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(54) **NECTARINE TREE NAMED ‘WANECTFOUR’**

(50) Latin Name: *Prunus persica nucipersica*
Varietal Denomination: **Wanectfour**

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A01H 6/74 (2018.01)

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

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP12,555 P2 4/2002 Slaughter et al.

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Corroon LLP

(57) **ABSTRACT**

A new and distinct variety of nectarine tree (*Prunus persica nucipersica*), which is denominated varietally as ‘Wanectfour’, and which produces an attractively colored yellow-fleshed, clingstone nectarines which is mature for harvesting and shipment approximately July 8 to July 18 under the ecological conditions prevailing in the San Joaquin Valley of central California.

2 Drawing Sheets

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Botanical designation: ‘*Prunus persica nucipersica*’.
Varietal denomination: ‘Wanectfour’.

BACKGROUND OF THE NEW VARIETY

The present variety of nectarine tree resulted from an on-going program of fruit tree breeding. The purpose of this program is to improve the commercial quality of deciduous fruit varieties and rootstocks by creating and releasing promising selections of *Prunus* species. To this end, both controlled and hybrid cross pollinations are made each year to produce seedling populations from which improved progenies are evaluated and selected.

The seedling ‘Wanectfour’ was originated by the breeders and selected from a population of seedlings growing in an experimental orchard located near Fowler, Calif. The seedlings, grown on their own roots, were derived from planting seed of the variety ‘Burnecttwo’ nectarine tree (U.S. Plant Pat. No. 12,555), which was used as the female parent, and pollinated by an unnamed, unpatented selection of a nectarine variety. The resulting fruit of this controlled cross was collected from the female parent at a mature stage, and seeds were extracted in July of 2008. After a period of stratification, the seed was placed in the greenhouse by population and then field planted for tree establishment and, ultimately, to exhibit fruit for evaluation. One yellow-fleshed nectarine seedling, which is the present variety, exhibited especially desirable characteristics and was designated as ‘H8.087’. This seedling was marked for subsequent observation. After the 2014 fruiting season, the new variety of nectarine tree was selected for advanced evaluation and repropagation.

ASEXUAL REPRODUCTION

Asexual reproduction of this new and distinct variety of nectarine tree was accomplished by budding the new nec-

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tarine tree onto 30 trees of ‘Nemaguard’ Rootstock (unpatented). This was performed by the breeders in an experimental orchard 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

‘Wanectfour’ is a new and distinct variety of nectarine 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, clingstone fruit which have a very good flavor and eating qualities.

This new nectarine tree has a medium chilling requirement of approximately 550 hours, and further produces relatively uniformly sized fruit throughout the tree’s canopy. In addition to the foregoing, the fruit of the new nectarine also appears to have good handling and shipping qualities. The ‘Wanectfour’ nectarine tree bears fruit which are typically ripe for commercial harvesting and shipment on approximately July 8 to July 18 under the ecological conditions prevailing in the San Joaquin Valley of central California. In relative comparison to the ‘Burnecttwo’ nectarine tree (U.S. Plant Pat. No. 12,555), which is the closest known variety, the current variety of nectarine tree bears fruit that is ready for harvest 8 to 10 days later. Additionally, the present variety exhibits lower titratable acidity (0.37 to 0.47) than its seed parent, Burnecttwo (0.8 to 0.1.1). When

compared to its unnamed, unpatented white-fleshed pollen parent, the current variety is yellow-fleshed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a color photograph of two whole mature fruit harvested from a seventh leaf year tree, displaying both the apical and basal fruit aspects. One mature fruit is bisected transversely through the equatorial plane, which reveals the flesh color. The external coloration of the fruit as shown in the photograph is sufficiently matured for harvesting and shipment.

FIG. 2 is a color photograph of the flower buds, flower petals, and flower blooms taken from a fifth leaf year tree.

The colors in these photographs are as nearly true as is reasonably possible in a color representation of this type. Due to chemical development, processing, and printing, the flowers and fruit depicted in these photographs may, or may not, be accurate when compared to the actual specimen. For 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 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 purpose, or non-infringement 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 nectarine tree, the following has been observed during the fourth fruiting season, and under the ecological conditions prevailing at orchards located near the town of Fowler, county of Fresno, state of Calif. All major color code designations are by reference to The R.H.S. Colour Chart (Royal Horticultural Society, 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 nectarine cultivars ripening in the mid-season of maturity. The tree of the present variety was pruned to a height of about 270.0 cm to about 310.0 cm at commercial maturity. Fruit size can vary with crop load and the conditions under which the fruit and tree are grown.

