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(54) **PEPPER HYBRID PS09967922**

(75) Inventor: **WILLIAM McCARTHY**, Ft. Myers, FL (US)

(73) Assignee: **Seminis Vegetable Seeds, Inc.**

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(57) **ABSTRACT**

The invention provides seed and plants of pepper hybrid PS09967922 and the parent lines thereof. The invention thus relates to the plants, seeds and tissue cultures of pepper hybrid PS09967922 and the parent lines thereof, and to methods for producing a pepper plant produced by crossing such plants with themselves or with another pepper plant, such as a plant of another genotype. The invention further relates to seeds and plants produced by such crossing. The invention further relates to parts of such plants, including the fruit and gametes of such plants.

PEPPER HYBRID PS09967922

FIELD OF THE INVENTION

[0001] The present invention relates to the field of plant breeding and, more specifically, to the development of pepper hybrid PS09967922 and the inbred pepper lines SBR 99-1306 and SBY 99-1266.

BACKGROUND OF THE INVENTION

[0002] The goal of vegetable breeding is to combine various desirable traits in a single variety/hybrid. Such desirable traits may include any trait deemed beneficial by a grower and/or consumer, including greater yield, resistance to insects or disease, tolerance to environmental stress, and nutritional value.

[0003] Breeding techniques take advantage of a plant's method of pollination. There are two general methods of pollination: a plant self-pollinates if pollen from one flower is transferred to the same or another flower of the same plant or plant variety. A plant cross-pollinates if pollen comes to it from a flower of a different plant variety.

[0004] Plants that have been self-pollinated and selected for type over many generations become homozygous at almost all gene loci and produce a uniform population of true breeding progeny, a homozygous plant. A cross between two such homozygous plants of different genotypes produces a uniform population of hybrid plants that are heterozygous for many gene loci. Conversely, a cross of two plants each heterozygous at a number of loci produces a population of hybrid plants that differ genetically and are not uniform. The resulting non-uniformity makes performance unpredictable.

[0005] The development of uniform varieties requires the development of homozygous inbred plants, the crossing of these inbred plants, and the evaluation of the crosses. Pedigree breeding and recurrent selection are examples of breeding methods that have been used to develop inbred plants from breeding populations. Those breeding methods combine the genetic backgrounds from two or more plants or various other broad-based sources into breeding pools from which new lines and hybrids derived therefrom are developed by selfing and selection of desired phenotypes. The new lines and hybrids are evaluated to determine which of those have commercial potential.

SUMMARY OF THE INVENTION

[0006] In one aspect, the present invention provides a pepper plant of the hybrid designated PS09967922, the pepper line SBR 99-1306 or pepper line SBY 99-1266. Also provided are pepper plants having all the physiological and morphological characteristics of such a plant. Parts of these pepper plants are also provided, for example, including pollen, an ovule, scion, a rootstock, a fruit, and a cell of the plant.

[0007] In another aspect of the invention, a plant of pepper hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 comprising an added heritable trait is provided. The heritable trait may comprise a genetic locus that is, for example, a dominant or recessive allele. In one embodiment of the invention, a plant of pepper hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 is defined as comprising a single locus conversion. In specific embodiments of the invention, an added genetic locus confers one or more traits such as, for example, herbicide tolerance, insect resistance, disease resistance, and modified carbohydrate metabolism. In further embodiments, the trait may be conferred by a naturally occurring gene introduced into the genome of a line by backcrossing, a natural or induced mutation, or a transgene introduced through genetic transformation techniques into the plant or a progenitor of any previous generation thereof. When introduced through transformation, a genetic locus may comprise one or more genes integrated at a single chromosomal location.

[0008] The invention also concerns the seed of pepper hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266. The pepper seed of the invention may be provided as an essentially homogeneous population of pepper seed of pepper hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266. Essentially homogeneous populations of seed are generally free from substantial numbers of other seed. Therefore, seed of hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 may be defined as forming at least about 97% of the total seed, including at least about 98%, 99% or more of the seed. The seed population may be separately grown to provide an essentially homogeneous population of pepper plants designated PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266.

[0009] In yet another aspect of the invention, a tissue culture of regenerable cells of a pepper plant of hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 is provided. The tissue culture will preferably be capable of regenerating pepper plants capable of expressing all of the physiological and morphological characteristics of the starting plant, and of regenerating plants having substantially the same genotype as the starting plant. Examples of some of the physiological and morphological characteristics of the hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 include those traits set forth in the tables herein. The regenerable cells in such tissue cultures may be derived, for example, from embryos, meristems, cotyledons, pollen, leaves, anthers, roots, root tips, pistils, flowers, seed and stalks. Still further, the present invention provides pepper plants regenerated from a tissue culture of the invention, the plants having all the physiological and morphological characteristics of hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266.

