

## GrowerFacts

# Easy Wave® 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, Easy 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 Easy Wave seed is not recommended. Water adequately after sowing to completely dissolve the pellet.

**Stage 1 –** Germination takes approximately 4 days.

Soil temperature: 72 to 76°F (22 to 24°C)

Light: Lighting is optional. Burgundy Star, Pink and Plum

Vein benefit from light during germination.

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 to further dry ur

**Moisture:** Allow media to further dry until the surface becomes 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 5.8 to 6.2 and EC between

1.0 and 1.5 mS/cm (1:2 extraction).

**Growth Regulators:** Control 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 shown 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 & Wave-Pink Packs: 1 plant per cell

**4-in. (10-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)

Easy Wave petunias can tolerate temperatures as low as 35°F (2°C); however, keep in mind that crop timing (time to flower) is related to daily average temperature when grown under proper daylength. Easy Wave plants will take longer to flower when grown in cooler conditions.

#### Light

Keep light levels as high as possible while maintaining moderate temperatures.

#### **Fertilizer**

Easy 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 300 ppm N /1.5 to 2.0 mS/cm EC) every other irrigation. Apply a balanced ammonium and nitrate-form fertilizer with low phosphorus as needed to encourage growth and balance medium pH. Maintain medium pH 5.8 to 6.2.

For constant fertilizer program, can apply fertilizer at rate 3 (175 to 225 ppm N or 1.2 to 1.5 mS/cm EC) while maintaining the above recommended EC and pH ranges.

#### **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 to 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.

#### In all conditions:

Burgundy Velour, Plum Vein and Red Velour are more vigorous within the Easy Wave group. They can take higher rates of paclobutrazol drench (1 to 2 ppm more) than the others.

For hanging basket production, Burgundy Velour will benefit from one additional Bonzi 30 ppm spray.

**Note:** Topflor can be used in place of Bonzi at 2/3 the rate of Bonzi.

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

#### **Photoperiod**

Wave petunia lighting requirements vary by location, variety and production week. Refer to the Photoperiodic Lighting Chart.

Easy Wave petunias are less sensitive to daylength than Wave petunias. Most Easy Wave varieties will flower successfully at 10 hours. Easy Wave Pink, Plum Vein and

Red Velour flower best with 11-hour daylength. The crop time for Easy Wave varieties will be shorter with longer days, such as 12 hours.

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

#### Crop Scheduling

Sow to transplant (288-cell plug): 5 to 6 weeks

Transplant to flower: 4 to 7 weeks

#### **Total Crop Time:**

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

#### **Common Problems**

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

#### Home Gardener "Green Thumb" Tips

Choose a full sun location for Easy Wave petunias – at least 6 hours of direct sunlight is best. For best results, feed with an all-purpose fertilizer every 7 to 10 days, especially when grown in containers. Apply fertilizer at the recommended package rates.

Space 12 in. (30 cm) apart in the garden. Plants will spread 2.5 to 3 ft. (75 to 90 cm) and grow 8 to 12 in. (20 to 30 cm) tall.

**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.

630 231-1400 panamseed.com



## PanAmerican Seed

### **Photoperiodic Lighting Chart**

These tables will help you to decide when you need to light the different Wave Petunia family 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°), you need to light group 3 varieties for 3 weeks, group 4 varieties for 6 weeks, but you don't need to use photoperiodic light for group 1 and group 2 varieties.

Daylength Requirements for Flowering Wave® Petunia Varieties

	Min. Daylength	
Group	Requirement*	Variety
		Easy Wave® Berry Velour, Pink Passion, Burgundy Star, Coral Reef, Neon Rose, Red, Rosy
		Dawn, Silver, Violet, White, and Yellow; Shock Wave® Coral Crush, Denim, Pink Shade, Red,
1	10 hours	Yellow
2	10.5 hours	Easy Wave® Blue, Burgundy Velour; Shock Wave® Coconut, Pink Vein, Purple, and Rose
3	11 hours	Easy Wave Pink, Plum Vein, and Red Velour; Wave Blue
4	12 hours	Wave Lavender, Misty Lilac, Pink, Purple Classic, Purple** and Rose; all Tidal Wave® colors

<sup>\*</sup>Speed of flowering increases at longer daylengths.

# Production Weeks When Lighting is Required for Different Wave Petunias Based on Latitude (N: Natural Daylength, L: Photoperiodic Lighting--daylength extension to 14 hours or night interruption from 10PM to 2AM by using HID or incandescent lights)

Latitude N25°, For cities such as: Miami, FL 1 2 3 4 5 6 7 8 9 10 11 12 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | N N N N N N Ν Group 1 N N N N N N Ν Ν Ν Group 2 N N N N N N N N N N N N N Ν Ν Ν Ν N Group 3 L L L L N N N N N N N N N N N N N N N Ν N N Ν Ν