Width.—About 265.0 cm.

Vigor.—Considered moderately vigorous. The present peach tree variety grew from about 165.0 cm to about 170.0 cm in height during the first growing season. The new variety was pruned to a height of about 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.

Fruit bearing.—Regular. Fruit set has been more than adequate during the previous years of observation, and thinning was necessary during the past 9 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.

Hardiness.—The present tree was grown and evaluated in USDA Hardiness Zone 9. The calculated winter chilling requirements of the new tree is approximately 550 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.—About 19.5 cm in diameter when measured at approximately 15.5 cm above the soil level. This measurement was taken at the beginning of the fifth 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 about 4.0 mm to about 6.0 mm in width, and between about 1.0 mm 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 167 A).

Bark coloration.—Variable, but it is generally considered to be a greyed tan (RHS Greyed-Orange Group 174 B). This bark description was taken from trees in their fifth 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 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 nectarine varieties. The branches have a diameter of about 11.5 cm when measured during the 5th year after grafting.

Flowering shoot thickness.—Average for the species. Generally, the most consistent flower bud develop-

ment and therefore potential fruiting sites occur on shoots which are about 6.0 mm in diameter or larger but generally less than about 13.0 mm in diameter at the time of bloom.

Surface texture.—Average and appearing relatively smooth but with more furrowing on wood which is several years old.

Crotch angles.—Primary branches are considered variable and are usually growing at an angle of about 45 degrees when measured from a horizontal plane.

Current season shoots.—Surface texture — Substantially glabrous.

Internode length.—Approximately 3.0 cm.

Color of mature branches.—Approximately Grey brown (RHS Greyed-Orange Group 177 B).

Current season's shoots.—Color. — Light green (RHS Yellow-Green Group 151 D). The color of new shoot tips is considered a yellowed green (RHS Yellow-Green Group 151 A). 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 large and substantially broad for the species. Leaf measurements have been taken from vigorous, upright, current-season growth, at approximately mid-shoot. The leaf size is often influenced by prevailing growing conditions, quality and intensity of available sunlight, and the location of the leaf within the tree canopy. For this reason, leaves sizes can vary significantly based upon the ambient light and other cultural factors listed above and are not typically considered a dependable botanical descriptor.

Leaf length.—About 170.0 mm to about 175.0 mm (including the petiole).

Leaf width.—About 42.0 mm to about 48.0 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 — Medium green (approximately RHS Green Group 137 D).

Leaf texture.—

Upper leaf surface.—Glabrous.

Lower leaf surface.—Glabrous

Leaf color.—Lower Leaf Surface — Medium-light green (approximately RHS Yellow-Green Group 148 C).

Leaf venation.—Pinnately veined.

Mid-vein.—Color — Considered a pale green (approximately RHS Yellow-Green Group 150 D).

Leaf margins.—Gently undulating.

Form.—Considered crenulate.

Uniformity.—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-long for the species.

Length.—About 12.0 mm to about 14.0 mm.

Diameter.—About 2.0 mm to about 2.5 mm.

Color.—A yellowed green (approximately RHS Yellow-Green Group 150 D).

Texture.—Glabrous.

Strength.—Durable for species until senescence.

Leaf glands.—

Size.—Considered relatively small for the species; approximately 1.5 mm in width; and about 2.0 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.

Color.—Considered a yellowed green (approximately RHS Yellow-Green Group 144 B). Typically, the coloration of the glands darkens and occasionally begins to desiccate relatively early in the growing season.

Leaf stipules.—

Size.—Medium for this variety. The leaf stipules have a length of about 9.0 mm to about 11.0 mm and a width of about 1.5 mm to about 2.5 mm.

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 Yellow-Green Group 145 A) 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.

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 nectarine tree has not been intentionally subjected to drought, cold or heat stress, and therefore this information is not available.

Flower bud.—

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

Length.—About 14.5 mm.

Diameter.—About 11.5 mm.

Surface texture.—Pubescent.

Orientation.—Considered appressed but appear less so as the blossoms near opening.

Bud scale color.—Approximately RHS Greyed-Orange Group 177 A.

Flowers:

Date of first bloom.—Observed on Feb. 21, 2020.

