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PEACH TREE, 'BURPEACHTHIRTYSIX'

Latin Name: *Prunus persica* Varietal Denomination: **Burpeachthirtysix** 

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**ABSTRACT** (57)

A new and distinct variety of peach tree (Prunus persica), which is denominated varietally as 'Burpeachthirtysix', and which produces an attractively colored yellow-fleshed, freestone peach which is mature for harvesting and shipment approximately October 11 to October 19 under the ecological conditions prevailing in the San Joaquin Valley of central California.

1 Drawing Sheet

Botanical designation: The present invention relates to a new, novel, and distinct variety of peach tree, 'Prunus persica'.

Varietal denomination: 'Burpeachthirtysix'.

## BACKGROUND OF THE NEW VARIETY

The present variety of peach tree resulted from an ongoing program of fruit and nut tree breeding. The purpose of this program is to improve the commercial quality of deciduous fruit and nut varieties, and rootstocks, by creating and releasing promising selections of Prunus, Malus, Punica and Juglans species. To this end we make both controlled and hybrid cross pollinations each year in order to produce 15 seedling populations from which improved progenies are evaluated and selected.

The seedling, 'Burpeachthirtysix' was originated by us, and selected from a population of seedlings growing in our experimental orchards which are located near Fowler, Calif. 20 The seedlings, grown on their own roots, were derived from a planting of open pollenated seeds derived from 'E49.046' (an un-named, non-patented Burchell seedling), and which is a yellow-fleshed, low acid nectarine. The pollen parent of the new variety is undetermined, but was most likely from 25 another unknown peach inasmuch as the new variety is a peach, and not a nectarine. Fruit was collected and seeds were extracted from peach tree 'E49.046' in July of 2001. After a period of stratification, the derived seeds were placed in a greenhouse, by population, and then field planted for <sup>30</sup> tree establishment, and ultimately to exhibit fruit for evaluation. One yellow fleshed peach seedling, which is the present variety, exhibited especially desirable characteristics, and was then designated as 'M36.031'. This seedling  $_{35}$ was then marked for subsequent observation. After the 2004

fruiting season, the new variety of peach tree was selected for advanced evaluation and repropagation.

## ASEXUAL REPRODUCTION

Asexual reproduction of this new and distinct variety of peach tree was accomplished by budding the new peach tree onto 'Nemaguard' Rootstock (un-patented). This was performed by us in our experimental orchard which is located near Fowler, Calif. Subsequent evaluations of these asexually reproduced plants have shown those asexual reproductions run true to the original tree. All characteristics of the original tree, and its fruit, were established, and appear to be transmitted through these succeeding asexual propagations.

# SUMMARY OF VARIETY

'Burpeachthirtysix' is a new and distinct variety of peach tree, which is considered of relatively large size, and which has a vigorous growth characteristic. This new tree is also a regular and productive bearer of relatively large, firm, yellow-fleshed, low acid freestone fruit which have a very good flavor, and eating qualities. This new peach tree has a medium-low chilling requirement of approximately 375 hours, and further produces relatively uniformly sized fruit throughout the tree's canopy. In addition to the foregoing, the fruit of the new peach also appears to have good handling and shipping qualities. The 'Burpeachthirtysix' peach tree bears fruit which are typically ripe for commercial harvesting and shipment on approximately October 11 to October 19 under the ecological conditions prevailing in the San Joaquin Valley of central California. In relative comparison to the 'Autumn Rose' peach tree (U.S. Pat. No. 7,990), which is the closest known variety, the new variety of peach tree bears fruit which ripen 5-7, or more days later.

Further, the current variety exhibits a more rounded shape especially at the apex. Further, the current variety exhibits a higher percentage of reddish blush on the surface of the fruit. In relative comparison to the seed parent nectarine tree ('E49.046'), the current variety is distinguished from it by being a peach.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawing, which is provided, is a color photograph of the new peach tree variety. The photograph depicts two whole mature fruit viewed from the apical and basal aspects. Additionally, one mature fruit is shown, and which is bisected transversely through the equatorial plane, and which reveals the flesh color, and stone characteristics thereof. The external coloration of the fruit as shown in the photograph is sufficiently matured for harvesting and shipment. Additionally, the photograph displays a sample vegetative shoot bearing typical leaves, and a typical stone with the flesh removed.

