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(54) **ECHINACEA PLANT NAMED ‘WHITES331’**

(50) Latin Name: *Echinacea purpurea*
Varietal Denomination: **Whites331**

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See application file for complete search history.

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(57) **ABSTRACT**

A new and distinct cultivar of *Echinacea* plant named
‘Whites331’, characterized by its broadly upright plant
habit; moderately vigorous growth habit; freely branching
habit; strong flowering stems; numerous large single-type
inflorescences with greenish white-colored ray florets and
dark yellow orange-colored receptacle spines; and good
garden performance.

2 Drawing Sheets

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Botanical designation: *Echinacea purpurea*.
Cultivar denomination: ‘WHITES331’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct cultivar
of *Echinacea* plant, botanically known as *Echinacea pur-*
purea, and hereinafter referred to by the name ‘Whites331’.

The new *Echinacea* plant is a product of a planned
breeding program conducted by the Inventor in Zuidwolde,
The Netherlands. The objective of the breeding program is
to develop new freely branching and relatively compact
Echinacea plants with unique and attractive ray floret col-
oration.

The new *Echinacea* plant originated from an open-pollin-
ation in July, 2014 in Zuidwolde, The Netherlands of a
proprietary selection of *Echinacea purpurea* identified as
code number 2013-07, not patented, as the female, or seed,
parent with an unknown selection of *Echinacea purpurea* as
the male, or pollen, parent. The new *Echinacea* plant was
discovered and selected by the Inventor as a single flowering
plant from within the progeny of the stated open-pollination
grown in a controlled greenhouse environment in Zuid-
wolde, The Netherlands in July, 2015.

Asexual reproduction of the new *Echinacea* plant by in
vitro meristem culture in a controlled environment in Zuid-
wolde, The Netherlands since June, 2016 has shown that the
unique features of this new *Echinacea* plant are stable and
reproduced true to type in successive generations.

SUMMARY OF THE INVENTION

Plants of the new *Echinacea* have been observed under all
possible combinations of environmental conditions and cul-
tural practices. The phenotype may vary somewhat with

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variations in environmental conditions such as temperature
and light intensity, without, however, any variance in geno-
type.

The following traits have been repeatedly observed and
are determined to be the unique characteristics of
‘Whites331’. These characteristics in combination distin-
guish ‘Whites331’ as a new and distinct *Echinacea* plant:

1. Broadly upright plant habit.
2. Moderately vigorous growth habit.
3. Freely branching habit.
4. Strong flowering stems.
5. Numerous large single-type inflorescences with green-
ish white-colored ray florets and dark yellow orange-
colored receptacle spines.
6. Good garden performance.

Plants of the new *Echinacea* can be compared to plants of
the female parent selection. Plants of the new *Echinacea*
differ primarily from plants of the female parent selection in
the following characteristics:

1. Plants of the new *Echinacea* are have larger inflores-
cences than plants of the female parent selection.
2. Ray florets of plants of the new *Echinacea* are more
white in color than ray florets of plants of the female
parent selection.

Plants of the new *Echinacea* can be compared to plants of
Echinacea purpurea ‘Avalanche’, disclosed in U.S. Plant
Pat. No. 18,597. In side-by-side comparisons, plants of the
new *Echinacea* differ primarily from plants of ‘Avalanche’
in the following characteristics:

1. Flowering stems of plants of the new *Echinacea* are
stronger than flowering stems of plants of ‘Avalanche’.
2. Leaves of plants of the new *Echinacea* are brighter
green in color than leaves of plants of ‘Avalanche’.
3. Plants of the new *Echinacea* have larger inflorescences
than plants of ‘Avalanche’.

BRIEF DESCRIPTION OF THE PHOTOGRAPHS

The accompanying photographs illustrate the overall
appearance of the new *Echinacea* plant showing the colors

as true as it is reasonably possible to obtain in colored reproductions of this type. Colors in the photographs may differ slightly from the color values cited in the detailed botanical description which accurately describe the colors of the new *Echinacea* plant.

The photograph on the first sheet is a side perspective view of a typical flowering plant of 'Whites331' grown in a ground bed in an outdoor nursery and placed in a container for the photograph.

The photographs on the second sheet are close-up views of typical inflorescences (lower photograph) and the upper surface of typical leaves (upper photograph) of 'Whites331'.