Blooming time.—Considered average to slightly early mid-bloom in relative comparison to other commercial nectarine cultivars grown in the central San Joaquin Valley. The date of full bloom was observed on Feb. 26, 2020. The date of full bloom varies slightly with climatic conditions, and prevailing cultural practices.

Duration of bloom.—Approximately 7 or more days. This characteristic varies slightly with the prevailing climatic conditions.

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

Flower type.—The variety is considered to have a non-showy type flower.

Flower size.—Considered average. The flower diameter at full bloom, is about 27.0 mm to about 30.0 mm. 5

Bloom quantity.—Considered abundant.

Flower bud density.—Generally considered dense.

Flower bud frequency.—Generally, two flower buds appear per node, occasionally one flower bud per node is observed. 10

Petal size.—Generally considered average for the species.

Petal length.—About 12.0 mm to about 15.0 mm.

Petal width.—About 9.5 mm to about 10.5 mm. 15

Petal form.—Considered broadly ovate.

Petal count.—Nearly always 5.

Petal texture.—

Upper petal texture.—Very finely pubescent, satin like.

Lower petal texture.—Very finely pubescent, satin like. 20

Petal color.—Considered a light pink at the popcorn stage (RHS Red Group 48 D), and darkening with advanced senescence, and the exposure of sunlight, to a medium-dark pink (RHS Red Group 48 C). This darkening of the petal is generally most present within the margins of the petal claw. 25

Fragrance.—Slight.

Petal claw.—

Form.—The claw is considered ovate and is generally average. 30

Length.—About 9.5 mm.

Width.—About 6.5 mm.

Petal margins.—Generally, slightly undulate.

Petal apex.—Generally entire. 35

Flower pedicel.—

Length.—Considered medium with an approximate length of about 2.0 mm to about 3.0 mm.

Diameter.—About 2.0 mm.

Color.—A light green (approximately RHS Yellow-Green Group 145 A) depending on pedicel and fruit maturity and timing of visual observance. 40

Strength.—Tenacious. Average for the species.

Texture.—Generally smooth to slightly undulate.

Floral nectaries.—

Color.—Considered orange (approximately RHS Orange Group 26 A). 45

Calyx.—

Surface texture.—Generally glabrous.

Color.—Approximately RHS Greyed-Orange Group 176 B. 50

Sepals.—

Upper surface texture.—Moderately pubescent.

Lower surface texture.—Glabrous.

Number.—5 sepals. 55

Size.—Considered medium.

Sepal length.—About 5.0 mm to about 7.0 mm.

Sepal width.—About 4.0 mm to about 6.0 mm.

Sepal shape.—Generally obovate.

Sepal margin.—Considered smooth and entire. 60

Sepal color.—Approximately RHS Greyed-Orange Group 176 B.

Anthers.—

Generally.—Average in size. Typical anthers have a length of about 1.5 mm, width of about 1.0 mm, and a depth of about 1.0 mm. 65

Color.—A golden yellow when viewed dorsally and prior to dehiscence (approximately RHS Yellow-Orange Group 15 C).

Position relative to stigma.—Generally, the stigma is superior to the anthers by about 1.0 mm to about 2.0 mm.

Pollen production.—Pollen is abundant and has a yellow color (approximately RHS Yellow-Orange Group 18 A).

Fertility.—Self-fertile.

Filaments.—

Size.—About 11.0 mm to about 15.0 mm in length.

Color.—Considered white (RHS Yellow Group 11 D).

Pistil.—

Number.—Usually one, and only rarely more than one.

Generally.—Considered medium in size.

Length.—About 16.5 mm to about 19.5 mm in length including the ovary.

Ovary.—Glabrous.

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

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

Position relative to petals.—At flower maturity the stamens grow to be superior to the petals.

Fruit:

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

Date of first picking.—Approximately Jul. 8, 2019.

Date of last picking.—Jul. 18, 2019. The date of harvest can vary with the prevailing climatic conditions, crop loads and the current climatic and cultural practices.

Size.—Generally — Considered medium large.

Average cheek diameter.—About 78.0 mm to about 85.0 mm.

Average axial diameter.—About 74.0 mm to about 79.0 mm.

Typical weight.—Approximately 268.0 grams. The fruit size and weight can vary and are dependent on the prevailing cultural practices, growing conditions and therefore is not particularly distinctive of the new variety.

