

Program # 87  
 Effective Date: November 7, 2011 – June 13, 2012  
 F.O.B: Hudsonville, MI

### Bosgraaf Greenhouse - KARMA DAHLIAS

- #1 Cut flower dahlia on the market
- All liners grown from tissue cultured stock to insure disease free plants

This series was developed specifically for the cut flower market. Karma dahlias have incredibly strong stems and brilliant, iridescent colors. The plants are highly productive with uniform stems and a long flowering period. Blooms are 4-5 inches in diameter and are upright facing. Choose from 17 eye catching colors that will be sure to attract your customer's attention.

Versatile Karma Dahlias can be grown in the field, in cold frames, or in greenhouses. After planting, pinch and leave 3-4 sets of leaves, which will give 4-6 breaks. Dahlia beds should be approximately 3 feet wide with an 18 inch walkway between beds. Stems can be harvested 7-9 weeks after pinch. Always cut just above the node. Stem length can vary from 12-20 inches. The stems can be cut when the flowers show color and are halfway (or less) open. Stems must be put in water with a post harvest additive. This treatment delays leaf yellowing in the vase and keeps better flower quality. Cut flowers should be stored at a post harvest temperature of 40-42 degrees F. Expect 6-8 stems per square foot in the field, 10-13 stems per square foot in cold frames and 12-15 stems per square foot in a heated greenhouse.

Item#	Tag Rule	Item	Tray Count	Price Each	Price Tray
87-60873-O	☼ T4	DAHLIA KARMA AMANDA (Rose w/Cream Petal Base) (Patented)	72	1.057	\$76.11
87-65359-O	☼ T4	DAHLIA KARMA BON BINI (Red Tip w/Yellow Center) (Patented)	72	1.057	\$76.11
87-76114-O	☼ T4	DAHLIA KARMA CHOC (Burgundy Black) (Patented)	72	1.057	\$76.11
87-65360-O	☼ T4	DAHLIA KARMA CORONA (Golden Apricot) (Patented)	72	1.057	\$76.11
87-73056-O	☼ T4	DAHLIA KARMA CORONA PINK (Bright Pink) (Patented)	72	1.057	\$76.11
87-73057-O	☼ T4	DAHLIA KARMA CORONA RED (Bright Red) (Patented)	72	1.057	\$76.11
87-77665-O	☼ T4	DAHLIA KARMA FIESTA (Bright Orange w/Yellow base) (Patented)	72	1.057	\$76.11
87-71453-O	☼ T4	DAHLIA KARMA IRENE (Brilliant Orange-Red) (Patented)	72	1.057	\$76.11
87-61403-O	☼ T4	DAHLIA KARMA LAGOON (Amethyst Blue) (Patented)	72	1.057	\$76.11
87-74858-O	☼ T4	DAHLIA KARMA MAARTIN DE ZWAAN (White) (Patented)	72	1.057	\$76.11
87-60875-O	☼ T4	DAHLIA KARMA NAOMI (Dark Red) (Patented)	72	1.057	\$76.11
87-69659-O	☼ T4	DAHLIA KARMA PROSPERO (Bi-Color Pink) (Patented)	72	1.057	\$76.11
87-76115-O	☼ T4	DAHLIA KARMA ROYAL RED (Dark Red) (Patented)	72	1.057	\$76.11
87-60876-O	☼ T4	DAHLIA KARMA SANGRIA (Pink W/Yellow Petal Base) (Patented)	72	1.057	\$76.11
87-60877-O	☼ T4	DAHLIA KARMA SERENA (White) (Patented)	72	1.057	\$76.11
87-60878-O	☼ T4	DAHLIA KARMA THALIA (Fuchsia) (Patented)	72	1.057	\$76.11
87-67493-O	☼ T4	DAHLIA KARMA VENTURA (Yellow) (Patented)	72	1.057	\$76.11

Shipping Season: November 7, 2011 – June 15, 2012  
 Packing & Minimums: Rooted cuttings are packed 4 trays of 72 (288 plants) per box. Minimum order is 2 boxes (8 trays), 1 variety per tray.  
 Order Information: Orders under \$300 are welcome, but are subject to a \$19.75 processing fee.  
 Lead Time: Minimum of 8 weeks subject to stock availability. Orders received before December have the best chance for complete fulfillment.  
 Freight Charges: Freight charges will be added to the invoice  
 Ship Methods: FedEx, Air Freight from Detroit Metro, Customer Pick-up  
 F.O.B. Hudsonville, MI  
 Box/Other Charges: Packing charge of \$.75 per tray will be added to the freight charge.  
 Patents & Royalties: All plants are patented. Royalty charges are included in the price of the plants. Propagation is prohibited.  
 Tags: Tags are not available.  
 Discounts: 5% Early Order Discount available for all orders placed 12 weeks in advance of ship date.  
 5% Volume Discount available for all orders of 16 -70 trays.  
 Please call us for a quote on all orders of 71 trays or more.  
 Claims: Must be reported to Germania Seed Company within 48 hours after receiving plants.

**\*\*\*Unrooted cuttings are available with a minimum order of 1,200 cuttings per ship date, 100/variety. The price per cutting is \$.686. Please call for additional details.**

# The Karma Cut Flower Dahlia

## Order Information – Bosgraaf Greenhouse, Inc. 2009-2010

**Karma dahlias are available as a 72 cell liner or as an unrooted cutting.**

Minimum order: 4 trays of 72 or 288 total plants. (8 trays of 576 total plants = 1 full box.)  
Box size: 21" X 21" X 21" – holds 8 individually boxed trays.  
Box weight: 30-35 lb (6-8 trays)  
Availability: November 2, 2009 – June 14, 2010  
Lead time: 8 weeks – Late orders Dec.-May subject to availability of cuttings.  
Shipped: FOB Hudsonville, Michigan  
Royalty: Included in the price on each stem cut for 1 season.