The colors in these photographs are as nearly true as is reasonaly possible in a color representation of this type. Due to chemical development, processing and printing, the leaves and fruit depicted in these photographs may, or may not, be accurate when compared to the actual specimen. For 25 this reason, future color references should be made to the color plates (Royal Horticultural Society, Fourth Edition, 2001) and descriptions provided, hereinafter.

#### NOT A COMMERCIAL WARRANTY

The following detailed description has been prepared to solely comply with the provisions of 35 U.S.C. §112, and does not constitute a commercial warranty, (either expressed or implied), that the present variety will in the future display 35 all the botanical, pomological or other characteristics as set forth, hereinafter. Therefore, this disclosure may not be relied upon to support any future legal claims including, but not limited to, breach of warranty of merchantability, or fitness for any particular purpose, or non-infringement 40 which is directed, in whole, or in part, to the present variety.

## DETAILED DESCRIPTION

Referring more specifically to the pomological details of this new and distinct variety of peach tree, the following has been observed during the tenth fruiting season, and under the ecological conditions prevailing at the orchards of the assignee which are located near the town of Fowler, county of Fresno, state of Calif. All major color code designations 50 are by reference to The R.H.S. Colour Chart (Fourth Edition, 2001) provided by The Royal Horticultural Society of Great Britain. Common color names are also occasionally used.

# TREE

Size: Generally considered medium to medium-large in its growth pattern as compared to other common commercial peach cultivars ripening in the late season of maturity. The tree of the present variety was pruned to a height of 60 approximately 270.0 cm. to about 310.0 cm. at commercial maturity.

Width: Approximately 285.0 cm.

Vigor: Considered moderately vigorous. The present peach tree variety grew from about 170.0 cm. to about 180.0 cm. 65 in height during the first growing season. The new variety

was pruned to a height of approximately 150.0 cm. during the first dormant season, and primary scaffolds were then selected for the desired tree structure.

Productivity: Productive. Fruit set varies from more than the desired crop load, to levels higher than desired amounts, when the new variety is grown in a suitable horticultural zone, and under appropriate commercial nursery conditions. The fruit set is spaced by thinning to develop the remaining fruit into the desired market-sized fruit. The number of the fruit set varies with the prevailing climatic conditions, and the cultural practices employed.

Type of bearing: On long shoots only.

Fruit bearing: Regular. Fruit set has been more than adequate during the previous years of observation, and thinning was necessary during the past 10 years on both the original seedling and on subsequent asexually reproduced trees.

Tree form: Upright, and pruned into a vase shape.

Density: Considered moderately dense. It has been discovered that pruning the branches from the center of the tree to obtain a resulting vase shape allows for enhanced air movement and appropriate amounts of sunlight to improve fruit color, and renewal of fruiting wood throughout the tree.

Hardiness: The present tree was grown and evaluated in USDA Hardiness Zone 9. The calculated winter chilling requirements of the new tree is approximately 375 hours at a temperature below 7.0 degrees C. The present variety appears to be hardy under typical central San Joaquin Valley climatic conditions.

# TRUNK

Diameter: Approximately 18.5 cm in diameter when measured at a distance of approximately 15.24 cm. above the soil level. This measurement was taken at the end of the 10th growing season.

Bark texture: Considered moderately rough, with folds of papery scarfskin being present. Since bark development and coloration change with advancing tree age this characteristic varies with the tree vigor, age and regional conditions. Therefore, this is not a dependable descriptor of the new variety.

Lenticels: Numerous flat, oval lenticels are present. The lenticels range in size from approximately 4.0 mm. to about 7.0 mm. in width, and between about 1.0 and about 2.0 mm. in height. The development and size of the trunk lenticels can be influenced, to some degree, by the ambient growing conditions, and are not, necessarily, a dependable characteristic of this variety. As trees of this variety mature, lenticels are present, but they are generally covered by increasing layers of cork (mature bark) and therefore become less apparent.

