Shock Wave™ Series Petunia

P. x hybrida
Seed Count (Pelleted): 33,000 S./oz. (1,200 S./g)

Plug Production

NOTE: Because their spreading habit begins after transplanting, **Shock Wave** plugs can be produced like other petunia plugs.

Media

Use a well-drained, disease-free seedling medium with a pH of 5.5 to 6.0 and EC about 0.75 mS/cm (1:2 extraction).

Sowing

Covering **Shock Wave** seed is not recommended. Water adequately after sowing to completely dissolve the pellet.

Stage 1 – Germination takes 4 to 5 days.
Soil temperature: 72 to 76°F (22 to 24°C)
Light: Lighting is optional.
Moisture: Keep soil very wet (level 5) during Stage 1 for optimal germination.
Humidity: Maintain 100% relative humidity (RH) until radicles emerge.

Stage 2

Soil temperature: 68 to 75°F (20 to 24°C)
Light: Up to 2,500 f.c. (26,900 Lux)
Moisture: Start to slightly reduce soil moisture (level 4) to allow root to penetrate into the media.
Fertilizer: Apply fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) from nitrate-form fertilizers with low phosphorous.

Stage 3

Soil temperature: 65 to 70°F (18 to 21°C)
Light: Up to 2,500 f.c. (26,900 Lux)
Moisture: Allow media further dry to the surface become light brown (level 2) before watering. Keep the moisture to wet-dry cycle (moisture level 4 to 2).
Fertilizer: Increase fertilizer to rate 2 (100 to 175 ppm N/0.7 to 1.2 mS/cm EC). If growth is slow, apply a balanced ammonium and nitrate-form fertilizer with every other fertilization. Maintain medium pH of 5.8 to 6.2 and EC between 1.0 and 1.5 mS/cm (1:2 extraction).
Growth Regulators: Control **Shock Wave** plug growth first by environment, nutrition and irrigation management, then with chemical plant growth regulators if needed. Minimize ammonium-form nitrogen fertilizer to avoid seedling elongation. Temperature differential (DIF) can also be used to minimize height. Test all chemical plant regulators first.

In North American conditions: apply B-Nine/Alar (daminozide) 1 to 2 applications at 5,000 ppm (6.0 g/l 85% formulation or 7.8 g/l 64% formulation) as a spray. The first application should be made when plugs have 2 to 3 true leaves. A second application can be made 7 days later. This treatment can improve basal branching of mature plants.

In Northern European conditions: 1 to 3 applications of B-Nine/Alar (daminozide) at 1,250 ppm (1.5 g/l 85% formulation or 2.0 g/l 64% formulation) spray has been tested and show effective if needed.

Stage 4

Soil temperature: 60 to 65°F (16 to 18°C)
Light: Up to 5,000 f.c. (53,800 Lux) if temperature can be controlled.
Moisture: Same as Stage 3.
Fertilizer: Same as Stage 3.

Growing On to Finish

Container Size

1801 flats & Ride The Wave Pink Packs:
1 plant per cell
4 to 4.5-in. (10 to 11-cm) pots: 1 plant per pot
6-in. (15-cm) pots: 1 to 3 plants per pot
10-in. (25-cm) baskets: 3 to 4 plants per basket

Media

Use a well-drained, disease-free, soilless medium with a pH of 5.5 to 6.2 and a medium initial nutrient charge.

Temperature

Nights: 57 to 65°F (14 to 18°C)
Days: 61 to 75°F (16 to 24°C)

Shock Wave can be grown as low as 50°F (10°C). Crop timing (time to flower) is related to average temperature when grown under proper daylength. **Shock Wave** plants will take longer to flower when grown in cooler conditions.

Light

Keep light levels as high as possible while maintaining temperature.

Fertilizer

Shock Wave petunias require more fertilizer than is usually recommended for petunias. For best results, apply nitrate-form with low phosphorus fertilizer at rate 4 (225 to 300ppm N (1.5-2.0 mS/cm EC) every other irrigation. Apply a balanced ammonium and nitrate form fertilizer with low phosphorus as need to encourage growth and balance medium pH. Maintain medium pH 5.8 to 6.2.

Growth Regulators

In North American conditions: Use B-Nine/Alar (daminozide) at 5,000 ppm (5.9 g/l, 85% formulation or 7.8 g/l, 64% formulation) at 7 days after transplant. Follow these with a Bonzi drench at 3 to 5 ppm (0.8 to 1.3 ml/l, 0.4% formulation) depending on environmental conditions. If additional PGR is needed, a Bonzi (paclobutrazol) spray at 30 ppm (7.5 ml/l, 0.4% formulation) will help hold the finished crop.

