly planted liner.  
65-72° F (18-22° C)

### Growing Temperatures:

Once roots are to the edge of the container – growing on the plant and bulking up foliage and flowers.  
A: 55-65° F (12-18° C)  
B: 65-72° F (18-22° C)  
C: 70-75° F (21-24° C)

Night temperatures should be run 5° F (-15° C) lower than day temperatures

### Holding Temperatures:

(For toning crops and/or for when you have to hold the crop when it is ready to go)

A: 40-50° F (4-10° F) outdoors\*  
B: 50-60° F (10-16° F)  
C: Maintain Growing Temperatures

### Light Levels:

High: Full sun crops need very high, bright light  
Moderate: Sun to partial shade crops, High to moderate light  
Low: Partial to full shade crops, Moderate to low light

\* Sometimes this temperature is indoors when prompted not to finish the plants outdoors.

## Moisture Regimes:

### Transplant:

Water lightly to maintain moisture level within root zone until roots reach the side of the finished container. Once roots are developed to the side of the pot, see finish watering regime.

### Finish Watering Regimes:

A: Dry to Moderate: Water thoroughly without over-saturating; keep moist during root development; allow soil surface to dry completely before watering after the crop is rooted to the edge of the pot.  
B: Moderate to Moist: Water thoroughly without over-saturating; keep moist but not wet throughout entire growth cycle.  
C: Moist to Wet: Water thoroughly and keep moisture constant throughout entire growth cycle.

## Standard Plants Per Pot (PPP):

4-5": 1 ppp  
6": 1-2 ppp  
Gallon: 1-3 ppp  
8": 3 ppp  
10-12": 3-5 ppp

More cuttings per pot will yield faster finishing times. The higher light and temperatures experienced with summer production will dramatically reduce crop times.

## Soil Mix for Container Growing:

Use a high-quality, professional grade soil mix that is adjusted to work with your water quality and growing style to help manage pH and water control.

Use a well-drained, high-quality professional grade soil mix. A peat-lite based soil or equivalent that gives you 60% organic matter and 40% secondary aggregates, such as perlite, rock-wool, coir, and/or bark, will provide proper soil porosity (well-drained soil).

## Growth Regulator Disclaimer:

All PGR rates should be trialed by each individual grower before applications are made to entire crop to ensure desired results. All rates are given as a spray unless otherwise stated. Summer production may require higher PGR rates when crops are grown indoors. Proven Winners and its affiliates are not responsible for misapplication or misuse of these products. Check manufacturers' labels for approved rates and usage recommendations.

## Pest Management:

A weekly scouting program is suggested. Monitor for common greenhouse pests. Treat accordingly, using label instructions. Be sure to rotate chemical classes to guard against development of resistance to chemicals.

## Disease Management:

Treat with preventative broad spectrum fungicidal drench one week after transplant. Scout crops regularly (at least once a week) for disease development. Good air circulation, control of humidity, and good sanitation practices are critical. Good sanitation practices include keeping greenhouses clean at all times, eliminating weeds and debris, disinfecting equipment and greenhouses as often as possible, and keeping hose ends off the floor. Good water management practices are critical to healthy plant growth.

## Day Neutral:

Ability of plants to flower freely regardless of day-length.

## Vernalization:

Crop quality and flower number and presentation for perennial plants often will be improved with a cold treatment.

## Spring Outdoor Finish:

Many Proven Winners crops can be finished outdoors under cool temperatures. Finishing under cool temperatures will allow you to expand production area, allows additional spacing inside greenhouse, allows additional turns, and improves quality of the product. Those plants finished outdoors will need additional time to finish. Specific finishing times are difficult to predict due to variability in weather patterns. Outdoor mum production areas are perfect to use as spring cold temperature finishing space.

Before plants are moved outside, they should be acclimated to colder temperatures using holding temperatures stated above.

Ideally, plants should be moved outdoors on an overcast day, with moderate temperatures, little wind, and no severe cold (freezing temperatures) forecasted for the next 24 hours. Often a full moon will mean clear skies, which will allow temperatures to drop more than expected. To maintain proper nutrition after a heavy rain, a light water application with 400-500 ppm N can be used on the already wet plants (this high fertilizer application on dry plants will result in burn).