[0010] In still yet another aspect of the invention, processes are provided for producing pepper seeds, plants and fruit, which processes generally comprise crossing a first parent pepper plant with a second parent pepper plant, wherein at least one of the first or second parent pepper plants is a plant of pepper line SBR 99-1306 or pepper line SBY 99-1266. These processes may be further exemplified as processes for preparing hybrid pepper seed or plants, wherein a first pepper plant is crossed with a second pepper plant of a different, distinct genotype to provide a hybrid that has, as one of its parents, a plant of pepper line SBR 99-1306 or pepper line SBY 99-1266. In these processes, crossing will result in the production of seed. The seed production occurs regardless of whether the seed is collected or not.

[0011] In one embodiment of the invention, the first step in "crossing" comprises planting seeds of a first and second parent pepper plant, often in proximity so that pollination will occur for example, mediated by insect vectors. Alternatively, pollen can be transferred manually. Where the plant is self-pollinated, pollination may occur without the need for direct human intervention other than plant cultivation.

[0012] A second step may comprise cultivating or growing the seeds of first and second parent pepper plants into plants that bear flowers. A third step may comprise preventing self-pollination of the plants, such as by emasculating the flowers (i.e., killing or removing the pollen).

[0013] A fourth step for a hybrid cross may comprise cross-pollination between the first and second parent pepper plants. Yet another step comprises harvesting the seeds from at least one of the parent pepper plants. The harvested seed can be grown to produce a pepper plant or hybrid pepper plant.

[0014] The present invention also provides the pepper seeds and plants produced by a process that comprises crossing a first parent pepper plant with a second parent pepper plant, wherein at least one of the first or second parent pepper plants is a plant of pepper hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266. In one embodiment of the invention, pepper seed and plants produced by the process are first generation (F_1) hybrid pepper seed and plants produced by crossing a plant in accordance with the invention with another, distinct plant. The present invention further contemplates plant parts of such an F_1 hybrid pepper plant, and methods of use thereof. Therefore, certain exemplary embodiments of the invention provide an F_1 hybrid pepper plant and seed thereof.

[0015] In still yet another aspect, the present invention provides a method of producing a plant derived from hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266, the method comprising the steps of: (a) preparing a progeny plant derived from hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266, wherein said preparing comprises crossing a plant of the hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 with a second plant; and (b) crossing the progeny plant with itself or a second plant to produce a seed of a progeny plant of a subsequent generation. In further embodiments, the method may additionally comprise: (c) growing a progeny plant of a subsequent generation from said seed of a progeny plant of a subsequent generation and crossing the progeny plant of a subsequent generation with itself or a second plant; and repeating the steps for an additional 3-10 generations to produce a plant derived from hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266. The plant derived from hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 may be an inbred line, and the aforementioned repeated crossing steps may be defined as comprising sufficient inbreeding to produce the inbred line. In the method, it may be desirable to select particular plants resulting from step (c) for continued crossing according to steps (b) and (c). By selecting plants having one or more desirable traits, a plant derived from hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 is obtained which possesses some of the desirable traits of the line/hybrid as well as potentially other selected traits.

[0016] In certain embodiments, the present invention provides a method of producing food or feed comprising: (a) obtaining a plant of pepper hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266, wherein the plant has been cultivated to maturity, and (b) collecting at least one pepper from the plant.

[0017] In still yet another aspect of the invention, the genetic complement of pepper hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 is provided. The phrase "genetic complement" is used to refer to the aggregate of nucleotide sequences, the expression of which sequences defines the phenotype of, in the present case, a pepper plant, or a cell or tissue of that plant. A genetic complement thus represents the genetic makeup of a cell, tissue or plant, and a hybrid genetic complement represents the genetic make up of a hybrid cell, tissue or plant. The invention thus provides pepper plant cells that have a genetic complement in accordance with the pepper plant cells disclosed herein, and seeds and plants containing such cells.

[0018] Plant genetic complements may be assessed by genetic marker profiles, and by the expression of phenotypic traits that are characteristic of the expression of the genetic complement, e.g., isozyme typing profiles. It is understood that hybrid PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 could be identified by any of the many well known techniques such as, for example, Simple Sequence Length Polymorphisms (SSLPs) (Williams et al., 1990), Randomly Amplified Polymorphic DNAs (RAPDs), DNA Amplification Fingerprinting (DAF), Sequence Characterized Amplified Regions (SCARs), Arbitrary Primed Polymerase Chain Reaction (AP-PCR), Amplified Fragment Length Polymorphisms (AFLPs) (EP 534 858, specifically incorporated herein by reference in its entirety), and Single Nucleotide Polymorphisms (SNPs) (Wang et al., 1998).

[0019] In still yet another aspect, the present invention provides hybrid genetic complements, as represented by pepper plant cells, tissues, plants, and seeds, formed by the combination of a haploid genetic complement of a pepper plant of the invention with a haploid genetic complement of a second pepper plant, preferably, another, distinct pepper plant. In another aspect, the present invention provides a pepper plant regenerated from a tissue culture that comprises a hybrid genetic complement of this invention.