Latitude N3	0°, F	or ci	ties	suc	h as	: Jac	ckso	nville	e, Fl	L; Ne	ew (	Orlea	ıns, L	A; S	an A	ntonio	o an	d Ho	usto	on, T	Χ																																	
Week	1	2	3	4	5 (	3 7	7 8	9	10	0 .	11	12	13	14	15	16	17	7 1	8	19	20	21	22	23	3 24	1 2	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	Ν	N	N	N	1 N	۱ I	1 1	I N	N	ı	N	N	Ν	Ν	Ν	Ν	N	1	٧	Ν	N	Ν	N	Ν	N	1	N	N	Ν	N	Ν	N	N	Ν	N	Ν	N	N	N	Ν	Ν	Ν	N	N	N	N	N	N	N	Ν	N	Ν	N	N
Group 2	L	L	L	N	1 N	N N	1 N	I N	N	ı	N	N	Z	N	N	Ν	N	1	٧	N	N	N	N	Ν	N	1	N	N	Ν	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 3	L	L	L	L	LI	_ N	1 1	I N	Ν	ı	N	N	Ν	N	N	N	N	ı	٧	N	N	N	N	Ν	N	ı	N	Ν	N	Ν	N	N	N	N	N	Ν	Ν	N	N	N	N	N	N	N	N	N	L	L	L	L	L	L	L	L
Group 4	L	L	L	L	L	. [	L	L	L		L	L	Z	Ν	Ν	Ν	N	1	٧	Ν	N	Ν	N	Ν	Ν	1	N	Ν	Z	N	N	Ν	N	N	Ν	Ν	Ν	N	N	Ν	N	L	L	L	L	L	L	L	L	ш	L	L	L	L

<sup>\*\*</sup>Wave Purple Improved requires 11.5 hours daylength or one week less of photoperiodic lighting compared to Purple Classic.

Merch   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   14   24   24   46   46   50   55   52   25   50   50   50   50	Latitude N35°, For cities such as: Atlanta, GA; Charlotte, NC; Little Rock, AR; Los Angeles; CA, Oklahoma City, OK											
Group 2	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 3	Group 1 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 L L L L										
Latitude N40": For critics such as: Baltimore. MD; Circlimatis. OH; Columbus. OH; Deriver, CO; Indianapoolis. 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   46   47   48   49   50   51   52     Group 1   L L L L L L L L L L L L L L L L L L	Group 2   L   L   L   L   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										
Lattlude N40°, For cities such as: Baltmore, MD. Cincinnati, OH; Columbus, OH; Denver, CO: Indianapolis, IN; Philadelphia, PA; Salt Lake City, UT  Week 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 10 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  Lattlude N40°, For cities such as: Baltmore, MD. Cincinnati, OH; Columbus, OH; Denver, CO: Indianapolis, IN; Philadelphia, PA; Salt Lake City, UT  Week 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 10 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 67 (200 pt.)  Lattlude N40°, For cities such as: Baltmore, MD. Cincinnati, OH; Columbus, OH;	Group 3 L L L L L L N N N N N N N N N N N N N	N										
Week	Group 4	N N N N N N N L L L L L L L L L L L L L										
Week	Letitude N40° For cities queb es: Politimero MD: Cincipneti OH: Columbus OH: Depuer CO: Indianancia IN: Dhiladelphia DA: Salt Lake City LIT											
Group 1 L L L L L N N N N N N N N N N N N N N		2 22 24 25 22 27 22 22 22 42 42 42 42 44 45 42 47 48 40 50 54 52										
Group 2		<del>                                     </del>										
Group 3 L L L L L L L 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, M; 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  Latitude N45°, For cities such as: Winneapolis, MN; MN N N N N N N N N N N N N N N N N												
Latitude N42.5°, For cities such as: Boston, MA; Buffalo, NY; Chicago, II; 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 2 L L L L L L L L L L L L L L L L L L	Group 3 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 L L L L L L L L										
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         89         30         41         42         44         45         46         47         48         49         50         51         52           Group 2         L         <	Group 4   L   L   L   L   L   L   L   L   L	N   N   N   N   N   N   L   L   L   L										
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         89         30         41         42         44         45         46         47         48         49         50         51         52           Group 2         L         <	Latitude N40 50 For attice and are Dester MA. Duffele NIV. Chicago, III. Clausland, Old Melancara, Mic Coned Deside Mit Talada, Old											
Group 1 L L L L N N N N N N N N N N N N N N N												
Group 2												
Group 3 L L L L L L L L L L L L N N N N N N N	Group 1 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										
Group 4 L L L L L L L L L L L L L L L L L L	Group 2   L   L   L   L   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										
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 L L L L L L L L L L L	Group 3 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 L L L L L L L L										
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         44         45         46         47         48         49         50         51         52           Group 1         L <td>Group 4   L   L   L   L   L   L   L   L   L  </td> <td>  N N N N N N N <mark>L L L L L L L L L L L L </mark></td>	Group 4   L   L   L   L   L   L   L   L   L	N N N N N N N <mark>L L L L L L L L L L L L </mark>										
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         43         44         45         46         47         48         49         50         51         52           Group 1         L </td <td colspan="12">ativide NATO For ativide and Minnescopile NAN Marked ON Ottown ON Desilord OD Transport ON</td>	ativide NATO For ativide and Minnescopile NAN Marked ON Ottown ON Desilord OD Transport ON											
Group 1 L L L L L L N N N N N N N N N N N N N		2 22 24 25 26 27 29 20 40 44 42 42 44 45 46 47 49 40 50 54 52										
Group 2 L L L L L N N N N N N N N N N N N N N												
Group 3												
Group 4 L L L L L L L L L L L L L L L L L L		<del>                                     </del>										
Latitude N50°, For cities such as: Seattle, WA; Vancouver, BC; Winnipeg, MB  Week		<del>                                     </del>										
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	Group 4   L   L   L   L   L   L   L   L   N   N	N N N N N N N L L L L L L L L L L L L										
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	_atitude N50°, For cities such as: Seattle, WA; Vancouver, BC; Winnipeg, MB											
Group 1 L L L L L L L L N N N N N N N N N N N		2 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52										
Group 2 L L L L L L N N N N N N N N N N N N N		<del>                                      </del>										
Group 3 L L L L L L L N N N N N N N N N N N N		<del>                                     </del>										
		<del>                                     </del>										
	Group 4 L L L L L L L L L L N N N N N N N N N											