Plants vary in ability to withstand cold temperature finishing. To help you manage when crops can be placed outdoors, we have split our plant material into 3 groups (Not all crops can be finished outdoors and will be noted as No). In the case of unusually cold temperatures, you should have frost protection measures ready (frost cloth, sprinklers, or ability to move plants under cover).

It is generally too cold for insects and disease to prosper. You should continue to scout for problems, however, chemical control measures probably won't be needed. Plant growth regulators will not be needed to control growth.

Growers who wish to try this method of finishing plants should trial a small portion of their plant material the first year to gain experience and comfort. Each year will differ and growers need to be prepared to adapt as conditions change.

### A: First to go outside – 33-36° F (0-2° C):

These plants can be placed outside the earliest. When temperatures are not forecasted to drop below freezing for the next 10 days you should be able to move these plants outdoors. Should the temperature be forecasted to drop below 28° F (-2° C), protection measures should be taken.

### B: Second to go outside – 38-42° F (3-5° C):

This is the second wave of plant material. These plants can be moved outside when odds are that temperatures are much less likely to drop below freezing. Protection measures should be taken for this group when temperatures are forecasted to reach 32° F (0° C). Average daily temperatures should be higher than when group A material was moved out. Generally, a few weeks after group A is moved out, group B can be moved outside.

### C: Last to go outside – 45° F + (7° C +):

This is the third wave of plant material. These plants can be moved outside when temperatures are no longer likely to reach freezing. A hard frost will cause damage to this group. If a hard frost is forecasted, protection measures should be implemented.

For questions please call the grower hotlines:

Four Star Greenhouses – Dennis Crum: 734-654-6420

Pleasant View – Veronica Lende: 603-556-2848



Need help? Give us a call.

We're totally committed to helping you grow quality crops.

