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

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(54) **ACTINIDIA CHINENSIS PLANT NAMED 'W45'**

(50) Latin Name: *Actinidia chinensis*
Varietal Denomination: **W45**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(65) **Prior Publication Data**

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(51) **Int. Cl.**
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(52) **U.S. Cl.** **Plt./156**

(58) **Field of Classification Search** Plt./156

See application file for complete search history.

Primary Examiner—June Hwu

(57) **ABSTRACT**

A new and distinct *Actinidia chinensis* cultivar named 'W45' is disclosed, characterized by having distinctive yellow/green flesh fruit and a season harvest time of Mid-April. Additionally, the new variety produces fruit with very soft, slight pubescence and with a distinctive blunt stylar end shape and square shoulders. The new variety is suitable for commercial production of kiwi fruit.

4 Drawing Sheets

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Latin name of the genus and species: *Actinidia chinensis*.
Variety denomination: 'W45'.

BACKGROUND OF THE INVENTION

The new cultivar is a product of a planned breeding program, begun in 1975 under the direction of the inventor, Donald Alfred Skelton, a citizen of New Zealand. The seed parent is the unpatented, proprietary seedling variety referred to as *Actinidia chinensis* 'R55'. The pollen parent is the unpatented, proprietary seedling variety referred to as *Actinidia chinensis* 'CMW85'.

Fruit of the new variety was first evaluated in 2001 with favorable results. After the first evaluation, semi-hardwood cuttings were made of 'W45' and were grafted onto 5 seedling rootstocks 3; of *A. chinensis* and 2 of *A. deliciosa*. Evaluation, asexual propagation and grafting all first took place at the inventor's commercial nursery in Rangiriri, New Zealand in 2001. Subsequent evaluations of the variety have shown the characteristics to be true to type.

SUMMARY OF THE INVENTION

The cultivar 'W45' has not been observed under all possible environmental conditions. The phenotype may vary somewhat with variations in environment such as temperature, day length, and light intensity, without, however, any variance in genotype.

The following traits have been repeatedly observed and are determined to be the unique characteristics of 'W45'. These characteristics in combination distinguish 'W45' as a new and distinct *Actinidia chinensis* cultivar:

1. Distinctive yellow/green flesh fruit
2. Seasonal harvest time of mid April
3. Very soft, downy pubescence on fruit, with weak adherence to the fruit skin.
4. Widely obovate fruit shape.
5. Fruit with a distinctive blunt stylar end shape and square shoulders.

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COMPARISON TO PARENT

Plants of the new cultivar 'W45' are similar to plants of the seed parent, *Actinidia chinensis* 'R55' in most horticultural characteristics, however, plants of the new cultivar 'W45' produce larger size fruit, of a more greenish hue. Additionally, the new variety has new foliage emerging typically six weeks earlier than 'R55'.

Plants of the new cultivar 'W45' are similar to plants of the pollen parent, *Actinidia chinensis* 'CMW85' in most horticultural characteristics, however, plants of the new cultivar 'W45' produce significantly more female flowers than the male parent. Whereas the new cultivar produces large quantities of female flowers, the male parent produces almost no viable female flowers.

COMMERCIAL COMPARISON

The new variety is best compared to the commercial variety, 'Hort16A', U.S. Plant Pat. No. 11,066. 'W45' is similar to 'Hort16A' in many horticultural characteristics, however, 'W45' produces fruit with yellow/green flesh coloration whereas 'Hort16A' produces fruit of a golden yellow. Additionally, the new variety produces a widely obovate shaped fruit, compared to ovoid. Fruit of the new variety 'W45' are distinctively blunt on the stylar end, compared to the strong pointed stylar end shape of 'Hort16A'. Fruit shape differences can also be noted in the shoulder shape. Whereas 'W45' produces fruit with strongly squared shoulder, 'Hort16A' fruit have rounded shoulders.

BRIEF DESCRIPTION OF THE PHOTOGRAPH

The accompanying photograph in FIG. 1 illustrates in full color typical foliage and flowers on plants of 'W45'. FIG. 2 illustrates in full color typical flowers of 'W45'. FIG. 3 shows examples of typical fruit harvested from 'W45'. FIG. 4 shows a cross section of fruit from 'W45'.