In northern European conditions: Use B-Nine/Alar at 5,000 ppm (5.9 g/l, 85% formulation or 7.8 g/l, 64% formulation) at 7 days after transplant. Follow these with a Bonzi drench 6-8 ppm (1.5 to 2.0 ml/l, 0.4% formulation) depending on environmental conditions. If additional PGR is needed, a Bonzi spray at 30 ppm (7.5 ml/l, 0.4% formulation) will help hold the finished crop.

A general guideline is to use the same (or similar) growth regulator program for **Shock Wave** petunias as you use for your Easy Wave petunias.

To determine the best rate for your conditions, we recommend that you run an in-house trial.

Photoperiod

Ride The Wave *petunia lighting requirements vary by location, variety and production week. Refer to the Supplemental Lighting Chart on the following page.*

Shock Wave petunias are less sensitive to daylength than **Wave** petunias. **Shock Wave** varieties will flower successfully at 10 hours. The crop time at 10 hours will be about 10 to 14 days longer than at 12 hour daylength.

When producing **Shock Wave** petunias early in the year when days are short, decrease crop times by using supplemental lighting after transplanting. Day extension or night break lighting are acceptable.

Crop Scheduling

Sow to transplant (400 to 288-cell plug): 4 to 6 weeks
Transplant to flower: 5 to 7 weeks

Total Crop Time:

Container Size	Number of Plants	Spring	Summer
1801 flats, Ride The Wave Pink Pack	1 plant per cell	9 to 11 weeks	8 to 10 weeks
4 to 4.5-in. (10 to 11-cm)	1 plant per pot	9 to 11 weeks	8 to 10 weeks
6-in. (15-cm) pot	2-3 plants per pot	10 to 12 weeks	8 to 10 weeks
10-in. (25-cm) basket	3-4 plants per basket	10 to 13 weeks	8 to 11 weeks

Common Problems

No major problems will occur if good cultural and IPM practices are used.

NOTE: Growers should use the information presented here as a starting point. Crop times will vary depending on the climate, location, time of year and greenhouse environmental conditions. Chemical and PGR recommendations are only guidelines. It is the responsibility of the applicator to read and follow all the current label directions for the specific chemical being used in accordance with all regulations.

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Supplemental Lighting Chart

These tables will help you to decide when you need to light the different **Ride The Wave**® varieties and choose the right variety for you. For example, if you want to produce Wave petunia during week 6 to week 20 in Kalamazoo, MI (N42.5^{o}), you need to light group 2 varieties for 3 weeks, group 3 varieties for 6 weeks, but you don't need to use supplemental light for group 1 varieties.

Daylength Requirements for Flowering Ride The Wave® Petunia Varieties

Group	Min. Daylength Requirement	Variety
1	10.5 hours	Easy Wave® White, Shell Pink, Blue, Red, Rosy Dawn, Coral Reef, Mystic Pink; all Shock Wave® colors
2	11 hours	Easy Wave® Salmon and Pink; Wave® Blue
3	12 hours	Wave® Misty Lilac, Lavender, Rose, Purple, and Pink; Tidal Wave® Cherry, Hot Pink, Purple and Silver

Production Weeks When Lighting is Required for Different Ride The Wave® Products Based on Latitude

(N: Natural Daylength, L: Supplemental Lighting--14 hour daylength extension or night interruption using HID or incandescent lights)

Latitude N25^{o}, For cities such as: Miami, FL

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Group 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Group 2	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L
Group 3	L	L	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N30^{o}, For cities such as: Jacksonville, FL; New Orleans, LA; San Antonio and Houston, TX

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Group 1	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L
Group 2	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L
Group 3	L	L	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N35^{o}, For cities such as: Atlanta, GA; Charlotte, NC; Little Rock, AR; Los Angeles; CA, Oklahoma City, OK

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Group 1	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L
Group 2	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L
Group 3	L	L	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N40°, For cities such as: Baltimore, MD; Cincinnati, OH; Columbus, OH; Denver, CO; Indianapolis, IN; Philadelphia, PA; Salt Lake City, UT

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Group 1	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L
Group 2	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L
Group 3	L	L	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L

Latitude N42.5°, For cities such as: Boston, MA; Buffalo, NY; Chicago, IL; Cleveland, OH; Kalamazoo, MI; Grand Rapids, MI; Toledo, OH

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Group 1	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L
Group 2	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L
Group 3	L	L	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L

Latitude N45°, For cities such as: Minneapolis, MN; Montreal, ON; Ottawa, ON; Portland, OR; Traverse City, MI; Toronto, ON

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Group 1	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L
Group 2	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L
Group 3	L	L	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L

Latitude N50°, For cities such as: Seattle, WA; Vancouver, BC; Winnipeg, MB

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Group 1	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L
Group 2	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L
Group 3	L	L	L	L	L	L	L	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L

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