# Index

<b>Abelia</b> PINKY BELLS™ ..... 146	<b>Calendula</b> LADY GODIVA™ Orange ..... 39	<b>Cuphea</b> VERMILLIONAIRE® ..... 50	<b>Heuchera</b> DOLCE® Series ..... 120 PRIMO™ Series ..... 122
<b>Abelia chinensis</b> RUBY ANNIVERSARY™ ..... 146	<b>Calibrachoa</b> SUPERBELLS® Series ..... 41	<b>Cuphea ramosissima</b> FAIRY DUST™ Pink ..... 50	<b>Heucherella</b> FUN AND GAMES® Series ..... 123
<b>Abelia x grandiflora</b> BRONZE ANNIVERSARY™ ..... 146 SUNNY ANNIVERSARY® ..... 146	<b>Callicarpa</b> PURPLE GLAM® ..... 150 PURPLE PEARLS® ..... 150	<b>Cytisus scoparius</b> SISTER GOLDEN HAIR® ..... 154	<b>Hibiscus</b> POLLYPETITE® ..... 157 SUMMERIFIC® Series ..... 124
<b>Abelia mosanensis</b> SWEET EMOTION® ..... 146	<b>Calycanthus</b> 'Aphrodite' ..... 150	<b>Dahlia</b> Mystic Illusion ..... 51 DAHLIGHTFUL® Series ..... 52	<b>Hibiscus syriacus</b> CHIFFON™ Series ..... 157 LIL' KIM™ ..... 157 LIL' KIM™ Red ..... 157 LIL' KIM™ Violet ..... 157 PURPLE PILLAR™ ..... 157 SATIN® Series ..... 158 SUGAR TIP® ..... 157
<b>Ageratum</b> ARTIST® Series ..... 32	<b>Canna x generalis</b> TOUCAN™ Series ..... 47	<b>Deutzia</b> YUKI CHERRY BLOSSOM® ..... 154 YUKI SNOWFLAKE® ..... 154	<b>Hosta</b> SHADOWLAND® Series ..... 126
<b>Amsonia tabernaemontana</b> 'Storm Cloud' ..... 112	<b>Caryopteris x clandonensis</b> BEYOND MIDNIGHT® ..... 151 LIL' MISS SUNSHINE® ..... 151	<b>Deutzia gracilis</b> CHARDONNAY PEARLS® ..... 155 CRÈME FRAICHE® ..... 155	<b>Humulus</b> SUMMER SHANDY™ ..... 168
<b>Angelonia</b> ANGELFACE® Series ..... 35 ANGELFACE® Super Series ..... 34	<b>Caryopteris incana</b> SUNSHINE BLUE® II ..... 151	<b>Dianthus</b> FRUIT PUNCH® Series ..... 114 PAINT THE TOWN Series ..... 116	<b>Hydrangea arborescens</b> INCREDIBALL® ..... 159 INCREDIBALL® Blush ..... 159 INVINCIBELLE LIMETTA® ..... 159 INVINCIBELLE MINI MAUVETTE™ ..... 159 INVINCIBELLE® Ruby ..... 159 INVINCIBELLE® Spirit II ..... 159 INVINCIBELLE WEE WHITE® ..... 159 LIME RICKEY® ..... 159
<b>Argyranthemum frutescens</b> GOLDEN BUTTERFLY™ ..... 33 PURE WHITE BUTTERFLY™ ..... 33 VANILLA BUTTERFLY™ ..... 33	<b>Ceanothus</b> MARIE GOLD® ..... 151 MARIE ROSE™ ..... 151	<b>Diaria</b> FLIRTATION® Series ..... 53	<b>Hydrangea macrophylla</b> ABRACADABRA® Series ..... 160 CITYLINE® Series ..... 160 EDGY® Hearts ..... 161 LET'S DANCE® Series ..... 161 PARAPLU® ..... 161
<b>Aronia melanocarpa</b> LOW SCAPE® Series ..... 146	<b>Ceanothus x pallidus</b> MARIE BLEU™ ..... 151	<b>Diervilla</b> KODIAK® Series ..... 156	<b>Hydrangea paniculata</b> BOBO® ..... 162 FIRE LIGHT® ..... 162 'Limelight' ..... 162 'Little Lamb' ..... 162 LITTLE LIME® ..... 162 LITTLE QUICK FIRE® ..... 162 PINKY WINKY® ..... 162 QUICK FIRE® ..... 162 ZINFIN DOLL® ..... 163
<b>Aruncus</b> 'Chantilly Lace' ..... 112	<b>Cephalanthus occidentalis</b> SUGAR SHACK® ..... 151	<b>Echinacea</b> LAKOTA™ Santa Fe ..... 113	<b>Gerbera</b> HELLO!™ Series ..... 57
<b>Artemisia stelleriana</b> SILVER BULLET™ ..... 32	<b>Chaenomeles speciosa</b> DOUBLE TAKE™ Series ..... 151	<b>Euonymus alatus</b> FIRE BALL® ..... 155 UNFORGETTABLE FIRE® ..... 155	<b>Genista lydia</b> BANGLE® ..... 157
