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(12) **United States Plant Patent**  
**Yang et al.**

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- (54) **KIWIFRUIT PLANT NAMED ‘YANG’S GOLDEN RED NO. 50’**
- (50) Latin Name: *Actinidia chinensis*  
Varietal Denomination: **Yang’s Golden Red No. 50**
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See application file for complete search history.

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- (57) **ABSTRACT**  
A kiwifruit plant particularly distinguished by pale yellow fruit flesh with red color radiating from the axial ovary, cylindrical fruit shape with a circular cross section and slightly blunt protruding stylar end, mid-season fruit maturity and an average fruit weight of 104 grams is described.

**6 Drawing Sheets**

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Genus and species: *Actinidia chinensis*.  
Variety denomination: ‘Yang’s Golden Red No. 50’.

**BACKGROUND OF THE INVENTION**

The present invention relates to a new and distinct variety of *Actinidia chinensis* (kiwifruit) hereinafter referred to by the cultivar name ‘Yang’s Golden Red No. 50’ or the ‘new plant’. ‘Yang’s Golden Red No. 50’ was selected from a population of seedlings derived from crossing two kiwifruit selections ‘Hongyang’ (U.S. Plant patent application Ser. No. 11/645,130—now abandoned), the female, and ‘Male No. 13’ (unpatented), the non-fruiting male, using controlled pollination in the course of a planned kiwifruit variety breeding program. The new plant was selected on 9 Sep., 2004 at Huaisi Town, Yangzhou, China.

The new plant has been asexually propagated by grafting and the unique combination of characteristics of the new plant has been found to be reproducible and stable in successive generations of propagation. In order to obtain true-to-type clones of the initial plant, asexually propagated plants were obtained by grafting dormant buds from the original seedling onto *Actinidia deliciosa* rootstock.

Plant Variety Rights application for ‘Yang’s Golden Red No. 50’ was filed in China on 9 Jan., 2012 and assigned the application number 20120001.1. Propagation material of ‘Yang’s Golden Red No. 50’ has never been sold or made publically available prior to the filing of this application.

**SUMMARY OF THE INVENTION**

The following are the most outstanding and distinguishing characteristics of the new plant when grown under normal horticultural practices in Huaisi Town, Yangzhou, China:

1. Pale yellow fruit flesh with red color radiating from the axial ovary

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2. Cylindrical fruit shape with a slightly blunt protruding stylar end
3. Mid-season maturing fruit
4. Average fruit weight of 104 grams

**DESCRIPTION OF THE PHOTOGRAPHS**

The new plant is illustrated by the accompanying photographs which show in full color typical specimens of the plant habit, foliage, fruit and flowers of the new variety ‘Yang’s Golden Red No. 50’. The colors shown are as true as can be reasonably obtained by conventional photographic procedures. The photographs include plants approximately nine years after grafting onto *Actinidia deliciosa* ‘Hayward’ (unpatented) rootstock in optimum conditions in Huaisi Town, Yangzhou, China.

- FIG. 1 shows nine year old grafted plants
- FIG. 2 shows typical fruit on the vine
- FIG. 3 shows typical whole fruit and cross section in the studio
- FIG. 4 shows typical fruit cross section and longitudinal section in the studio
- FIG. 5 shows flowers on the vine
- FIG. 6 shows flowers in the studio

**DESCRIPTION OF THE NEW CULTIVAR**

The following detailed description sets forth the distinctive characteristics of ‘Yang’s Golden Red No. 50’. The following observations, measurements and values were made on nine year old vines grafted onto ‘Hayward’ (unpatented) rootstock, and managed under standard orchard practice in Huaisi Town, Yangzhou, China. Random measurements of each characteristic were obtained from a sample of 50 plants unless otherwise stated.

Horticultural terminology is used in accordance with UPOV guidelines for kiwi. All dimensions are in millimeters, and all

weights are in grams (unless otherwise stated). Certain characteristics of this variety, such as growth and color, may change with changing environmental conditions (e.g., light, temperature and moisture), nutrient availability, rootstocks, or other factors. Color readings were taken in natural light. Color references are primarily to the Fourth edition, 2001 of The Colour Chart published by The Royal Horticultural Society, London (R.H.S.), except where general colours of ordinary significance are used.

#### DETAILED BOTANICAL DESCRIPTION

##### Classification:

*Family*.—Actinidiaceae.

*Botanical name*.—*Actinidia chinensis*.

*Common name*.—Kiwifruit.

##### Parentage:

*Female parent*.—A kiwifruit selection ‘Hongyang’ (U.S. Plant patent application Ser. No. 11/645,130).