All photographs were taken of an approximately 7 year old plant. The photographs were taken using conventional techniques and although colors may appear different from actual colors due to light reflectance it is as accurate as possible by conventional photographic techniques.

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DETAILED BOTANICAL DESCRIPTION

In the following description, color references are made to The Royal Horticultural Society Colour Chart except where general terms of ordinary dictionary significance are used. The following observations and measurements describe 'W45' plants grown under outdoor commercial trial conditions in Rangiriri New Zealand. The growing temperature ranged from 10° C. to 25° C. with no precipitation. Measurements and numerical values represent averages of typical plant types.

Botanical classification: *Actinidia chinensis* 'W45.'

PROPAGATION

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'W45' can be successfully grafted onto rootstocks of *Actinidia chinensis* or *Actinidia deliciosa*.

PLANT

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Age of the plant described.—Approximately 7 years.

Sex expression.—Female.

Ploidy.—Female.

Vigor.—Moderate. On a scale of 1 to 10 with 10 being the highest 'W45' is a comparative 4 among commercial *Actinidia* varieties.

Young shoot color.—Near RHS Green 137C.

Young shoot texture.—Smooth, non-pubescent and no visible lenticels.

Stem diameter.—Average 1 cm.

Stem texture.—Rough.

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Trunk diameter.—Average 5 cm on a 7 year old plant.

Stem lenticels.—Stem lenticels either not present or barely visible to the eye.

FOLIAGE

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Leaf:

Average length.—Range between 16–18.5 cm.

Average width.—Range between 19–23 cm.

Shape of blade.—Broadly ovate.

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Apex.—Rounded.

Base.—Cordate, not overlapping.

Attachment.—Petioled.

Margin.—Ciliate.

Texture of top surface.—Very lightly puckered, non-pubescent.

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Texture of under side.—Moderately glossy, non-pubescent.

Color.—Mature foliage upper side: Near RHS Green 137A. Mature foliage under side: Near RHS Green 141B.

Petiole.—Length: Range between 8–18 cm. Pubescence: None. Color: Near RHS Yellow-Green 145A with a strong flush of Red 53C on upperside of petiole.

FLOWER

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Flowers per inflorescence.—Most often 2 or 3.

Bud color.—Near RHS Yellow-Green 145A.

Bud break.—Mid August.

First flower.—Early October.

Diameter.—Approximately 5 to 7 cm.

Petal quantity.—5 or 7 per flower.

Petals overlapping.—Yes.

Color.—Near RHS White 155A.

Filament color.—White.

Anther color.—Brown.

Attitude of styles.—Semi-erect.

Style color.—Near RHS White 155A.

Style quantity.—Average 18.

Hair on ovary.—Dense.

Color of ovary.—White.

Number of sepals.—Approximately 5 to 7.

Color of sepals.—RHS Yellow-Green 144C.

Sepal width.—Approximately 0.9 cm.

Sepal length.—Approximately 1.3 cm.

Sepal texture.—Smooth.

15 *Peduncle:*

Length.—Average 7.8 cm.

Color.—Near RHS Yellow-Green 145A.

Texture.—Smooth.

FRUIT

Color outer pericarp.—Near RHS Yellow-Green 145B.

Color inner pericarp.—Near RHS Yellow-Green 145B.

Core color.—Near RHS White 155C.

Brix at consumption.—16.5.

Brix at harvest.—7.00%.

Average weight.—124 grams.

Minimum weight.—104 grams.

Maximum weight.—135 grams.

Length.—Avg. 65 mm.

Width.—Avg. 57 mm.

Core diameter (maximum).—18 mm.

Core diameter (minimum).—10 mm.

Locule number.—30.

Fruit peduncle length.—51 mm.

Fruit peduncle width.—3.1 mm.

General shape.—Broad ovoid.

Median cross section.—Circular.

Stylar end shape.—Slightly blunt.

Shoulder shape.—Squared.

Calyx ring.—Present.