Fruit soluble solids.—Approximately 13.0 to 15.0 Brix. Fruit sugar levels can vary significantly depending on fruit maturity, local and seasonal climatic conditions, fruit per tree.

Fruit firmness.—Fruit flesh pressures generally averaged 12.0 pounds at the time the fruit was analyzed.

Titrateable acidity.—Approximately 0.37 to 0.47 at commercial harvest maturity.

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

Mucron tip.—Absent.

Fruit suture.—No stitching exists along the suture line.

Suture.—Color — Generally, the fruit appears blushed to the same degree as the skin (approximately RHS Red Group 46 A).

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

Apex.—Shape — Rounded to slightly retuse.

Base.—Shape — Slightly retuse.

Stem cavity.—Generally — It extends in a rounded oval form which is generally considered uniform.

The average depth of the stem cavity is about 6.0 mm to about 8.0 mm. The average width of the stem cavity is about 20.0 mm. The average length of the stem cavity, when measured in the sutural plane is about 40.0 mm.

Fruit skin.—

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

Surface texture.—Glabrous.

Taste.—Non-astringent.

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

Lenticels.—The lenticels are unobtrusive.

Fruit skin color.—

Blush color.—Generally speaking, a red blush exists on a majority of the skin of the fruit (approximately RHS Red Group 46 A) and is more typically present on all portions of the fruit. The blush of the fruit typically covers approximately 90% to 95% 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 orange-yellow (approximately RHS Yellow-Orange Group 21 B). The ground color of the fruit can vary significantly based upon the maturity of the fruit when this measurement is taken.

Fruit glossiness.—The fruit is considered to have a medium glossiness.

Fruit stem.—

Size.—Medium in length, about 7.0 mm to about 9.0 mm.

Diameter.—About 2.0 mm to about 3.0 mm.

Color.—Pale yellow-green (approximately RHS Yellow-Green Group N144 C).

Fruit flesh.—

Ripening.—Considered even.

Texture.—Firm, juicy and dense. Considered non-melting in flesh classification.

Fibers.—Present but not prominent.

Aroma.—Slight.

Eating quality.—Considered very good.

Flavor.—Considered balanced with sweetness with medium-low acidity.

Juice production.—Moderate.

Flesh color.—It is considered yellow (approximately RHS Yellow-Orange Group 16 B). Occasionally red flecking occurs near the outer flesh margin. Additionally, a small margin of this same color can be seen in the flesh at the border of the stone (approximately RHS Red Group 45 C).

Stone:

Type.—Considered a cling stone.

Size.—It is generally considered to be medium for the species. 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 34.0 mm to about 40.0 mm.

Width.—Average, about 28.0 mm to about 30.0 mm.

Diameter.—Average, about 20.0 mm to about 22.0 mm.

Form.—Roughly ovoid.

Stone base.—Shape — The stone is considered shortly attenuate.

Apex.—Shape — The stone exhibits a slight acute apex.

Stone surface.—

Surface texture.—Considered irregularly furrowed toward the apex. Less pitting than average 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 is described as having adjoining ridges formed from each hemisphere. There are longitudinal grooves running alongside this joined ventral suture. Secondly, there can exist an additional set of parallel ridges, one on each side of the major ridge. These secondary ridges are less prominent and do not always extend from the hilum to the apex.

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 sandy brown (approximately RHS Greyed-Orange Group 164 B). Stone color can vary considering how recently the fruit has ripened, harvested, degree of oxidation, surface drying and blanching due to exposure sunlight.

Tendency to split.—Splitting has rarely been noted.

Kernel:

Length.—About 17.0 mm to about 20.0 mm.

Width.—About 13.0 mm to about 16.0 mm.

Thickness.—About 5.0 mm to about 7.0 mm.

Size.—The kernel is considered medium in size.

Form.—Considered generally ovoid.

Kernel surface texture.—Kernel pellicle is shortly pubescent.

Color.—A dark tan (RHS Greyed-Orange Group 167 C).

Use.—The present variety 'Wanectfour' is a nectarine tree of the mid-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 30 days after harvest at 1.0 degree Celsius.

Shipping quality.—Good. The fruit of the new nectarine 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 susceptibilities were noted. The present variety has not been intentionally tested to expose or detect any susceptibilities or resistances to any known plant, fruit diseases, insect, frost, winter injury or other environmental factors.