Lenticel color: Considered an orange brown, (RHS Greyed-Orange Group 164 B).

Bark coloration: Variable, but it is generally considered to be a greyed brown, (RHS Grey-Brown Group N199 B). This bark description was taken from trees in their seventh leaf which have ruptured the scarf skin, and which also have developed bark furrowing which is much more typical of the bark of older trees. It should be noted that the coloration of the bark is influenced, and varies, as the smoother, darker background color approaches other bark

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features such as the lenticels, and the initial fissures which form a feature of the scarf skin development.

#### **BRANCHES**

Size: Considered medium large for the variety.

Diameter: Average as compared to other peach varieties. The branches have a diameter of about 13.0 cm. when measured during the 10th year after grafting.

Surface texture: Average, and appearing furrowed on wood which is several years old.

Crotch angles: Primary branches are considered variable, and are usually growing at an angle of about 43 to about 55 degrees when measured from a horizontal plane. This characteristic can be influenced, to some degree, by tree 15 vigor, rootstock and other cultural conditions.

Current season shoots: Surface texture—Substantially glabrous.

Internode length: Approximately 2.4 cm.

Color of mature branches: Approximately Grey brown, 20 (RHS Greyed-Orange Group 166 C).

Current season's shoots:

Color.—Medium-light green, (RHS Yellow-Green Group 146 C). The color of new shoot tips is considered a bright and shiny green (RHS Yellow-25 Green Group 146 D). The vegetative shoot color can be significantly influenced by plant nutrition, irrigation practices, and exposure to sunlight, and therefore should not be considered a consistent botanical characteristic of this new variety.

# LEAVES

Size: Considered medium for the species. Leaf measurements have been taken from vigorous, upright, current-season growth, at approximately mid-shoot. It should be understood that the leaf size is often influenced by prevailing growing conditions, quality of sunlight, and the location of the leaf within the tree canopy. For this reason, leaf sizes can vary significantly based upon the ambient and other cultural factors listed above, and are not typically considered a dependable botanical descriptor.

Vegetative bud shape: The apex of the bud is acute.

Position of the vegetative bud: In relation to one year old wood, it is appressed.

Leaf length: Approximately 153.0 to about 160.0 mm.

Leaf width: Approximately 32.0 to about 35.0 mm.

Leaf base-shape: The leaves generally exhibit equal marginal symmetry relative to the leaf longitudinal axis.

Leaf form: Lanceolate.

Leaf tip form: Acuminate.

Leaf color:

Upper leaf surface.—Dark yellow-green, (approximately RHS Yellow-Green Group 147 A).

Leaf texture: Glabrous.

Leaf color:

Lower leaf surface.—Light to medium green, (approximately RHS Yellow-Green Group 147 B).

Leaf venation: Pinnately veined.

Mid-vein:

Color.—Considered a light yellow, (approximately RHS Greyed-Yellow Group 160 C) in the early to mid-period of the growing season.

Leaf margins: Gently undulating.

Form.—Considered finely crenate.

Uniformity.—Considered generally uniform.

Leaf petioles:

Form.—Considered canaliculated, and having a more pronounced trough when viewed from the dorsal aspect. The petiole margin is considered rounded when viewed from the ventral aspect.

Size.—Considered medium-small for the species.

Length.—About 7.0 to about 10.0 mm.

Diameter.—About 1.5 to about 2.0 mm.

Color.—Light yellow-green, (approximately RHS Yellow-Green Group 145 A).

Leaf glands:

Size.—Considered small for the species; approximately 1.5 mm. in length; and about 1.0 mm. in height.

Number.—Generally one, and less common, two glands appear per marginal side are found. Observations of more than two glands per marginal side are very uncommon.

Type.—Glands located at the base of the leaf are predominantly reniform in shape. An additional one to two, or occasionally more glands, which appear globose, and stalked, are often present at the basal margin of the leaf petiole as well.

Color.—Considered a medium-dark brown, approximately (RHS Grey-Brown Group N199 B). Typically the coloration of the respective glands darken, and occasionally begins to desiccate during, and thereafter, the mid-late growing season.

Leaf stipules:

Size.—Medium-large for this variety.