<b>Baptisia</b> DECADENCE® Series ..... 110 DECADENCE® Deluxe Series ..... 110	<b>Chamaecyparis pisifera</b> SOFT SERVE® ..... 152	<b>Euonymus fortunei</b> BLONDY® ..... 155 GOLD SPLASH® ..... 156 GOLDY™ ..... 156 WHITE ALBUM™ ..... 156	<b>Grasses (Annual)</b> GRACEFUL GRASSES® Series ..... 58
<b>Begonia benariensis</b> SUREFIRE® Series ..... 36	<b>Chrysocephalum apiculatum</b> FLAMBÉ® Yellow ..... 48	<b>Euphorbia</b> DIAMOND DELIGHT® ..... 54 DIAMOND FROST® ..... 54	<b>Grasses (Perennial)</b> PRAIRIE WINDS® Series ..... 134
<b>Begonia</b> PEGASUS® ..... 36	<b>Clematis</b> BROTHER STEFFAN® ..... 152 'Diamond Ball' ..... 152 HAPPY JACK® Purple ..... 152 JOLLY GOOD™ ..... 152 MADAME MARIA® ..... 153 PINK MINK® ..... 153 STILL WATERS™ ..... 153 'Stand By Me' ..... 113 'Sweet Summer Love' ..... 153 'Viva Polonia' ..... 153	<b>Evolvulus</b> BLUE MY MIND® ..... 55	<b>Gypsophila</b> FESTIVAL STAR™ ..... 116
<b>Berberis thunbergii</b> SUNJOY® Series ..... 146	<b>Cleome</b> PEQUEÑA ROSALITA® ..... 48 SEÑORITA BLANCA® ..... 48 SEÑORITA MI AMOR® ..... 48 SEÑORITA ROSALITA® ..... 48	<b>Exochorda</b> SNOW DAY® 'Blizzard' ..... 156 SNOW DAY® Surprise ..... 156	<b>Heliopsis</b> TUSCAN GOLD™ ..... 117 'Tuscan Sun' ..... 117
<b>Betula x plettkei</b> 'Golden Treasure' ..... 147	<b>Clethra alnifolia</b> SUGARTINA® 'Crystalina' ..... 153 VANILLA SPICE® ..... 153	<b>Forsythia x intermedia</b> SHOW OFF® Series ..... 156	<b>Hemerocallis</b> RAINBOW RHYTHM® Series ..... 118
<b>Bidens</b> CAMPFIRE® Fireburst ..... 37 GOLDBLOCKS ROCKS® ..... 37	<b>Coleus</b> (see Solenostemon)	<b>Gaura</b> KARALEE® Petite Pink ..... 56 STRATOSPHERE™ Series ..... 56	<b>Hesperis matronalis</b> SUNNY BOULEVARD™ ..... 164
<b>Bracteantha bracteata</b> SUNDAZE® GOLDEN BEAUTY® ..... 39	<b>Cornus obliqua</b> RED ROVER® ..... 153	<b>Gerbera</b> HELLO!™ Series ..... 57	<b>Hesperis matronalis</b> SUNNY BOULEVARD™ ..... 164
<b>Browallia</b> ENDLESS™ Series ..... 38	<b>Cornus sanguinea</b> ARCTIC SUN® ..... 154	<b>Genista lydia</b> BANGLE® ..... 157	<b>Hesperis matronalis</b> SUNNY BOULEVARD™ ..... 164
<b>Buddleia</b> INSPIRED™ Series ..... 148 LO & BEHOLD® Series ..... 148 'Miss Molly' ..... 149 'Miss Pearl' ..... 149 'Miss Ruby' ..... 149 'Miss Violet' ..... 149 PUGSTER® Series ..... 149 'Summer Skies' ..... 150	<b>Cornus stolonifera</b> ARCTIC FIRE® ..... 154 PUCKER UP!® ..... 154	<b>Grasses (Perennial)</b> PRAIRIE WINDS® Series ..... 134	<b>Hesperis matronalis</b> SUNNY BOULEVARD™ ..... 164
<b>Buxus microphylla</b> SPRINTER® ..... 150 WEDDING RING® ..... 150	<b>Cotinus coggygria</b> WINECRAFT BLACK® ..... 154	<b>Grasses (Perennial)</b> PRAIRIE WINDS® Series ..... 134	<b>Hesperis matronalis</b> SUNNY BOULEVARD™ ..... 164
<b>Buxus sempervirens</b> NORTH STAR™ ..... 150	<b>Cotoneaster procumbens</b> LITTLE DIPPER® ..... 154	<b>Grasses (Perennial)</b> PRAIRIE WINDS® Series ..... 134	<b>Hesperis matronalis</b> SUNNY BOULEVARD™ ..... 164
<b>Caladium hortulanum</b> ARTFUL® Series ..... 40		<b>Grasses (Perennial)</b> PRAIRIE WINDS® Series ..... 134	<b>Hesperis matronalis</b> SUNNY BOULEVARD™ ..... 164