## Soil

The soil must not be too rich or organic based. A heavy or clay based soil is not recommended.

## Planting & Pinching

1. Plant January 1 through March 31 in a heated greenhouse, or outside after danger of frost is past.
2. After planting, pinch and leave 3-4 sets of leaves which will give 4-6 breaks.
3. Plant 9 plants per 1 square meter, staggering 3 X 3 X 3.
4. Dahlia beds should be approximately 3 feet wide with an 18" walkway between beds.
5. Many growers use netting for plant support and a fence for a wind-break.
6. Drip irrigation can be used very effectively.

## Growing and Harvesting Suggestions

1. Many growers stagger initial pinching to give a continual harvest.
2. Stems can be harvested 7-9 weeks after pinch. Always cut just above the node.
3. Stem length can vary from 12" – 20".
4. The stem can be cut when the flower shows color and is halfway (or less) open.
5. Stems must be put in water with a post harvest additive. This treatment delays leaf yellowing in the vase and keeps better flower quality.
6. Cut flowers should be stored at a post harvest temperature of 40-42 degrees F.

## Stem Production

1. Greenhouse: a minimum of 160 stems can be harvested per square meter.
2. Cool house: about 110-140 stems per square meter can be harvested.
3. Outside: approximately 80-100 stems per square meter.
4. Stock plants gradually lose production numbers and should be replaced with new tissue cultured cuttings.

## Fertilization and Watering

1. As the plant grows and adds foliage, water more frequently.
2. A balanced fertilizer seems to be a good approach: 15-15-15 or 20-20-20 (150-200 ppm).
3. The pH of the soil is best maintained at about 6.5. Please no bark.

## Pest & Disease Prevention

1. Thrip, whitefly and aphid can be controlled with Avid, Talstar, Safari, Orthene and Tame.
2. Pythium root rot – watch overwatering and drainage.
3. Botrytis and powdery mildew – Zyban, Strike, Heritage and Compass.

## Light Levels and Photoperiod

1. Grow Karma with higher light levels at cooler times of the year. Some shading is required for inside production during higher temperature periods.
2. **Dahlias require 14 hours of daylight for vegetative growth. Extend with mum lighting.**

## Tips for Growing Dahlias – 2010

1. All dahlias need 14 hours of day length to grow and stay vegetative.
  - Growers must extend the day with mum lighting to 14 hours.
  - Failure to do so causes dahlias to form tubers, flower profusely and shut down growth and become dormant.
  - Bury 1 set of leaves which helps firm up the plant as it grows.
2. Low temperatures can cause dahlias to grow very little if at all.
  - Day and night temperatures of 65 F. keeps dahlias growing. We use 68 F. as the bench mark to keep roots moving & vegetation forming.
  - Initial temperatures are key to plant growth and development.
  - Low temperatures can also cause roots to remain wet and contribute to root rot and other fungal diseases.
3. Using a fungicide drench as a preventive.
  - November - February plantings (and later) of dahlia must consider a fungicide at planting or within 5 to 7 days.
4. Combating powdery mildew and botrytis.
  - Powdery mildew and botrytis need to be considered even when recommended temperatures and conditions are followed.
  - Changes in the amount of light or swings in daytime temperatures can contribute to conditions causing fungal and mildew problems (humidity, temperature and light levels).
  - Use a fungicide spray with an insecticide spray to help with prevention.
5. Feed moderately = 100 ppm of 20-10-20, 75 ppm of 15-0-15, 25 ppm mag.(200 ppm)
6. Height control: most growers are using bonzi as a spray or drench. Every series is different – see color sell sheets for detail.
7. Summary: good growing means evaluating plants & conditions daily.

## Variety: Name – color

1. Amanda – rose with cream petal base
2. BonBini – red tips with yellow center
3. Choc - burgundy-black
4. Corona – golden apricot
5. Corona pink – bright pink
6. Corona red – bright red
- \*7. Fiesta – brite orange with yellow base
8. Irene – brilliant orange-red
9. Lagoon – amethyst blue
10. Maarten de Zwaan - white
11. Naomi – dark red
12. Prospero – bi-color pink
13. Royal - dark red
14. Sangria – pink with yellow petal base
15. Serena - white
16. Thalia - fuchsia
17. Ventura – yellow
18. Ying Yang – bi-color red/white

\*denotes new variety for 2009-2010

# KARMA DAHLIA



**Amanda**



**BonBini**



**Choc**



**Corona**



**Corona Pink**



**Corona Red**



**Fiesta**



**Irene**



**Lagoon**



**Maarten de  
Zwaan**



**Naomi**



**Prospero**



**Royal**



**Sangria**



**Serena**



**Thalia**



**Ventura**



**Ying Yang**

## **HISTORICAL PERSPECTIVE AND DEVELOPMENT**

The Karma Dahlia series was developed by brothers Aad and Kees Verwer, dahlia growers since 1964 and developers of the Gallery Dahlia series. Their main objectives were to develop healthy varieties that were attractive, had an extended flowering period and would produce full, strong flowers that kept well. This objective was achieved with the Karma series which has a vase-life of 8-10 days. Cuttings are produced from tissue cultured stock and are free of virus. These cuttings produce an unusually large number of stems per square meter. The Karma Dahlia is a patented series and cannot be propagated.

## **THE OUTSTANDING DAHLIA CUT FLOWER SERIES!**

Great color selection and flower form.

Note: 'Karma Dahlia' varieties are plant patented. Propagation is prohibited.

# **Bosgraaf Greenhouses, Inc.**