DETAILED BOTANICAL DESCRIPTION

The aforementioned photographs and following observations and measurements describe plants grown during the summer in ground beds in an outdoor nursery in Zuidwolde, The Netherlands and under cultural practices typically used in commercial *Echinacea* production. During the production of the plants, day temperatures ranged from 18° C. to 30° C. and night temperatures ranged from 6° C. to 18° C. Plants were six months old when the photographs and description were taken. In the following description, color references are made to The Royal Horticultural Society Colour Chart, 2015 Edition, except where general terms of ordinary dictionary significance are used.

Botanical classification: *Echinacea purpurea* 'Whites331'.

Parentage:

Female parent.—Proprietary selection of *Echinacea purpurea* identified as code number 2013-07, not patented.

Male parent.—Unknown selection of *Echinacea purpurea*, not patented.

Propagation:

Type.—By in vitro meristem culture.

Time to initiate roots, summer.—About one week at temperatures about 25° C.

Time to produce a rooted young plant, summer.—About five weeks at temperatures about 21° C.

Root description.—Fine, fibrous; typically pale cream in color, actual color of the roots is dependent on substrate composition, water quality, fertilizer type and formulation, substrate temperature and physiological age of roots.

Rooting habit.—Freely branching; dense.

Plant description:

Plant form and growth habit.—Herbaceous perennial; broadly upright plant habit, narrow inverted triangle; freely branching habit with about twelve lateral branches developing per primary branch; moderately vigorous growth habit; moderate growth rate.

Plant height, soil level to top of foliar plane.—About 45.6 cm.

Plant height, soil level to top of floral plane.—About 60.5 cm.

Plant diameter or spread.—About 36.5 cm.

Lateral branches.—Length: About 21.3 cm. Diameter: About 4 mm. Internode length: About 4.1 cm. Aspect: About 12.5° from vertical. Strength: Moderately strong. Texture and luster: Moderately pubescent; moderately glossy. Color: Close to 144A.

Leaf description:

Basal leaves.—Arrangement: Alternate, simple. Length: About 17.7 cm. Width: About 6.6 cm. Shape:

Narrowly ovate. Apex: Acute. Base: Attenuate. Margin: Coarsely to shallowly dentate. Texture and luster, upper and lower surfaces: Moderately pubescent, strigose, rough, slightly rugose; slightly glossy. Venation pattern: Pinnate. Color: Developing leaves, upper and lower surfaces: Close to 143A. Fully expanded leaves, upper surface: Close to NN137A; venation, close to 144A to 144B. Fully expanded leaves, lower surface: Close to NN137C to NN137D; venation, close to 144A. Petioles, basal leaves: Length: About 7.8 cm. Width: About 2.5 mm. Height: About 3 mm. Strength: Strong, flexible. Texture and luster, upper and lower surfaces: Smooth, glabrous; glossy. Color, upper and lower surfaces: Close to 144A.

Cauline leaves.—Arrangement: Alternate, simple. Length: About 10.9 cm. Width: About 3 cm. Shape: Narrowly ovate. Apex: Acute. Base: Attenuate. Margin: Coarsely to shallowly dentate. Texture and luster, upper and lower surfaces: Moderately pubescent, strigose; slightly glossy. Venation pattern: Pinnate. Color: Developing leaves, upper and lower surfaces: Close to 143A. Fully expanded leaves, upper surface: Close to NN137A; venation, close to 144A to 144B. Fully expanded leaves, lower surface: Close to NN137C to NN137D; venation, close to 144A. Petioles, cauline leaves: Length: About 1.5 cm. Width: About 1.5 mm. Height: About 2 mm. Strength: Strong, flexible. Texture and luster, upper and lower surfaces: Smooth, glabrous; glossy. Color, upper and lower surfaces: Close to 144A.

Inflorescence description:

Appearance.—Large single-type inflorescences with ray and disc florets arranged on a capitulum; inflorescences positioned upright above the foliar plane on strong peduncles.

Flowering habit.—Freely flowering habit with about 36 inflorescences developing per plant during the flowering season.

Fragrance.—Slightly fragrant, slightly acidic and pleasant.

Time to flower.—Plants begin flowering about 100 days after planting; in the garden, plants flower continuously during the summer in The Netherlands.