<b><i>Ilex crenata</i></b> BRASS BUCKLE™ .....164 PATTI O® .....164 SKY POINTER® .....164	<b><i>Lycium barbarum</i></b> BIG LIFE BERRY® .....168 SWEET LIFE BERRY® .....168	<b><i>Portulaca grandiflora</i></b> MOJAVE® Series .....91	<b><i>Thuja plicata</i></b> SPRING GROVE® .....177
<b><i>Ilex glabra</i></b> GEM BOX® .....164	<b><i>Mecardonia</i></b> GOLDDUST® .....71	<b><i>Potentilla</i></b> HAPPY FACE® Series .....171	<b><i>Thunbergia alata</i></b> A-PEEL® Series .....99
<b><i>Ilex x meserveae</i></b> CASTLE GOLD™ .....164 CASTLE SPIRE® .....165 CASTLE WALL® .....165	<b><i>Microbiota decussata</i></b> CELTIC PRIDE™ .....170	<b><i>Rhamnus frangula</i></b> FINE LINE® .....171	<b><i>Tiarella</i></b> 'Cutting Edge' .....139
<b><i>Ilex x verticillata</i></b> BERRY HEAVY® .....165 BERRY HEAVY® Gold .....165 BERRY POPPINS® .....165 LITTLE GOBLIN® Series .....165 MR. POPPINS® .....166	<b><i>Monarda</i></b> Leading Lady Series .....130 Pardon My Series .....131	<b><i>Rhododendron</i></b> 'Amy Cotta' .....172 BLOOM-A-THON® Series .....171 BOLLYWOOD® .....172 DANDY MAN™ Pink .....172 DANDY MAN™ Purple .....172	<b><i>Torenia</i></b> CATALINA® Series .....100 SUMMER WAVE® Series .....101
<b><i>Impatiens walleriana</i></b> ROCKAPULCO® Series .....62	<b><i>Nemesia fruticans</i></b> Bluebird .....73 Opal INNOCENCE® .....73	<b><i>Rosa</i></b> LIVIN' LA VIDA® .....172 OSO EASY® Series .....172 OSO HAPPY® Series .....174	<b><i>Tradescantia</i></b> 'Charlotte's Web' .....140
<b><i>Ipomoea batatas</i></b> ILLUSION® Series .....63 SWEET CAROLINE Series .....63	<b><i>Nemesia</i></b> SUNSATIA® Series .....72	<b><i>Salvia</i></b> COLOR SPIRES® .....137 ROCKIN'™ Series .....93	<b><i>Verbena</i></b> SUPERBENA® Series .....102 SUPERBENA® Royale Series .....104 TUKANA® Series .....106
<b><i>Isotoma</i></b> BETH'S BLUE® .....68	<b><i>Nepeta faassenii</i></b> 'Cat's Meow' .....132	<b><i>Salvia splendens</i></b> ABLAZIN® Series .....92	<b><i>Verbena bonariensis</i></b> METEOR SHOWER® .....108
<b><i>Itea virginica</i></b> LITTLE HENRY® .....166	<b><i>New Guinea Impatiens</i></b> INFINITY® Series .....74 RUFFLES™ Series .....74	<b><i>Sambucus nigra</i></b> BLACK BEAUTY™ .....174 BLACK LACE® .....174 INSTANT KARMA® .....174 STRAIT-LACED® .....175	<b><i>Veronica</i></b> MAGIC SHOW® Series .....140
<b><i>Juniperus horizontalis</i></b> GOOD VIBRATIONS® Gold .....166	<b><i>Oenothera</i></b> LEMON DROP® .....76	<b><i>Sambucus racemosa</i></b> LEMONY LACE® .....175	<b><i>Viburnum</i></b> HANDSOME DEVIL® .....179 RED BALLOON™ .....179 SHINY DANCER® .....179
<b><i>Kolkwitzia amabilis</i></b> DREAM CATCHER™ .....166	<b><i>Osteospermum</i></b> BRIGHT LIGHTS™ Series .....76 SOPRANO® Series .....77 SYMPHONY Series .....77	<b><i>Sanvitalia speciosa</i></b> Sunbini™ .....92	<b><i>Viburnum carlesii</i></b> SPICE BABY™ .....177 SPICE GIRL® .....178
<b><i>Lagerstroemia</i></b> INFINITINI® Series .....166	<b><i>Panicum virgatum</i></b> PRAIRIE WINDS® 'Apache Rose' .....134 PRAIRIE WINDS® 'Cheyenne Sky' .....134 PRAIRIE WINDS® 'Totem Pole' .....134	<b><i>Scaevola</i></b> NEW WONDER® .....94 PINK WONDER® .....94 WHIRLWIND® Series .....94	<b><i>Viburnum cassinoides</i></b> LIL' DITTY® .....178