*Male parent*.—A kiwifruit selection ‘Male No. 13’ (unpatented).

##### Plant:

*Plant habit*.—Female plant of twining habit and medium vigour.

*Average plant size*.—Plants are grown on a standard 1.8 m high pergola structure; each plant is pruned to occupy a canopy area of approximately 5 m by 5 m.

*Trunk diameter*.—50 mm to 60 mm at 75 cm above the ground and 50 mm above the graft.

*Ploidy*.—Tetraploid.

*Propagation*.—Grafting of dormant buds onto rootstock.

##### Shoots:

*Texture of young shoots*.—Smooth.

*Colour of young shoots*.—Green, RHS 141C.

*Texture of mature shoots*.—Smooth with slightly raised lenticels.

*Colour of mature shoots*.—Brown, RHS 200D.

*Diameter of mature shoots*.—8 mm to 15 mm.

*Lenticels on shoots*.—Quantity/density: 2-3 per square cm. Length: 1 mm to 13 mm. Shape: narrowly elliptical. Colour: greyed-white, RHS 156C.

##### Leaves:

*Quantity per one meter of mature shoot*.—10 to 15.

*Arrangement*.—Alternate.

*Length (mature leaf)*.—172 mm to 178 mm.

*Width (mature leaf)*.—168 mm to 175 mm.

*Shape*.—Cordate.

*Apex*.—Obtuse.

*Base*.—Cordate, overlapping.

*Margin*.—Finely serrate.

*Leaf spikes*.—0.6 mm to 1 mm on leaf margins.

*Texture*.—Upper surface: slightly puckering, non-pubescent. Lower surface: no pubescence.

*Colour*.—Young leaves, upper surface: green, RHS 138A. Young leaves, lower surface: near green, RHS 137B. Mature leaves, upper surface: green, RHS 137B. Mature leaves, lower surface: near green, RHS 138C.

*Venation*.—Pattern: reticulate. Colour, upper surface: near green, RHS 138A. Colour, lower surface: near green, RHS 138C.

*Petiole (leaf stem)*.—Length: 140 mm to 170 mm. Diameter (cross section) 2.6 mm to 3.8 mm. Colour: near green, RHS 138A. Texture: smooth, no pubescence.

##### 5 Inflorescence:

*Inflorescence type*.—One king flower with occasional 1-2 smaller side flowers.

*Natural flowering season*.—Full bloom during late April.

10 *Duration of flowering*.—6 to 8 days.

*Flower number per square meter*.—70 to 100.

*Fragrance*.—Light.

*Longevity of viable flowers on the plant*.—6 to 8 days.

15 *Pediceal (stalk holding each flower)*.—Strength: moderate. Length: 40 mm to 60 mm. Colour: green, RHS 138C.

*Flowers*.—Flower bud (diameter): 12 mm to 16 mm. Flower bud (length): 10 mm to 12 mm. Shape of flower bud: round, slightly flattened. Colour of bud: green, RHS 139C. Diameter of individual flower: 35 mm to 47 mm. Arrangement of petals: overlapping.

*Petals*.—Quantity: 6 to 7. Length: 30 mm to 40 mm. Width: 20 mm to 25 mm. Shape: oblanceolate. Type of colouration: Colour, primary when fully opened: white, 155C. Colour, base of petals and centre (inside) when fully opened: green white, 157C.

*Sepals*.—Quantity: 6 to 7. Length: 12 mm to 15 mm. Width: 10 mm to 12 mm. Shape: oblanceolate. Colour: green, RHS 138B.

*Peduncles*.—Length: 45 mm to 60 mm. Colour: green, RHS 138C. Texture: smooth.

##### Reproductive organs:

*Styles*.—Quantity: 30 to 40. Attitude: semi erect. Colour: white, RHS 155C.

*Stamens*.—Quantity: 60 to 80.

*Anthers*.—Colour: orange, RHS 24A.

*Ovary*.—(King flower). Length: 8-9 mm. Shape: ellipsoid. Colour: white, RHS 155C. Texture: densely pubescent.

##### Fruit:

*Length*.—60 mm to 69 mm.

*Diameter*.—55 mm to 75 mm.

*Weight range*.—95 g to 160 g.

*Average weight*.—104 to 112 g.

*Texture*.—Sparsely pubescent.

*Skin colour at harvest*.—Yellow green, RHS 152C.

*Shape*.—Longitudinal: cylindrical. Cross section: circular. Styler end: slightly blunt protruding. Shoulder: squared.

*Calyx ring*.—Present. Expression: strong.

