

# Cultural Information

CULTURE





## Cultural Information for Annuals

	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
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
LADY GODIVA™ <i>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
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 SEÑORITA <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

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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
DIAMOND FROST® DIAMOND DELIGHT® DIAMOND MOUNTAIN™ <i>Euphorbia</i>	Vigor 3 Vigor 2 Vigor 4	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
TRUFFULA™ Pink <i>Gomphrena</i>	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	Spring through Fall Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-9; for 10-12", 10-12	Do not move 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
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
GRACEFUL GRASSES® '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
GRACEFUL GRASSES® 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
HIPPO® <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

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<b>ROCKAPULCO®</b> <i>Impatiens</i>	Vigor 2	5.8 - 6.2/.75 -.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>	Vigor 3	6.0 - 6.5/.6 -.9	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 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>Sweet Caroline Bewitched</b> <i>Green with Envy™</i>	Vigor 4								
<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> <i>Lamium</i>	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> <i>BANANARAMA™, Lemonade, Marmalade</i>	Vigor 4	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
<i>Grape, Royale Cosmo, Royale Piña Colada</i>	Vigor 3								
<i>Lantana</i>	Vigor 2								
<b>LAGUNA®</b> <i>Lobelia</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 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> <i>DARK KNIGHT®</i>	Vigor 4	6.0 - 6.5/.6-.9	65-72° F (18-22° C)	55-65° F (12-18° C)	40-55° F (4-12° C)	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
<i>SNOW PRINCESS®</i>	Vigor 3								
<i>FROSTY KNIGHT®</i>	Vigor 4								
<i>WHITE KNIGHT®</i>	Vigor 3								
<i>Lobularia</i>	Vigor 3								
<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
<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)	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> <i>New Guinea Impatiens</i>	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

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<b>SOPRANO® and BRIGHT LIGHTS™</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)	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)	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, 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)	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)	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>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
<b>WHIRLWIND®</b> <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
<b>LEMON CORAL™</b> <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
<b>COLORBLAZE®</b> Dark Star, Royale <b>ALLIGATOR TEARS™, APPLE BRANDY®, Royale CHERRY BRANDY™, LIME TIME™, VELVETEEN®</b> Dipt in Wine, GOLDEN <b>DREAMS™, REDICULOUS™, SEDONA SUNSET™, TORCHLIGHT™, Chocolate Drop, Strawberry Drop, Solenostemon</b>	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

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SNOWSTORM® Blue and Pink	Vigor 2	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)	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
GIANT SNOWFLAKE® and SNOW GLOBE® <i>Sutera</i>	Vigor 3				50-60° F outdoors				
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
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 - 1-3PPPP 10" or larger - 3-5PPPP	For 4-5", 5-6; for 6"/gallon, 8-10; for 10-12", 10-12	Second to go outside

## Cultural Information for Proven Harvest™

	Vigor	pH/EC	Rooting Out Temperature	Growing Temperature	Holding Temperature	Water Requirements	Planting and Timing	Finish Times in Weeks	Spring Outdoor Finish
BERRIED TREASURE™ <i>Fragaria</i>	Vigor 2	5.8-6.5/0.6-0.9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C) outdoors	Moderate to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 5-7; for 6"/gallon, 7-9; for 10-12", 10-12	Second to go outside
'Garden Gem' 'Garden Treasure' <i>Lycopersicon</i>	Vigor 4	5.6-5.8/0.6-0.9	65-72° F (18-22° C)	65-72° F (18-22° C)	50-60° F (10-16° C)	Moderate to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-5; for 6"/gallon, 6-7; for 10-12", 8-10	Last to go outside
AMAZEL™ Basil <i>Ocimum</i>	Vigor 4	6.0-6.5/0.6-0.9	65-72° F (18-22° C)	65-72°F (18-22° C)	65-72°F (18-22° C)	Moderate to Moist	Spring through Summer Finish. Standard Plants Per Container.	For 4-5", 4-5; for 6"/gallon, 5-7; for 10-12", 7-9	Last 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> , Lady Godiva™ <i>Calendula</i> , Karalee® and Stratosphere™ <i>Gaura</i> , Beth's Blue® <i>Isotoma</i> , Symphony, Soprano® and Bright Lights™ <i>Osteospermum</i> , Intensia® <i>Phlox</i> , and Rockin'® <i>Salvia</i>	Silver Bullet® <i>Artemisia</i> , Pink Chablis® <i>Lamium</i> , Princess and Knight <i>Lobularia</i>
<b>B</b> 65°-72° F (18-22° C)	Pegasus® <i>Begonia</i> , 'Garden Gem' and 'Garden Treasure' <i>Lysopersicon</i> , 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®, Diamond Delight® and Diamond Mountain™ <i>Euphorbia</i> , Rockapulco® <i>Impatiens</i> , Blue Mohawk® <i>Juncus</i> , Laguna® <i>Lobelia</i> , Charmed® Wine <i>Oxalis</i> , Vertigo® <i>Pennisetum</i> , Sunbini® <i>Sanvitalia</i> , Lemon Coral™ <i>Sedum</i> , Superbena® and Meteor Shower® <i>Verbena</i>	Flambé® <i>Chrysocephalum</i> , Fairy Dust® <i>Cuphea</i> , ColorBlaze® Coleus, Baby Tut®, King Tut® and Prince Tut™ <i>Cyperus</i> , Berried Treasure™ <i>Fragaria</i> , Truffula™ Pink <i>Gomphrena</i> , Boldly®/Timeless™ <i>Pelargonium</i> , Mojave® <i>Portulaca</i> , Amazel™ Basil <i>Ocimum</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® <i>New Guinea</i> <i>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*

#### 100-150 CLF

Toffee Twist *Carex*

Berried Treasure™ *Fragaria*

Rockapulco® *Impatiens*

'Garden Gem' and 'Garden Treasure' *Lycopersicon*

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*

#### 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*



## 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

### 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:

Nordic Nurseries – 604.607.7074

Ed Sobkowich Greenhouses – 905.945.8870



**Need help? Give us a call.**

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

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

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