<b><i>Lamium maculatum</i></b> PINK CHABLIS® .....68 PURPLE CHABLIS™ .....68	<b><i>Parthenocissus quinquefolia</i></b> RED WALL® .....170 'Yellow Wall' .....170	<b><i>Schizachyrium scoparium</i></b> PRAIRIE WINDS® 'Blue Paradise' .....135	<b><i>Viburnum dentatum</i></b> BLUE MUFFIN® .....178
<b><i>Lantana camara</i></b> LUSCIOUS® Series .....66	<b><i>Pelargonium</i></b> BOLDLY® .....79 TIMELESS™ .....80	<b><i>Schizophragma hydrangeoides</i></b> ROSE SENSATION™ .....175	<b><i>Viburnum dilatatum</i></b> CARDINAL CANDY™ .....178
<b><i>Laurus nobilis</i></b> SICILIAN SUNSHINE® .....167	<b><i>Pennisetum alopecuroides</i></b> PRAIRIE WINDS® 'Desert Plains' .....135	<b><i>Sedum</i></b> ROCK 'N GROW® Series .....138	<b><i>Viburnum nudum</i></b> BRANDYWINE™ .....178
<b><i>Lavandula angustifolia</i></b> SWEET ROMANCE® .....128	<b><i>Penstemon</i></b> 'Midnight Masquerade' .....133	<b><i>Sedum mexicanum</i></b> LEMON CORAL™ .....95	<b><i>Viburnum plicatum tomentosum</i></b> WABI-SABI™ .....179
<b><i>Leucanthemum</i></b> AMAZING DAISIES® Series .....129	<b><i>Perovskia atriplicifolia</i></b> 'Denim 'n Lace' .....133	<b><i>Solenostemon scutellarioides (Coleus)</i></b> COLORBLAZE® Series .....96	<b><i>Viburnum x rhytidophylloides</i></b> EMERLAD ENVY™ .....179
<b><i>Ligularia</i></b> 'Bottle Rocket' .....128	<b><i>Petunia</i></b> SUPERTUNIA® Series .....81 SUPERTUNIA® Picasso Series .....84 SUPERTUNIA® Mini Series .....85 SUPERTUNIA® Charm Series .....86 SUPERTUNIA® Vista Series .....87	<b><i>Spiraea betulifolia</i></b> GLOW GIRL® .....176	<b><i>Vitex agnus-castus</i></b> BLUE DIDDLEY® .....179
<b><i>Ligustrum</i></b> GOLDEN TICKET® .....167	<b><i>Phlox</i></b> 'Cloudburst' .....136 INTENSIA® Series .....90 Opening Act Series .....136	<b><i>Spiraea nipponica</i></b> WEDDING CAKE® .....176	<b><i>Weigela florida</i></b> CZECHMARK™ Series .....179 FINE WINE® .....180 GHOST® .....180 MIDNIGHT WINE® .....180 MY MONET® .....180 MY MONET® 'Sunset' .....180 SONIC BLOOM® Series .....180 SPILLED WINE® .....181 WINE & ROSES® .....181
<b><i>Lobelia erinus</i></b> LAGUNA™ Series .....69 LUCIA® Series .....69	<b><i>Physocarpus opulifolius</i></b> COPPERTINA® .....170 GINGER WINE™ .....170 FESTIVUS GOLD® .....170 SUMMER WINE® .....170 TINY WINE® .....170 TINY WINE® Gold .....171	<b><i>Sutera cordata</i></b> SNOWSTORM® Series .....98	
<b><i>Lobularia</i></b> BLUSHING PRINCESS® .....70 DARK KNIGHT™ .....70 FROSTY KNIGHT® .....70 SNOW PRINCESS® .....70 WHITE KNIGHT® .....70	<b><i>Symphoricarpos</i></b> PROUD BERRY™ .....176	<b><i>Syringa</i></b> BLOOMERANG® Series .....176 SCENT AND SENSIBILITY™ Pink .....177	
<b><i>Lonicera caerulea</i></b> SUGAR MOUNTAIN® Series .....169 YEZBERRY® Series .....169	<b><i>Thuja occidentalis</i></b> ANNA'S MAGIC BALL™ .....177 'Filips Magic Moment' .....177 NORTH POLE® .....177 POLAR GOLD™ .....177		

