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Kuji et al.

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(54) **HOP PLANT NAMED 'Furano 0612B Go'**

(50) Latin Name: ***Humulus lupulus* L.**
Varietal Denomination: **Furano 0612B Go**

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CPC ***A01H 6/00*** (2018.05); ***A01H 5/02*** (2013.01)

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

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(57) **ABSTRACT**

A new hop plant particularly distinguished by being a triploid plant with a cylindrical to club plant shape, alpha acids in cones of 15.1%, ratio of beta acids to alpha acids of 18.5%, humulene ratio to caryophyllene of 107%, and a citrus flavor, is disclosed.

2 Drawing Sheets

Genus and species: *Humulus lupulus* L.
Variety denomination: 'Furano 0612B Go'.

CROSS-REFERENCE TO RELATED APPLICATION

This patent application claims the benefit of priority from Japan Plant Breeders Rights Application No. 35916 as filed on Dec. 24, 2021, the contents of which is incorporated herein by reference for all it teaches and discloses.

BACKGROUND OF THE NEW PLANT

The present invention comprises a new and distinct variety of Hop, botanically known as *Humulus lupulus* L. and hereinafter referred to by the variety name 'Furano 0612B Go'. 'Furano 0612B Go' is a selection from a controlled cross of the commercial tetraploid hop female parent 'Chinook' (unpatented) and the proprietary male parent 'M914611002' (unpatented).

The commercial female hop line 'Chinook' and the proprietary male hop line 'M914611002' were cross-pollinated in 2003 in Kamifurano-cho, Sorachi-gun, Hokkaido, Japan and seeds were obtained. The seeds were sown and plants were grown for evaluation. A triploid plant line was selected in March of 2007 in Kamifurano-cho, Sorachi-gun, Hokkaido, Japan and named 'Furano 0612B Go'. In 2007, 'Furano 0612B Go' was first vegetatively propagated by in Kamifurano, Hokkaido, Japan via vegetative cuttings. 'Furano 0612B Go' was found to reproduce true to type in

successive generations of asexual propagation via vegetative cuttings in Kamifurano, Hokkaido, Japan.

SUMMARY

The following are the most outstanding and distinguishing characteristics of this new variety when grown under normal horticultural practices in Kamifurano, Hokkaido, Japan.

1. Triploid plant;
2. Cylindrical to club plant shape;
3. Alpha acids in cones of 15.1%;
4. Ratio of beta acids to alpha acids of 18.5%;
5. Humulene ratio to caryophyllene of 107%; and
6. A citrus flavor.

DESCRIPTION OF THE PHOTOGRAPHS

This hop plant is illustrated by the accompanying photographs which show the plant's overall plant shape, leaf shape and cone shape. FIGS. **1** and **3** are of a thirteen-year-old plant grown in Kamifurano, Hokkaido, Japan in August 2020 while FIG. **2** is also of a fourteen-year-old plant grown in Kamifurano, Hokkaido, Japan taken in August 2021. The colors shown are as true as can be reasonably obtained by conventional photographic procedures.

FIG. **1** shows the Plant shape of 'Furano 0612B Go'.

FIG. **2** shows the leaf shape of 'Furano 0612B Go' together with that of 'Little Star' and 'Furano Special' in the left and in the middle, respectively.

FIG. **3** shows the cone shape of 'Furano 0612B Go' together with that of 'Little Star' and 'Furano Special' in the left and in the middle, respectively.

DESCRIPTION OF THE NEW VARIETY

The following detailed descriptions set forth the distinctive characteristics of 'Furano 0612B Go'. The data, which define these characteristics, were collected from asexual reproductions carried out in Kamifurano, Hokkaido, Japan. Data was collected on thirteen-year-old plants in Kamifurano, Hokkaido, Japan in 2020 or 2023. Color references are to Japan Horticultural Plant Color Chart (1987, Japan Color Research Institute).

Classification:

Family.—Cannabaceae.

Classification.—*Humulus lupulus* L.

Common name.—Hop.

Parents:

Female parent.—'Chinook' (unpatented).

Male parent.—'M914611002' (unpatented).

Propagation:

Type.—Vegetative cuttings or rhizomes.

Plant description:

Plant and growth habit.—The plant growth type is normal, not dwarf.

Plant shape.—Cylindrical to club.

