



(12) **United States Plant Patent**
Jordan

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(54) **ARTICHOKE PLANT ‘Z530’**

(50) Latin Name: *Cynara scolymus* L.
Varietal Denomination: **Z530**

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(73) Assignee: **Baroda Farms, Inc.**, Lompoc, CA (US)

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(58) **Field of Classification Search** Plt./258
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP15,807 P3 6/2005 Chahbandar

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(57) **ABSTRACT**

A new and distinct cultivar of *Cynara* named ‘Z530’ that has improved productivity and year round harvest. ‘Z530’ produces one central and about fifteen lateral edible immature flower buds, and four side shoots during the first year.

3 Drawing Sheets

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Genus and species: The cultivar of this invention is botanically identified as *Cynara scolymus* L.

Variety denomination: The variety denomination is ‘Z530’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct cultivar of globe artichoke, a perennial herb that is grown as a food crop for the production of edible vegetable delicacies. The new invention is known botanically as *Cynara scolymus* and will be referred to hereinafter by the cultivar name ‘Z530’ *Cynara scolymus* is in the family Asteraceae, formerly known as Compositae.

An individual plant of *Cynara scolymus* ‘Z530’ is comprised of main stem, lateral stems, leaves, and immature flower buds known as involucre. Each involucre is made up of several series of phyllaries also known as involucre bracts. The edible parts, of freshly harvested immature flower buds are the fleshy part of the bracts, the fleshy receptacle, and the uppermost part of the peduncle. If not harvested, but permitted to mature, flower buds will develop into flower heads known as capitula.

The new *Cynara* variety named ‘Z530’ was discovered in October 2006 by the inventor as a natural somaclonal variant derived from the parent, an individual *Cynara scolymus* ‘BCL 9-11’ (U.S. Plant Pat. No. 15,807). The inventor selected ‘Z530’ based on the criterion of improved productivity of edible immature flower buds. ‘Z530’ was discovered in and amongst a commercial crop of *Cynara scolymus* ‘BCL 9-11’ in Lompoc, Calif. At the time of discovery ‘Z530’ was selected as a single plant and segregated and labeled for observation. No chemicals, nor other methods, known to the inventor, were used to induce the new variety ‘Z530’.

The first asexual propagation of ‘Z530’ was conducted by the inventor in March 2007, through the method of crown divisions. Crown divisions then served as explant material for subsequent asexual propagation by tissue culture in August 2007. Under the inventor’s supervision asexual propagation was conducted in Lompoc, Calif. where the plants were

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labeled and segregated. Since March 2007 under careful observation all plants identified as ‘Z530’ have been determined uniform, stable and true to type in subsequent generations of asexual propagation.

BRIEF SUMMARY OF THE INVENTION

The closest comparison plant is *Cynara scolymus* ‘BCL 9-11’. The comparison plant ‘BCL 9-11’ produces 2.6 lateral artichokes and 3-4 side shoots the first year. ‘Z530’ is distinguishable from the comparison plant by greater productivity, absence of purple coloring on lower bracts, long bristles, and concave heart.

‘Z530’ is characterized by broad spreading habit, yellow-green ribbed stems, yellow-green leaves, one central immature flower bud and 19.1 lateral immature flower buds that are uniform in shape, flavor, and tender consistency. Flower buds are yellow-green in color. During the first year ‘Z530’ produces 3-4 side shoots from the base of an individual plant, producing another central flower bud and 19.1 lateral flower buds per shoot. The edible immature flower buds of ‘Z530’ are harvested year round with greatest productivity March through September. Cultural requirements include full sun, well-draining soil, and moderate water. Hardiness is classified as USDA Zone 6.

The following traits have been repeatedly observed and represent the distinguishing characteristics of ‘Z530’. ‘Z530’ has greatest productivity during the warmer months from March through September. ‘Z530’ exhibits high productivity, producing 1 central and 19.1 lateral immature flower buds as well as 3-4 side shoots during the first year. Each side shoot of ‘Z530’ produces 1 central and 19.1 lateral immature flower buds per shoot. These traits in combination distinguish ‘Z530’ from all other existing varieties of *Cynara* known to the inventor. ‘Z530’ has not been tested under all possible conditions and phenotypic differences may be observed with variations in environmental, climatic, and cultural conditions, however, without any variance in genotype.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying color photographs illustrate the overall appearance of the new *Cynara* cultivar named 'Z530' showing color as true as is reasonably possible to obtain in color reproductions of this type. Photographs were taken using conventional techniques and although flower and foliage color may appear different from actual color due to light reflectance, they are as accurate as possible by conventional photography. Color in the photographs may differ from color values cited in the detailed botanical description, which accurately describe the actual color of the new variety 'X42'.