# Top 3 Trends to Watch

## 1 A Move to a Sharing Economy

A sharing economy is one in which people share unused assets, such as gardening space or tools, with others in their community, while building a sense of acting responsibly for the greater good. P2P (Peer to Peer) sales – think Craigslist, Uber, Airbnb – are all based on this idea.

Our industry is all too familiar with empty greenhouses. Clothing companies and widget shops were just the same until their management made a strategic decision to repurpose the unused space to produce alternative items to keep staff busy and revenue flowing.

**Takeaway Tip:** Millennials look at unused space and wonder why companies are being so “irresponsible” with their space, and what the human-effect might be as a result. Our industry will need to change to meet the reality and expectations of an audience that is changing.

**Food for Thought:** If community gardening is the segment that is growing the most right now, what are we doing to support that trend? Can IGC's shift from selling tools, to also renting them?



## 2 Simple & Quick Purchasing

Amazon is redefining what fast shopping means to consumers. Rather than logging on to their Amazon account, consumers are now purchasing Amazon's latest wi-fi connected gadget – the dash button – to purchase regularly used items. Simply press the button to reorder, and your products will be delivered free within 24 hours – or two hours in select urban cities – through Prime shipping.

**Takeaway Tip:** Of the two groups of college students who visited Proven Winners at the California Spring Trials this year, about 50% reported using dash buttons for items they consume in bulk like Gatorade. How is Proven Winners simplifying purchasing decisions? We promote our best plants through our National Plant of the Year and National Recipes programs, making the buying decision simple for growers, retailers and gardeners.

**Food for Thought:** Which never-out items are you promoting to your customers and how are you simplifying the purchasing of those items? Can you check out a customer anywhere in a store, or only at the cash register? Think Apple, Hertz and restaurants – mobile transactions.



## 3 Redefining Waste

You might think of “waste” as garbage or pollution, but millennials look at waste in a much broader way. We think of recycling as a customary practice now, but it took more than twenty years to streamline the process for homeowners. Younger consumers are unnerved by wasted resources like factories sitting idle, empty warehouse spaces being heated, and empty greenhouses not being used in the off-season. They are embracing brands that capture this idle capacity and reclaim its lost value for the good of society and our planet.

**Takeaway Tip:** Promote your recycling efforts and the “greenness” of your business.

**Food for Thought:** What use could you make of your empty greenhouses in the off-season? Is there space on your land that could be used by a local beekeeper or farmer's market, or another seasonal local business suitable for a partnership?



# 2018 National Plant of the Year Program

We continue to create awareness and demand for the most reliable and outstanding plants we offer through the National Plant of the Year Program. This year, over 5,600 growers, retailers and gardeners voted online for the winners.

Learn more on our newest website, [www.nationalplantoftheyear.com](http://www.nationalplantoftheyear.com).



**SUPERTUNIA®  
BORDEAUX™**  
*Petunia*



**PRIMO™  
'Black Pearl'**  
*Heuchera*



**SPILLED WINE™**  
*Weigela*



## Grow Sales All Season with the 2018 National Recipes



**Lilac Festival**

SUPERTUNIA® Mini Blue Veined *Petunia*  
SUPERTUNIA® ROYAL VELVET™ *Petunia*  
SUPERBENA® Violet Ice *Verbena*

**Summerfest**

GOLDBELLS® CORALINA *Calibrachoa*  
SUPERBELLS® CORALINA *Calibrachoa*  
SUPERTUNIA® ROYAL VELVET™ *Petunia*

**Enchanted Garden**

Sweet Caroline Raven *Ipomoea*  
SUPERTUNIA® BLACK CHERRY™ *Petunia*  
SUPERTUNIA® LATTE™ *Petunia*