Number.—Typically 2 per leaf bud, and up to 6 per shoot tip.

Form.—Lanceolate in form, and having a serrated marginal edge.

Color.—Green, (approximately RHS Green Group 139 B) when young, but graduating to a brown color, (approximately RHS Greyed-Orange Group 165 A) with advancing senescence. The leaf stipules are generally considered to be early deciduous.

Position of nectaries on the leaf.—Predominately on the petiole.

## FLOWER BUDS

Hardiness: No winter injury (bud death) has been noted during the last several years of observation in the central San Joaquin Valley. The new variety of peach tree has not been intentionally subjected to drought, cold or heat stress, and therefore this information is not available.

Flower bud:

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Size.—Variable, and dependent on the state of maturity. The flower buds as described were observed approximately 7 days prior to bloom.

Flower bud:

Length.—Approximately 16.5 mm.

55 Flower bud:

Diameter.—Approximately 9.5 mm.

Flower bud surface texture: Pubescent.

Flower bud orientation: Considered appressed, but appear less so as the blossoms near opening.

<sub>60</sub> Bud scale color: Approximately RHS Greyed-Purple 185 C.

## **FLOWERS**

Date of first bloom: Observed on Feb. 15, 2014.

Blooming time: Considered average in relative comparison to other commercial peach cultivars grown in the central

San Joaquin Valley. The date of full bloom was observed on Feb. 20, 2014. The date of full bloom varies slightly with climatic conditions, and prevailing cultural practices.

Duration of bloom: Approximately 8 or more days. This particular characteristic varies slightly with the prevailing 5 climatic conditions.

Flower arrangements of the petals: The base of the flowers are independent and free. The petal margins overlap.

Flower class: Considered a perfect flower, complete and perigynous.

Flower type: The variety is considered to have a showy type flower.

Flower size: Considered medium-large. The flower diameter at full bloom, is approximately 37.0 to 40.0 mm.

Bloom quantity: Considered abundant.

Flower bud frequency: Generally two flower buds appear per node, occasionally one flower bud per node is observed.

Petal size: Generally considered large for the species. Petal length.—Approximately 23.0 to 25.0 mm. Petal width.—Approximately 17.0 to 19.0 mm.

Petal form: Considered broadly ovate.

Petal count: Nearly always 5.

Petal texture: Glabrous.

Petal color: Considered a light pink at the popcorn stage, (RHS Red-Purple Group 65 D), and darkening with advancing senescence, and the exposure to sunlight to a medium-dark pink, (RHS Red-Purple 63 D).

Fragrance: Slight.

Petal claw:

Form.—The claw is considered ovate, and is generally medium-small and more elongated and relatively more narrow when compared to other varieties.

Length.—Approximately 7.0 to 9.0 mm.

Width.—Approximately 4.5 to 6.0 mm.

Petal margins: Generally considered variable, from nearly smooth to moderately undulate and ruffled, especially apically.

Petal apex: Often the petal margin exhibits a shallow, and 40 wide recess at the tip.

Width.—Approximately 2.5 to 4.0 mm.

*Depth.*—1.0 to 2.0 mm.

Flower pedicel:

Length.—Considered medium-long and having an 45 approximate length of about 1.5 to about 2.0 mm.

Diameter.—Approximately 1.5 mm.

Color.—A medium brown, approximately (RHS Grey-Brown Group N199 D). This color depends, to some degree, on the pedicel and fruit maturity, and the 50 timing of the visual observation.

Surface texture.—Glabrous.

Floral nectaries:

Color.—Considered a deep orange, (approximately RHS Greyed-Orange Group N167 B).

Calyx:

Surface texture.—Generally glabrous.

Color.—A dull orange red, (approximately RHS Greyed-Orange Group N167 B).

Sepals:

Surface texture.—The surface has a short, fine, and pubescent texture.

*Numbers.*—5 sepals.

Size.—Average for the variety.

Sepal length.—Approximately 4.0 to 6.0 mm.

Sepal width.—Approximately 4.0 to 6.0 mm.

Sepal shape.—Generally obovate.

Sepal margin.—Considered smooth and entire.