Plant height.—Hop plants were grown at a trellis of 5.5 m high.

Plant head volume.—Very high.

Anthocyanin.—Anthocyanin coloration of the main bine is slightly strong.

Anthocyanin color.—Dark red purple (9509).

Lateral branch description:

Length.—The average length of lateral branches is 112.0 cm, ranged between 49.3-182.0 cm.

Diameter.—The average diameter of lateral branches is 0.60 cm, ranged between 0.45-0.72 cm.

Internode length.—The average internode length of lateral branches is 25.7 cm, ranged between 22.0-29.2 cm.

Color, fully developed (mature).—Upper surface is bright yellow green (3504), and lower surface is bright reddish purple (8905).

Foliage description:

Arrangement.—Opposite.

Length.—The average length of foliage is 17.7 cm, ranged between 17.0-19.0 cm.

Width.—The average width of foliage is 17.7 cm, ranged between 16.0-20.0 cm.

Shape.—Palmate, 3 to 5 lobes.

Apex.—Cuspidate.

Base.—Cordate.

Margin.—Serrate.

Texture.—Upper surface: Blistering of upper side of blade is slightly strong.

Color.—Fully expanded (mature) leaves: Upper surface: Dark green (3707). Lower surface: Dull green (3715).

Foliage density.—The foliage density of side shoot from middle third of plant is dense.

Stipule.—Number: The number of mendicant leaves per node is 2. Color: Vivid yellow green (3506). Direction: Upward.

Petiole:

Length.—The average length of petioles is 8.2 cm, ranged between 7.0-9.0 cm.

Diameter.—The average diameter of petioles is 0.46 cm, ranged between 0.42-0.49 cm.

Color.—Upper surface: Dull red purple (9513). Lower surface: Soft green (3709).

Flower description:

Cones.—Number of cones per lateral branch from middle of plant is few (average: 37.4 cones/branch, ranged from 24-71).

Number of cones per node of lateral branches from middle of plant is medium.—(Average: 7.8 cones/node, ranged from 4.7-11.8).

Number of cones per lateral branch from upper third of plant is medium.—(Average: 42.7 cones/branch ranged between 21-104).

Time of flowering.—Medium (middle of July).

Time of picking maturity of cones.—Medium (early September).

Pistillate inflorescence:

Average size.—The average diameter of Pistillate inflorescence is 0.80 cm.

Number of flower pairs in cluster.—The average number of flower pairs in cluster is 5.8.

Size of bracts at based of flower.—The average size of bracts at based of flower is 0.31 cm.

Color of bracts.—Deep yellow green (3307).

Inflorescence buds:

Length.—The average length of cones is 4.3 cm, ranged between 3.6-5.3 cm.

Diameter.—The average diameter of cones is 2.1 cm, ranged between 1.8-2.4 cm.

Shape.—The Shape of cones is narrow ovate, degree of opening bracts is slightly opened.

Color.—Vivid yellow green (3506) and bright yellow green (3504).

Spike bracts:

Length.—The average length of spike bracts is 1.8 cm, ranged between 1.4-2.0 cm.

Width.—The average width of spike bracts is 1.5 cm, ranged between 1.2-1.7 cm.

Shape.—The shape is obtuse, and the width/length ratio is very large (average width/length ratio of bracts is 0.83, ranged between 0.75-0.92).

Apex.—The shape of apex is apiculate, and the length of apex of bract is short.

Margin.—Entire.

Color.—Upper surface: The base side is pale yellow green (3502), and the apex side is vivid yellow green (3506). Lower surface: Bright yellow green (3505).

Bracteoles:

Length.—The average length of bracteoles is 1.3 cm, ranged between 1.0-1.5 cm.

Width.—The average width of bracteoles is 0.82 cm, ranged between 0.72-0.92 cm.

Shape.—The average width/length ratio is 0.64, ranged between 0.58-0.76.

Shape.—Ovate.

Apex.—Obtuse.

Margin.—Entire.

Color.—Upper surface: Bright yellow green (3504). Lower surface: Bright yellow green (3504).