Inflorescence longevity.—Inflorescences maintain good substance for about two weeks on the plant; inflorescences not persistent.

Inflorescence buds.—Height: About 2.6 cm. Diameter: About 2.4 cm. Shape: Flattened globular. Texture and luster: Smooth, glabrous; matte. Color: Involucral bracts, close to 143A; developing ray florets, close to 145B.

Inflorescence size.—Diameter: About 11.1 cm. Depth (height): About 4.1 cm. Disc diameter: About 4 cm.

Receptacles.—Height: About 1.6 cm. Diameter: About 1.3 cm. Color: Close to 155A.

Ray florets.—Quantity and arrangement: About 20 arranged in a single whorl. Length: About 5 cm. Width: About 1.4 cm. Shape: Oblanceolate. Apex: Emarginate. Base: Cuneate. Margin: Entire. Texture and luster, upper surface: Smooth, glabrous, moderately velvety; matte. Texture and luster, lower surface: Smooth, glabrous, slightly velvety; slightly glossy. Aspect: Slightly upright, about 30° above horizontal. Color: When opening, upper and lower

surfaces: Close to 157C; towards the apex, close to 10A. Fully opened, upper surface: Close to 157B; venation, close to 157B; color does not change with development. Fully opened, lower surface: Close to 150D; venation, close to 150D; color does not change with development.

Disc florets.—Quantity and arrangement: About 400 per inflorescence, arranged spirally at the center of the receptacle. Length: About 1.1 cm. Diameter: About 3.5 mm. Shape: Tubular; proximally, 17.5% free, not fused. Apex: Acute. Base: Fused. Margin: Entire. Aspect: Mostly upright. Texture and luster, inner and outer surfaces: Smooth, glabrous; glossy. Color, when opening, inner and outer surfaces: Apex: Close to 144A. Mid-section and base: Close to 144B. Color, fully opened, inner and outer surfaces: Apex: Close to 144A. Mid-section and base: Close to 144B.

Receptacle spines.—Quantity: One per disc floret. Length: About 1.5 cm. Diameter: About 1.5 mm. Shape: Acicular. Apex: Narrowly acute. Base: Cuneate. Texture and luster: Smooth, glabrous; glossy. Color: Apex: Close to 23A. Mid-section: Close to 144B. Base: Close to 145D.

Involucral bracts.—Quantity per inflorescence: About 80 arranged in about four whorls. Length: About 1 cm. Width: About 3 mm. Shape: Narrowly ovate. Apex: Acute. Base: Cuneate. Margin: Entire; moderately pubescent. Texture and luster, upper surface: Smooth, glabrous; slightly glossy. Texture and luster, lower surface: Moderately pubescent; slightly glossy. Color, upper surface: Close to 143B. Color, lower surface: Close to 143C.

Peduncles.—Length, terminal peduncle: About 13.1 cm. Diameter, terminal peduncle: About 5 mm. Strength: Strong. Aspect, terminal peduncle: Upright. Texture and luster: Sparsely to moderately pubescent; moderately glossy. Color: Close to 146B with random spots, close to 144B.

Reproductive organs.—Androecium (present only on disc florets): Quantity per floret: Five. Filament length: About 3 mm. Filament color: Close to 145D. Anther length: About 3 mm. Anther width: About 0.5 mm. Anther shape: Narrowly oblong. Anther color: Close to 203C. Pollen amount: Moderate. Pollen color: Close to 23A. Gynoecium (present only on disc florets): Quantity per floret: One. Pistil length: About 7 mm. Style length: About 6 mm. Style color: Close to 151B. Stigma diameter: About 3.5 mm. Stigma shape: Decurrent, cleft. Stigma color: Close to 151B. Ovary color: Close to 145D. Seeds and fruits: Seed and fruit development have not been observed on plants of the new *Echinacea* to date.

Disease & pest resistance: Plants of the new *Echinacea* have not been shown to be resistant to pathogens and pests common to *Echinacea* plants.

Garden performance: Plants of the new *Echinacea* have exhibited good garden performance and to tolerate rain and wind. Plants of the new *Echinacea* have been observed to tolerate high temperatures of about 35° C. and to be suitable for USDA Hardiness Zones 3 to 10.

It is claimed:

1. A new and distinct *Echinacea* plant named 'Whites331' as illustrated and described.

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