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Sepal color.—A dull red, (approximately RHS Greyed-Red Group 178 B).

Anthers:

Generally.—Average in size.

Color.—Orange when viewed dorsally and prior to dehiscence, (approximately RHS Greyed-Orange Group 168 B).

Pollen production: Pollen is abundant and has a yellow color, (approximately RHS Yellow-Orange Group 21 B). Fertility: Self-fertile.

Filaments:

Size.—Approximately 12.5 to 15.0 mm. in length.

Color.—Considered white to a pinkish-white, (RHS Red Purple Group 65 D).

Stigma position relative to the anther: The stigma is generally superior to the anthers by about 1.0 to about 2.0 mm.

20 Anther position relative to the petals: At full bloom, the anthers are generally superior by about 3.0 to about 4.0 mm.

Pistil:

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Number.—Usually one, and only rarely more than one. Generally.—Large in size.

Length.—Approximately 19.0 to about 21.0 mm. in length including the ovary.

Color.—Considered a very pale green, (approximately RHS Yellow-Green Group 154 D).

Surface texture.—The variety has a long pubescent pistil.

# FRUIT

Maturity when described: Firm ripe condition (shipping ripe).

Date of first picking: Approximately Oct. 12, 2014.

Date of last picking: Oct. 19, 2014. The date of harvest can vary with the prevailing climatic conditions, crop loads and the current climatic and cultural practices.

Size: Generally—Considered large, and very uniform.

Average cheek diameter: Approximately 72.0 to about 79.0 mm.

Average axial diameter: Approximately 73.0 to about 78.0 mm.

Typical weight: Approximately 275.0 grams. The characteristics are quite dependent upon the prevailing cultural practices, growing conditions and therefore is not particularly distinctive of the new variety.

Fruit form: Generally—Considered globose. The fruit is generally very uniform in symmetry.

Fruit suture: No stitching exists along the suture line.

Fruit suture.—Depth — This dimension varies between being flush relative to the lateral hemispheres, to be occasionally 1.0 mm in depth.

Suture:

Color.—Generally, the fruit appears blushed to the same degree as the skin, (approximately RHS Orange-Red Group N34 A).

60 Ventral surface:

Form.—Considered even, and uniform in appearance, when it is viewed from the lateral, sutural plane.

Apex:

Shape.—Rounded to slightly retuse.

65 Base:

Shape.—Generally smooth.

Stem cavity:

Generally.—The stem cavity extends in a rounded circular form which is generally considered uniform. The stem cavity is rounded but slightly extends toward the suture. The average depth of the stem <sup>5</sup> cavity is about 8.0-10.0 mm. The average width of the stem cavity is about 30.0 mm. The average length of the stem cavity, when measured in the suturial plane. is about 55.0 mm.

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Fruit skin:

Thickness.—Considered medium in thickness, and tenacious to the flesh.

Surface texture.—Short, fine and pubescent. The pubescence is moderately abundant.

*Taste.*—Non-astringent.

Tendency to crack.—Not observed in the previous years of observation and evaluation.

Fruit skin color:

Blush color.—Generally speaking, a red blush exists on a majority of the skin of the fruit (approximately RHS Orange-Red Group N34 A), and is more typically present on the portions of the fruit facing the sunlight. The blush of the fruit typically covers 25 approximately 65%-85% of the fruit skin surface. The percentage of the blush on the fruit skin surface can vary, and is generally dependent upon the fruit's exposure to direct sunlight; specific fruit maturity; and also the prevailing ecological and cultural conditions under which the fruit was grown.

Ground color.—A medium light yellow, (approximately RHS Yellow Group 10 A). The ground color of the fruit can vary significantly based upon the maturity of the fruit when this measurement is taken, <sup>35</sup> and generally gains a lighter and less green cast with higher maturity.

Fruit skin lenticels: Present, very small in size, and too numerous to quantify.

Fruit stem:

Size.—Medium in length, approximately 6.0 to about 8.0 mm.

*Diameter.*—Approximately 2.0 to about 3.0 mm.

Color.—Pale yellow-green, (approximately RHS Yel- 45 low-Green Group N144 C).