*Stalks*.—Length: 40 mm to 60 mm. Diameter: 2.3 mm to 3.1 mm. Texture on mature fruit: smooth. Colour on mature fruit: green, RHS 139C.

55 *Lenticels*.—Quantity: sparse. Colour: yellow green, RHS 152C.

*Pericarp*.—Outer colour, early: green, RHS 141C.

Outer colour, mature: yellow green, RHS 152C. Inner colour, mature: green yellow, RHS 1D; colour radiating around seeds red, RHS 43C. Spread of red colour along the locules: medium. Hue angle: Reaches a hue angle of 110° approximately 150 days after full bloom. Adherence of pericarp to the skin: moderate.

*Core of fruit*.—Colour, mature: white, RHS 155C. Shape: transversely elliptical. Quantity of locules: 30 to 42. Quantity of Seeds: 40 to 50 per transverse slice

through middle of fruit. Colour of seeds: greyed orange, RHS 165B. Size of seeds: approximately 2 mm long by 1 mm wide.

*Flavour.*—Taste: sweet. Dry matter at harvest: 17% to 19%. Dry matter at consumption: 18% to 21%. Brix level at harvest: 7%. Brix level at consumption: 17 to 20%.

*Storage.*—20 weeks at 1 degree Celsius.

*Overall fruit cropping per hectare.*—25 to 40 tons.

Rootstock: 'Yang's Golden Red No. 50' is commonly grown on *Actinidia deliciosa* seedling rootstock.

Vegetative bud break:

*Timing.*—Mid-March.

*Quantity of buds breaking.*—75% to 85%.

*Crop load.*—2.5 kg to 3 kg per square meter average.

*Leaf senescence.*—Late November.

Disease resistance: No observations made.

Insect resistance: No observations made.

COMPARISON WITH PARENTAL AND KNOWN CULTIVARS

When compared to the female parent 'Hongyang' (U.S. Plant patent application Ser. No. 11/645,130); 'Yang's

Golden Red No. 50' fruit matures approximately four weeks later, fruit has a slightly blunt protruding stylar end and significantly heavier average fruit weight.

When compared to the male parent 'Male No. 13' (unpatented) which is a non-fruiting male pollinator; 'Yang's Golden Red No. 50' has brown mature stems with elliptical lenticels, cordate leaves and bears fruit; whereas 'Chinensis Male No. 13' (unpatented) has dark grey mature stems with circular lenticels, widely ovate leaves and does not bear fruit.

When compared to the commercial variety 'Hort16A' (U.S. Pat. No. 11,066); fruit of 'Yang's Golden Red No. 50' matures two weeks earlier, is cylindrical in shape with a slightly blunt protruding stylar end, squared shoulder and has pale yellow flesh with red color radiating from the axial ovary; whereas fruit of 'Hort16A' (U.S. Pat. No. 11,066) is ovoid in shape with a strong pointed stylar end, rounded shoulder and has golden yellow flesh.

We claim:

1. A new and distinct cultivar of kiwifruit plant as shown and described herein.

\* \* \* \* \*



FIG. 1



FIG. 2

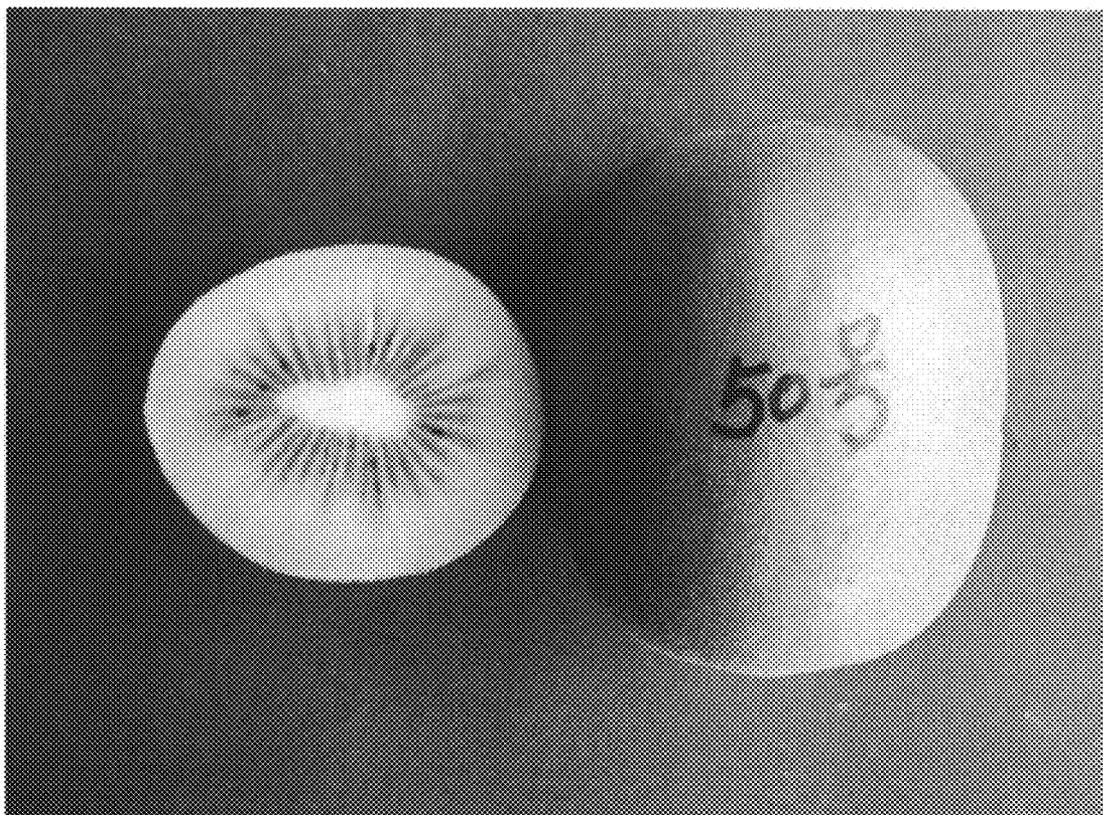


FIG. 3

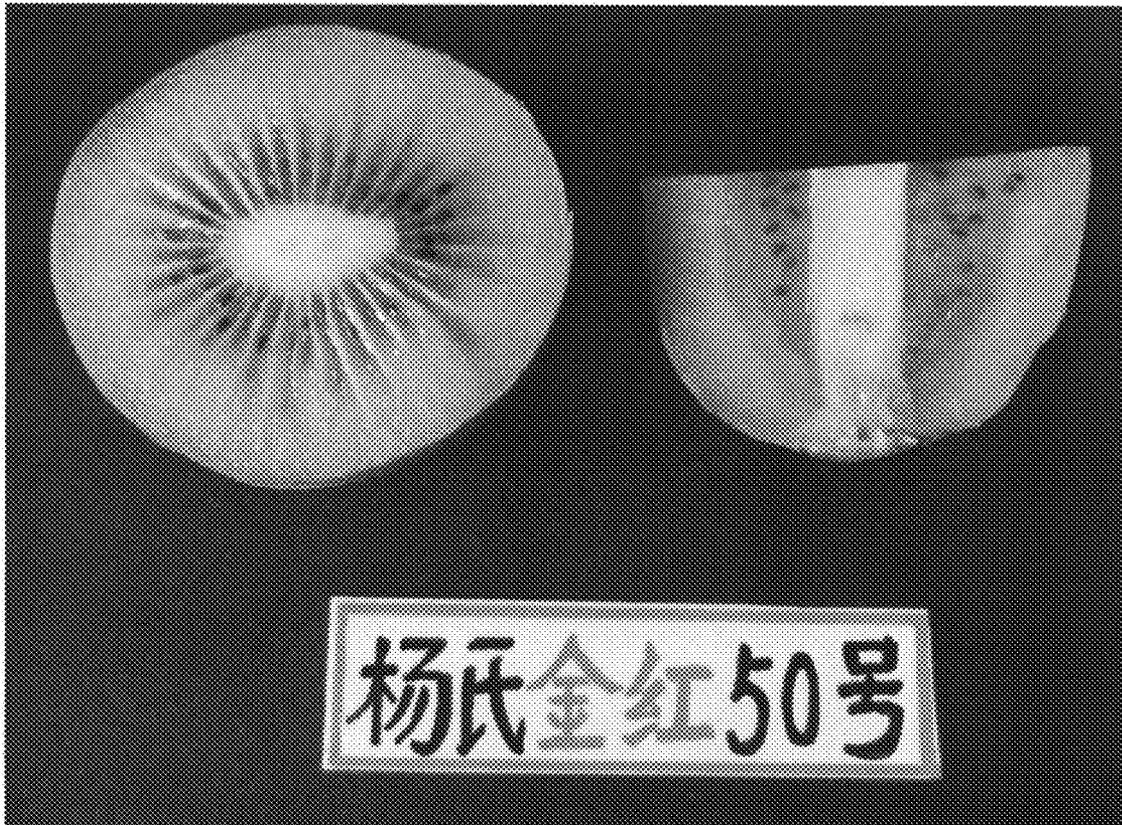


FIG. 4



FIG. 5



FIG. 6