The photographs depicted in FIG. 1 and FIG. 2 were taken outdoors in indirect sunlight.

The photograph for FIG. 3 was taken indoors. Photographs were taken in November 2008 of 6-month-old field grown plants in Lompoc, Calif. Lompoc, Calif. is located on the central coast in Santa Barbara County. Conditions in Lompoc vary with air temperatures ranging from 15.5° C. to 26.6° C. The relative humidity is generally high. Prevailing winds are northwesterly and rainfall averages twelve inches per year.

FIG. 1 depicts the central immature flower bud of 'Z530'.

FIG. 2 depicts the lateral immature flower buds of 'Z530'.

FIG. 3 depicts a flower of 'Z530'.

BOTANICAL DESCRIPTION OF THE PLANT

The following is a detailed botanical description of the new *Cynara* cultivar named 'Z530'. Color determinations are in accordance with The 2001 Royal Horticultural Society Colour Chart of London, England, except where general color terms of ordinary dictionary significance are used. The following observations, measurements and values describe 'Z530' as grown in Lompoc, Calif. under conditions used in horticultural practice. The plants were grown in rows where row spacing (bed centers) was at 3 meters and individual plant spacing at 120 cm. Data was collected in November 2008 from 6-month-old field grown plants. Growing requirements are similar to the requirements for other *Cynara*.

General characteristics:

Months of harvest.—Year round with greatest productivity March through September.

Habit.—Broad spreading.

Vigor.—Vigorous.

Type.—Perennial herb.

Height at time of harvest.—122 cm.

Width at time of harvest.—173 cm.

Root system.—Thick and fibrous.

Hardiness.—USDA Zone 6.

Propagation method.—Tissue culture and division.

Crop time (range).—5-6 months to produce a harvestable crop of edible immature flower buds.

Disease resistance.—None known to the inventor.

Pest and disease susceptibility.—Aphids, slugs, and leaf spot.

Cultural requirements.—Grow in full sun and well-draining soil, with moderate water.

Stem:

Branching habit (range).—Basal to caulescent.

Length (average).—50 cm.

Diameter (range).—5-7 cm.

Surface.—A combination of ribbed and tomentose.

Shape.—Columnar.

Strength.—Rigid.

Color.—147B (147D-147A).

Side shoots (range).—3-4 during first year.

Internode (range).—8-13 cm.

Foliage:

Type.—Evergreen.

Arrangement.—Spiral.

Division.—Simple.

Margin (range).—Lacinate to incised.

Quantity (range).—55-60 leaves per individual plant.

Shape.—Pinnatifid.

Attachment.—Decurrent.

Leaf color (abaxial surface).—147B (147C-148C).

Leaf color (adaxial surface).—189A (189D-N189D).

Length (range).—35-94 cm.

Width (range).—10-57 cm.

Apex (range).—Emarginate to acute.

Base.—Truncate.

Lobe quantity (range).—8-10 lobes per leaf.

Lobe apex.—Rounded.

Lobe length (average).—7 cm.

Lobe width (average).—3.50 cm.

Venation pattern.—Reticulate.

Vein color (abaxial surface).—189A (189C-N189D).

Vein color (adaxial surface).—193A (193C-194C).

Surface (abaxial).—Tomentose.

Surface (adaxial).—Pubescent.

Appearance (abaxial surface).—Matte.

Appearance (adaxial surface).—Glossy.

Stipules.—None observed.

Fragrance.—None observed.

Angle of leaf to stem (average).—45°.

Involucrum (immature flower bud):

Shape.—Oblate.

Apex.—Obtuse.

Base.—Rounded.

Bud depth (average).—13.50 cm.

Bud diameter (average).—20 cm.

Form.—Compact.

Texture.—Firm.

Surface.—Glabrous.

Quantity (average).—1 central and 19.1 lateral.

Phyllary (involucral bract).—Arrangement: Imbricate.

Outer bract quantity (average): 50 per involucrum.

Inner bract quantity (average): 50 per involucrum.

Outer bract shape: Ovate. Inner bract shape: Spathiform.

Margin: Entire. Outer bract texture: Fleshy.

Inner bract texture: Papyraceous. Outer bract height

(average): 6.25 cm. Inner bract height (average): 7.50

cm. Outer bract width (average): 5 cm. Inner bract

width (average): 2 cm. Outer and inner bract surface

(abaxial): Glabrous. Outer and inner bract surface

(adaxial): Glabrous. Outer bract color (abaxial sur-

face): 147C (147D-148C). Outer bract color (adaxial

surface): 147C (147D-148C). Inner bract color

(abaxial surface): 155D (155D-155A). Inner bract

color (adaxial surface): 155D (155D-155A). Outer

bract appearance: Matte. Inner bract appearance: Irri-

descent. Apex (outer and inner bract): Retuse with

minute spine. Base (outer and inner bract): Truncate.