Pedicels: Not observed.
Reproductive organs:
Stamens.—Not observed.
Pistils.—Not observed.
Disease and pest/insect resistance: Not resistant.
Brewing characteristics:
Alpha acids content in cones.—15.1%.
Ratio of beta acids to alpha acids.—0.19.
Ratio of co-alpha to all alpha acids.—0.28.
Humulene ratio to total oil.—0.19.
Caryophyllene ratio to total oil.—0.17.
Humulene ratio to caryophyllene.—1.07.
Myrcene ratio to total oil.—0.57.
Farnesene ratio to total oil.—0.01.
Linalool ratio to total oil.—0.01.
Remaining rate of alpha acids after 6 months storage at room temperature.—87.8%.
Yield per hectare.—1.24 t/ha.
Flavor profile.—Citrus.
Others (please provide additional characteristics if relevant).—Furano 0612B Go is a triploid plant.

COMPARISON WITH PARENTAL LINES AND KNOWN VARIETY

'Furano 0612B Go' is a distinct variety of hop. 'Furano 0612B Go' is distinguished from its female parent 'Chinook' and male parent 'M914611002' as described in Table 1:

TABLE 1

Comparison with Parental Lines

Characteristic	Variety 'Furano 0612B Go'	Female parent 'Chinook'	Male Parent 'M914611002'
Flower	Produces female	Produces female	Does not produce any cones, but

TABLE 1-continued

Comparison with Parental Lines

Characteristic	Variety 'Furano 0612B Go'	Female parent 'Chinook'	Male Parent 'M914611002'
	flowers and cones	flowers and cones	produce male flower
Alpha acids in cones	15.1%	6.6% (2015)	—
Ratio of beta acids to alpha acids	18.5%	46.8% (2015)	—
Humulene ratio to caryophyllene	107%	131% (2015)	—

'Furano 0612B Go' is distinguished from the commercial hop variety 'Furano K906901060 go', commercially named 'Furano Magical'. Differences between the two varieties are described in Table 2:

TABLE 2

Comparison with Similar Variety

Characteristic	Variety 'Furano 0612B Go'	Commercial line 'Furano K906901060 go'
Alpha acids in cones	15.1%	5.4%
Ratio of beta acids to alpha acids	18.5%	180.8%
Cohumulone ratio to alpha acids	27.5%	16.6%
Linalool ratio to total oil	1.3%	3.3%

We claim:

1. A new and distinct cultivar of Hop Plant Named 'FURANO 0612B GO' as described and illustrated herein.

* * * * *

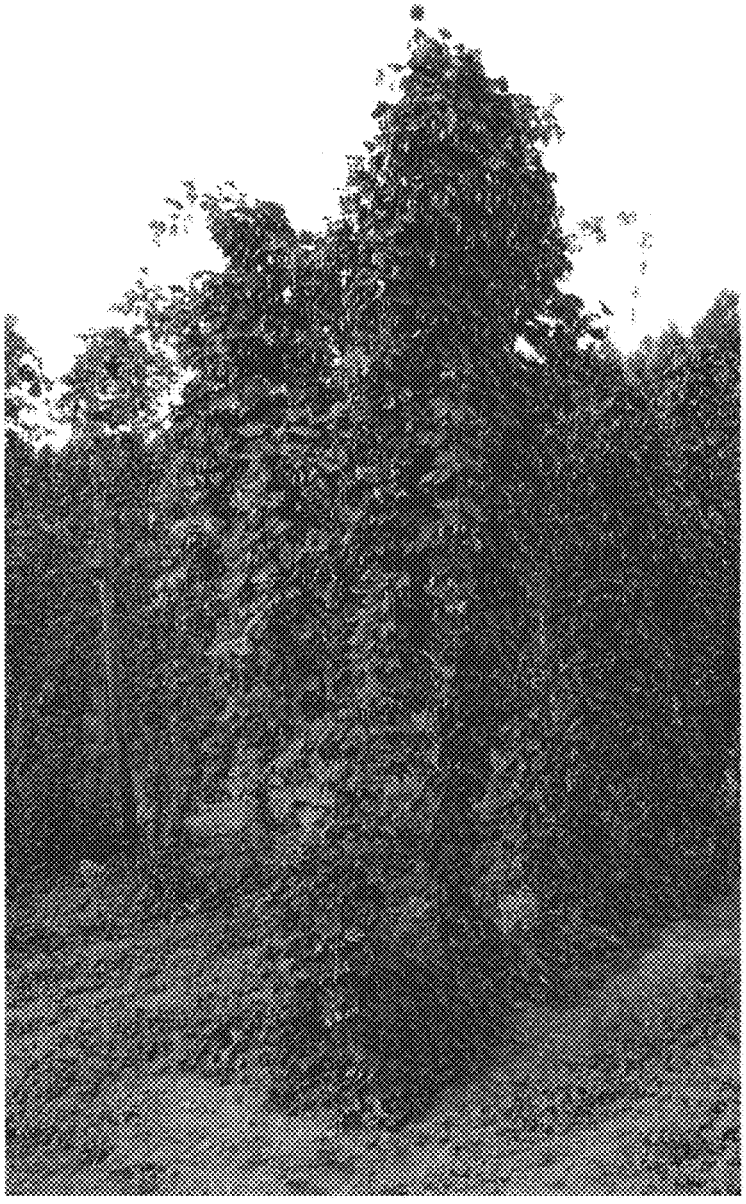

FIG. 1

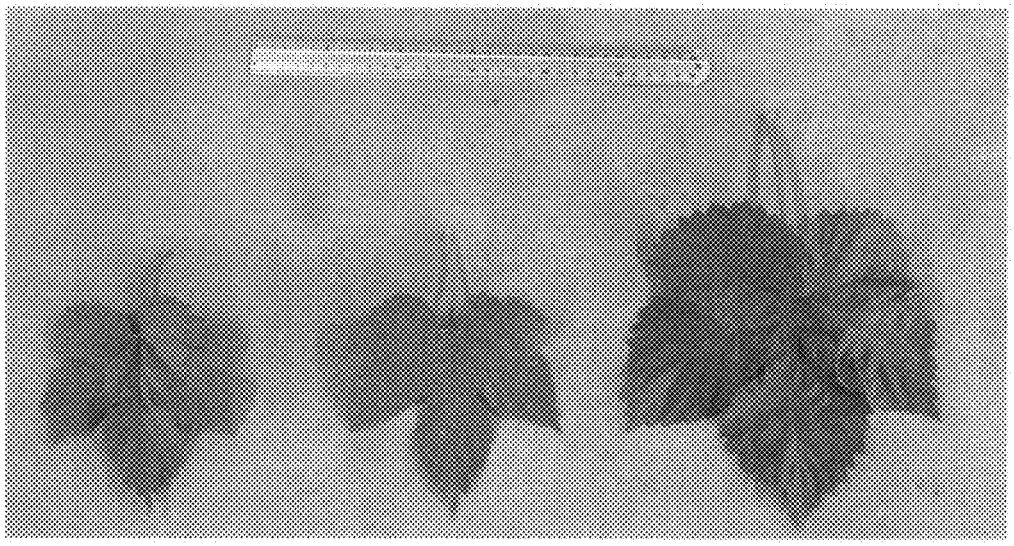

FIG. 2

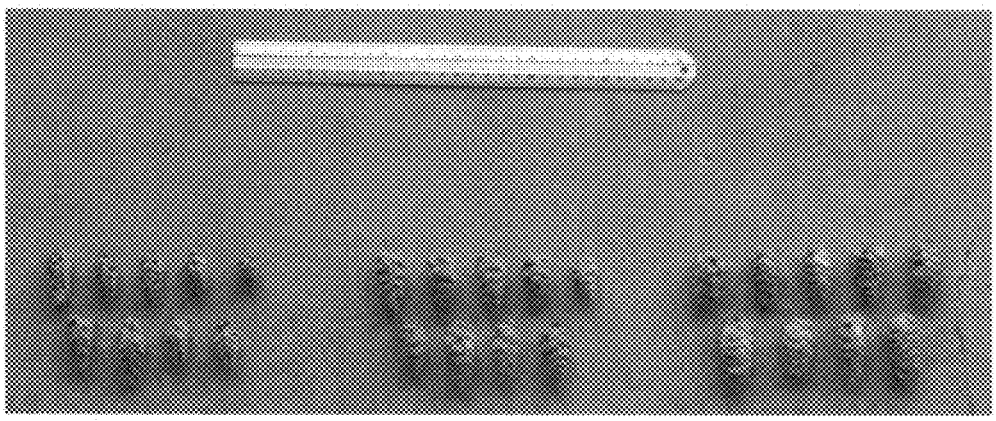

FIG.3