Calyx ring expression.—Strong.

Skin color at harvest.—Near RHS Yellow-Green 144A.

Hair on fruit skin.—Downy.

Hair adherence to skin.—Weak.

Skin adherence to flesh at maturity.—Moderate.

Fruit core shape.—Transversely elliptic.

Core-woody spike.—Medium.

Lenticels on fruit.—Not present.

Mature seed color.—Black.

Dried seed.—Brown.

Harvest time.—Mid April.

Overall cropping quantity.—Heavy.

OTHER CHARACTERISTICS

Storage life: Storage life is a minimum of 3 months at 2° C.

55 Disease/pest resistance: Neither resistance nor susceptibility to pathogens and pests common to *Actinidia chinensis* have been observed.

Temperature tolerance: Tolerates low temperatures to approximately -8° C. without negative effects, tolerates high temperatures to approximately 35° C. without negative effects.

What is claimed is:

1. A new and distinct cultivar of *Actinidia chinensis* plant named 'W45' as herein illustrated and described.

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Fig. 1

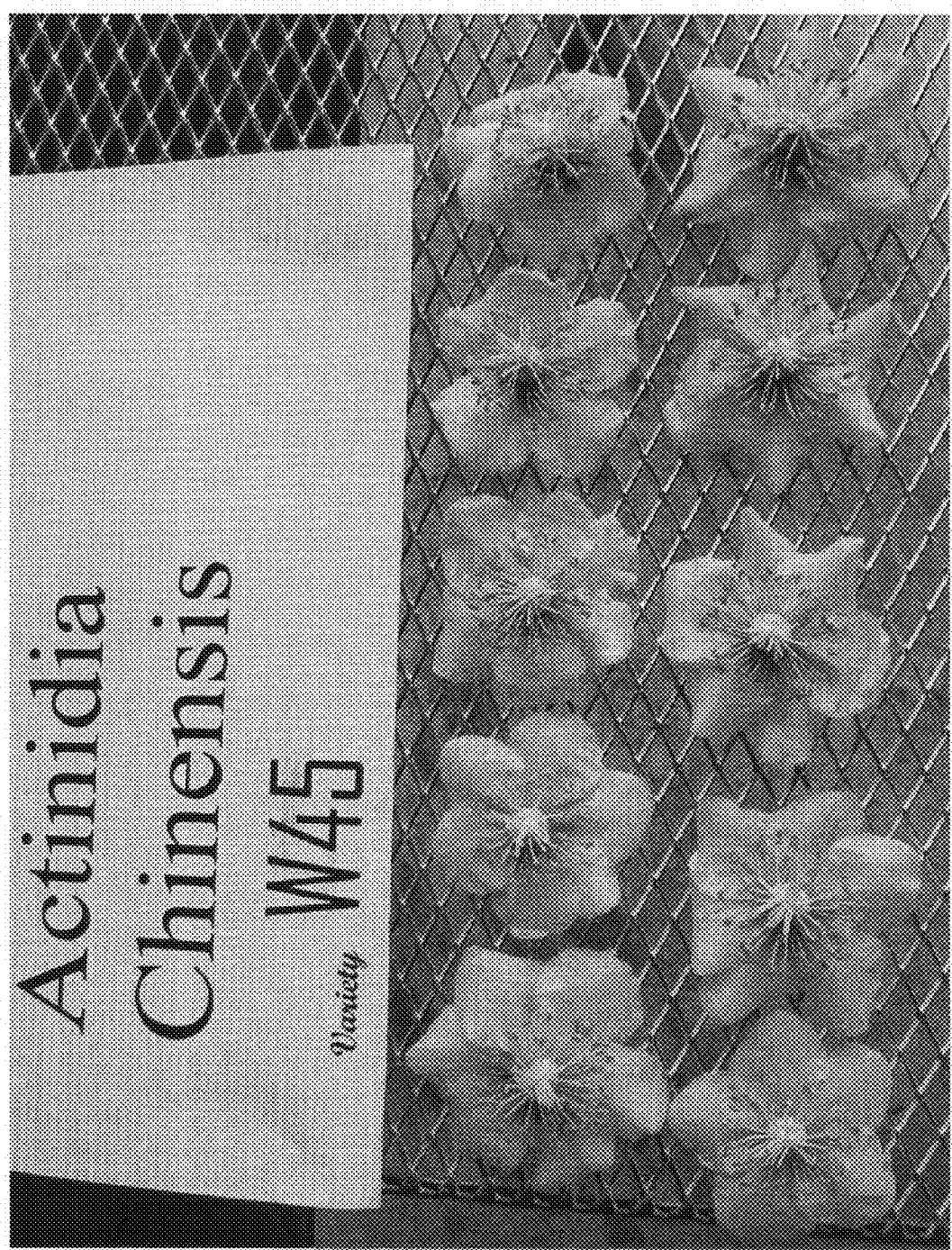


Fig. 2

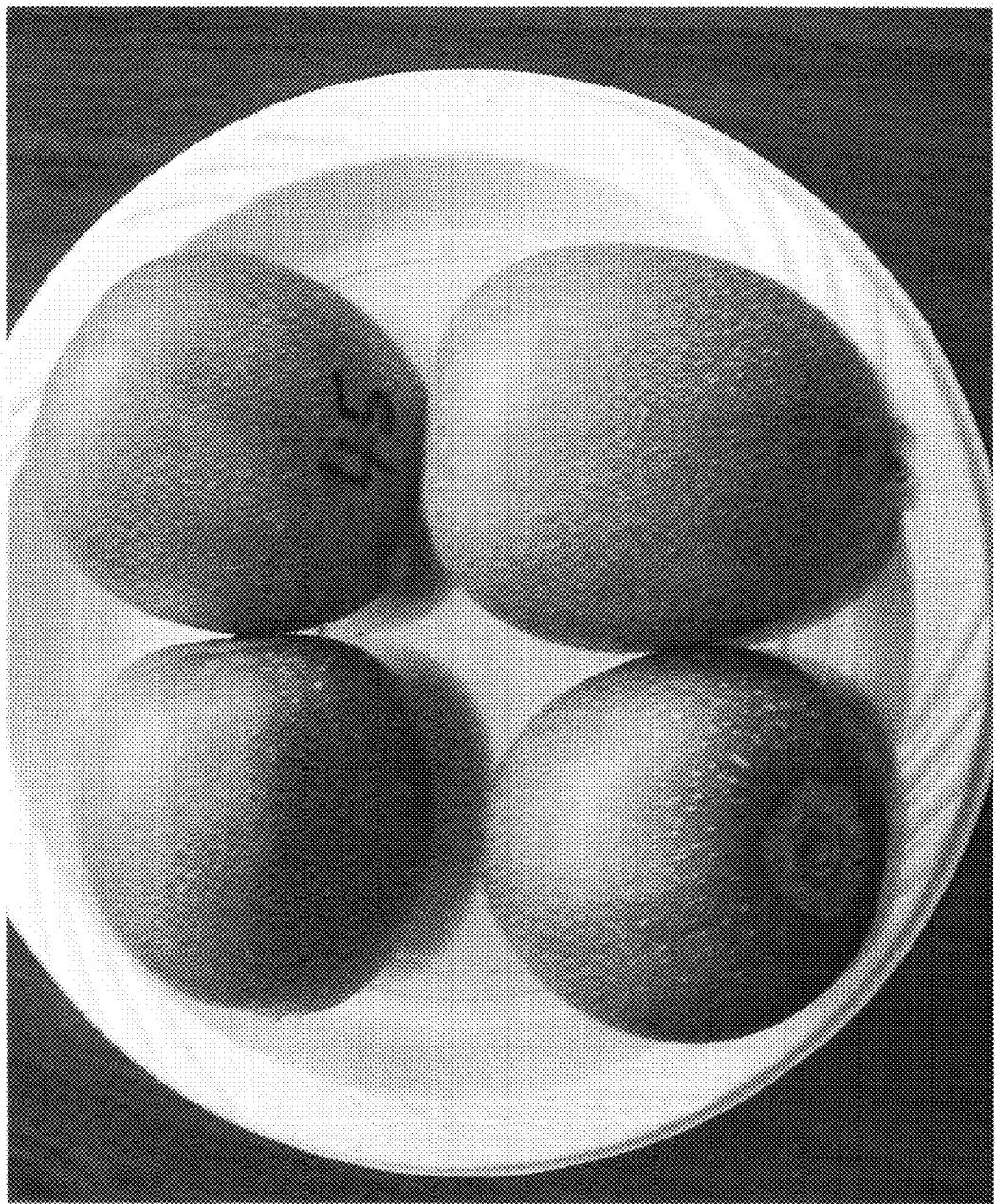


Fig. 3

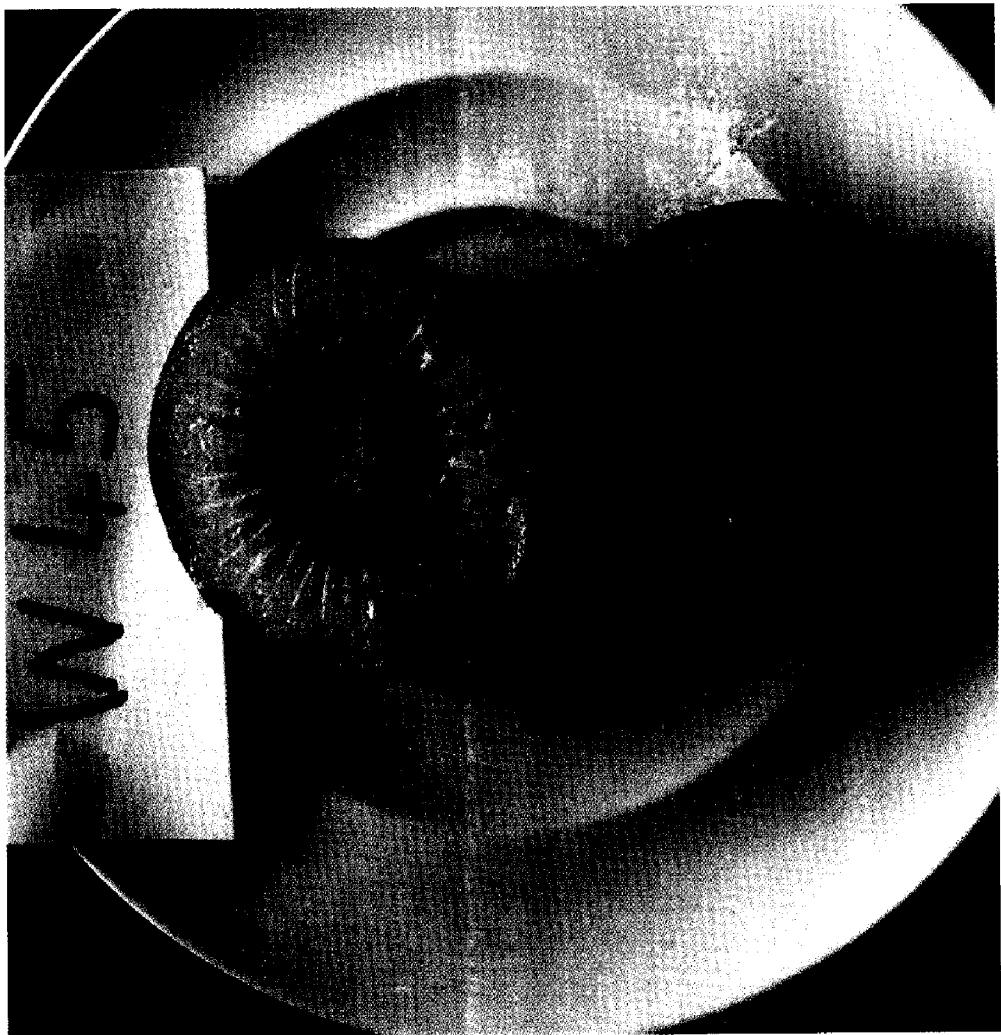


Fig. 4