Although the new variety of nectarine 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, 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 nectarine tree, what we claim is new, and desire to secure by plant Letters Patent is:

1. A new distinct variety of nectarine tree substantially as illustrated and described, and which is characterized prin-

5 cipally as to novelty by producing an attractively colored yellow-fleshed, clingstone nectarine which is mature for harvesting and shipment approximately July 8 to July 18 under the ecological conditions prevailing in the San Joaquin Valley of central California.

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FIG. 1

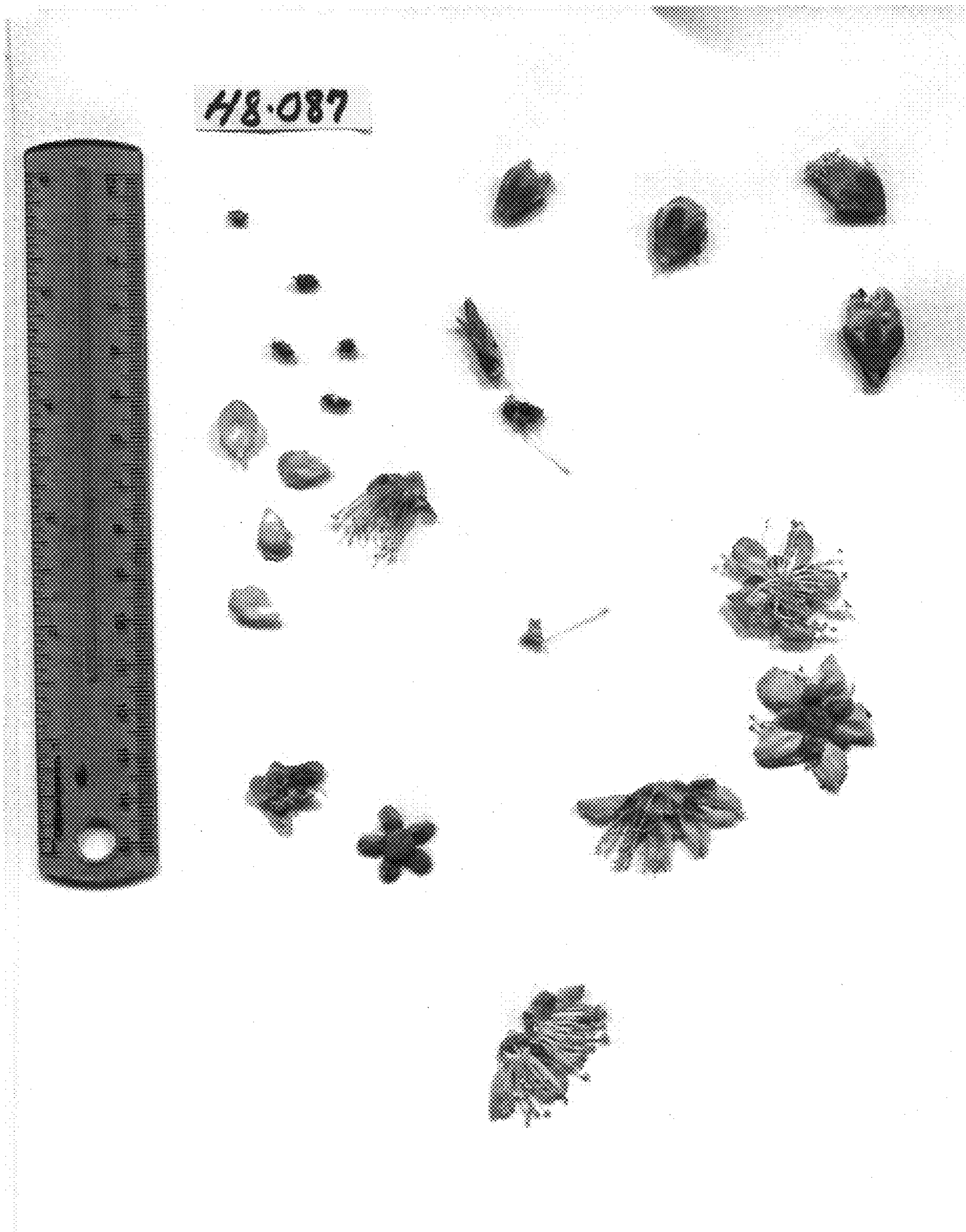


FIG. 2