Spine color: 162C (161B-162A). Spine dimensions:

<1 mm. in height and <1 mm. in width.

Receptacle shape.—Concave.

Receptacle diameter (average).—10 cm.

Receptacle depth (range).—2-2.50 cm.

Receptacle color.—158A (158D-159D).

Receptacle texture.—Firm.

Bristle color.—155D (155D-155A).
Bristle quantity.—200+.
Bristle shape.—Filamentous.
Bristle length (average).—5 cm.
Bristle width (average): <1 mm. 5
Bristle texture.—Sericeous.
Peduncle shape.—Columnar.
Peduncle length (average).—20 cm.
Peduncle diameter (average).—3 cm.
Peduncle color: 147B (147D-148C). 10
Peduncle strength.—Rigid.
Peduncle surface.—Combination of ribbed and tomentose.
Duration of cold storage (range).—22-24 days.
Cold storage temperature (range).—1°-2° C. 15
Cold storage response.—Negligible browning and softening at stem cut.
Shelf life (range).—22-28 days under mist.
Weight (average).—561.90 grams.
 Mature inflorescence: 20
Type.—Capitula.
Persistent or self-cleaning.—Persistent.
Shape.—Oblate.
Appearance.—Thistle-like.
Depth (average).—12 cm. 25
Diameter (average).—13 cm.
Phyllary (involucral bract).—Arrangement: Imbricate.
 Outer bract quantity (average): 36 in number. Inner bract quantity (average): 100+ in number. Outer bract shape: Ovate. Inner bract shape: Spathiform. Margin 30
 (outer and inner): Entire. Outer bract texture: Fleshy. Inner bract texture: Papyraceous. Outer bract height (average): 6 cm. Inner bract height (average): 7.5 cm. Outer bract width (average): 4.75 cm. Inner bract width (average): 2 cm. Outer and inner bract surface: 35
 Glabrous. Outer and inner bract surface: Glabrous. Outer bract color (abaxial surface): 147C (147D-148C). Outer bract color (adaxial surface): 147C (147D-148C). Inner bract color (abaxial surface): 159A (159D-159A). Inner bract color (adaxial surface): 159A (159D-159A). Outer bract appearance: 40
 Matte. Inner bract appearance: Irridescent. Outer bract apex: Retuse with minute spine. Inner bract apex: Acute with minute spine. Base (outer and inner bracts): Truncate. Spine color (inner bract): 159A 45
 (159D-159A). Spine dimensions: <1 mm. in height and <1 mm. in width. Receptacle shape: Concave.

Receptacle diameter (range): 9-10 cm. Receptacle depth (average): 2.50 cm. Receptacle color: 158A (158C-159C). Receptacle texture: Firm. Disc floret quantity (average): 500+. Corolla dimensions (average): 1.50 cm. in depth and 0.25 cm. in width. Corolla shape: Tubular. Corolla color: 86B (86A-86A). Corolla lobe: 8 in number. Lobes fused or unfused: Fused. Pappus (modified calyx): Present. Pappus dimensions (average per floret): 5 cm. in length and 1 cm. in width. Pappus appearance: Irridescent. Pappus texture: Sericeous. Pappus color: 159D (159D-159A). Bristle quantity (average): 25 per disc floret. Bristle shape: Filamentous. Bristle color: 159D (159D-159A).
Peduncle dimensions (range).—44-54 cm. in length and 1.50-1.75 cm. in width.
Peduncle surface.—Combination of deeply fluted and tomentose.
Peduncle color.—147B (147C-148C).
Fragrance.—Tangy.
Weight (average).—453.592 grams.
Lastingness of inflorescence (range).—2-3 weeks.
 Reproductive organs:
Stamens.—8 epipetalous stamens.
Stamen length (range).—1.75-2 cm.
Stamen color.—86C (86D-86A).
Anther.—Connate to stamen.
Anther length.—5 mm.
Anther color.—86C (86D-86A).
Style branches.—2 in number.
Style branch length.—0.75 cm.
Style branch color.—91A (91D-91A).
Style color.—155B (155D-155A).
Style length.—2 cm.
Ovary position.—Inferior.
Ovary shape.—Oblong.
Ovary dimensions.—0.60 cm. in height and 0.40 cm. in width.
Ovary color.—159A (159D-159A).
 Seed: None observed to date.

What is claimed is:

1. A new and distinct variety of artichoke plant having the characteristics substantially as described and illustrated herein.

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FIG. 1



FIG. 2



FIG. 3