Fruit flesh:

Ripening.—Considered even.

*Texture.*—Firm, crunchy, juicy and dense. Considered firm yet non-melting.

*Fibers.*—Present but not prominent.

Aroma.—Slight.

Eating quality.—Considered very good.

*Flavor.*—Considered balanced with both sweetness and acidity.

Juice production.—Moderate.

*Brix.*—About 15.0 to 18.0 degrees. This characteristic varies slightly with the number of fruit per tree; the maturity of fruit when harvested; the prevailing cultural practices; and the ambient climatic conditions.

Acidity.—Considered low. Approximately 0.3 titratible acidity is typically detected. Acid levels assayed from fruit flesh can vary with fruit maturity, sunlight 65 exposure, climatic, regional and cultural influences.

Flesh color.—Yellow, (approximately RHS Yellow) Group 13 C), and often exhibiting pigmentation of red radiating from the stone (approximately RHS) Greyed-Red Group 179 A).

STONE

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Type: Considered a freestone.

Size: It is generally considered to be medium for the variety. The stone size varies significantly depending upon the tree vigor, the crop load, and the prevailing growing and cultural conditions under which the tree was grown.

Length: Average, about 29.0 to about 31.0 mm.

Width: Average, about 22.0 to about 26.0 mm.

Diameter: Average, about 18.0 to about 20.0 mm.

Form: Roughly ovoid.

Stone base:

*Shape.*—The stone is considered shortly attenuate.

20 Apex:

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Shape.—The stone exhibits a slight to prominently acute apex.

Stone surface:

Surface texture.—Considered irregularly furrowed toward the apex. Further, more pitting exists in the mid-portion of the stone (laterally), and is more common toward the base.

*Ridges.*—Ridging is generally more prominent, and is usually oriented parallel, and laterally relative at the ventral and dorsal margins.

*Ventral edge.*—The ventral edge is generally considered troughed with three substantial grooves that converge apically.

Dorsal edge.—Shape — Generally considered even. The folds of the surface ridges appearing on the external margins often end gently along the suture.

Stone color: The color of a mature, dry stone is generally considered a dull brown, approximately (RHS Greyed-Orange Group 177 A).

Tendency to split: Splitting has rarely been noted. Kernel:

Length.—Approximately 19.0-21.0 mm.

Width.—Approximately 13.0-15.0 mm.

Thickness.—5.0-6.0 mm.

Size.—The kernel is considered medium in size.

*Form.*—Considered generally ovoid.

*Pellicle.*—Slightly pubescent.

Color.—A dark tan (RHS Greyed-Orange Group 165 B).

*Viability of the kernel.*—Generally considered viable.

Use: The new variety 'Burpeachthirtysix' is considered to be a peach tree of the late season of maturity, and which produces fruit which are considered to be firm, attractively colored, and which are useful for both local and long distance shipping.

Keeping quality: Appears excellent. The fruit of the present variety has stored well for periods of up to 35 days after harvest at 1.0 degree Celsius.

Shipping quality: Good. The fruit of the new peach tree variety showed minimal bruising of the flesh or skin damage after being subjected to normal harvesting and packing procedures.

Resistance to insects and disease: No particular susceptibilities were noted. The present variety has not been intentionally tested to expose or detect any susceptibilities

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or resistances to any known plant, fruit diseases, insect, frost, winter injury or other environmental factors.

Although the new variety of peach tree possesses the described characteristics when grown under the ecological conditions prevailing near Fowler, Calif., in the central part of the San Joaquin Valley of California, it should be understood that variations of the usual magnitude, and characteristics incident to changes in growing conditions, fertilization, nutrition, pruning, pest control, frost, climatic variables and changes in horticultural management are to be expected.

Having thus described and illustrated our new variety of peach tree, what we claim is new, and desire to secure by Plant Letters Patent is:

1. A new distinct variety of peach tree, substantially as illustrated and described, and which is characterized principally as to novelty by producing an attractively colored yellow-fleshed, freestone peach which is mature for harvesting and shipment approximately October 11 to October 19 under the ecological conditions prevailing in the San Joaquin Valley of central California.

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