[0020] Any embodiment discussed herein with respect to one aspect of the invention applies to other aspects of the invention as well, unless specifically noted.

[0021] The term "about" is used to indicate that a value includes the standard deviation of the mean for the device or method being employed to determine the value. The use of the term "or" in the claims is used to mean "and/or" unless explicitly indicated to refer to alternatives only or the alternatives are mutually exclusive. When used in conjunction with the word "comprising" or other open language in the claims, the words "a" and "an" denote "one or more," unless specifically noted otherwise. The terms "comprise," "have" and "include" are open-ended linking verbs. Any forms or tenses of one or more of these verbs, such as "comprises," "comprising," "has," "having," "includes" and "including," are also open-ended. For example, any method that "comprises," "has" or "includes" one or more steps is not limited to possessing only those one or more steps and also covers other unlisted steps. Similarly, any plant that "comprises," "has" or "includes" one or more traits is not limited to possessing only those one or more traits and covers other unlisted traits.

[0022] Other objects, features and advantages of the present invention will become apparent from the following detailed description. It should be understood, however, that the detailed description and any specific examples provided, while indicating specific embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

DETAILED DESCRIPTION OF THE INVENTION

[0023] The invention provides methods and compositions relating to plants, seeds and derivatives of pepper hybrid PS09967922, pepper line SBR 99-1306 and pepper line SBY 99-1266.

[0024] Sweet bell pepper hybrid PS09967922 developes a semi-upright, medium-sized plant with dark green foliage. The plant is larger than the hybrid Aristotle but smaller than the hybrid X5R 9941819. Fruit length is commonly 12 to 14 cm and fruit diameter is commonly 11 to 12 cm. Typical fruit length to diameter ratios are about 1.1. The fruit are slightly ribby, with three or four lobes, and have a medium deep shoulder. The dark green fruit mature to a red fruit about four days later than the hybrid Aristotle. Little to no epidermal seperation has been observed with this hybrid. Hybrid PS09967922 appears highly resistant to Races 0, 1, 2, 3, 7, and 8 Bacterial leaf spot [*Xanthomonas campestris* pv. *vesicatoria*; (Xcv)], highly resistant to *Tobamovirus* (P0), and highly resistant to *Phytophthora capsici* (Pc). The hybrid is intended for open field production.

[0025] The hybrid PS09967922 is produced by the cross of parent lines SBR 99-1306 and SBY 99-1266. The parent lines show uniformity and stability within the limits of environmental influence. By crossing the parent lines, uniform seed hybrid PS09967922 can be obtained.

A. Origin and Breeding History of Pepper Hybrid PS09967922

[0026] The parents of hybrid PS09967922 are SBR 99-1306 and SBY 99-1266. These parents were created as follows:

[0027] SBY 99-1266 was developed by pedigree selection from Seminis hybrid SVR 2690373. This hybrid resulted from the cross between female “PALF4” and male “PE68”.

[0028] The parent PalF4 produces a blocky, yellow bell pepper with medium sized fruit and good resistance to Pc. The parent PE68 produces an anthocyaninless, red, blocky, square-fruited pepper, with very dark green immature fruit.

[0029] The breeding history of line SBY 99-1266 can be summarized as follows:

[0030] March, Year 1: The F_1 hybrid SVR 2690373 was made from the parents PalF4 and PE68.

[0031] March, Year 2: Plants of the F_1 hybrid SVR 2690373 were transplanted into a hybrid trial as stake # PC99CN689 and allowed to self. Seed from the selfed plants were massed.

[0032] March, Year 3: Planted the F_2 inbred line PC99CN689-M as stake # PC00-0660. Notes indicate a small plant with some good sized fruit, but mostly short plants with fruit lacking seed. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0033] March, Year 4: Planted the F_3 inbred line PC00-0660-16 as stake # PC01 9390. Notes indicate a leafy line with light cover, a good side wall and some large fruit sizes. The line was noted as susceptible to bacterial leaf spot (caused by *Xanthomonas campestris* pv. *vesicatoria*) and resistant to Pc. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0034] January, Year 6: Planted the F_4 inbred line PC01 9390-01 as stake #03LB 03089. Notes indicate heavy rot with a line segregating for fruit color (red/yellow) with some nice big yellow fruit. Pathology tests indicate the line was segregating for resistance to Pc. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0035] July, Year 6: Planted the F_5 inbred line 03LB 03089-01 as stake #03LB 08864. Notes indicate leggy and floppy plants with poor cover. The line was segregating for fruit color. The line produced a heavy set of dark green immature but mostly red mature, mostly soft fruit of adequate size. Plants were anthocyaninless. Pathology tests indicate the line was fixed for Tm0 resistance (L_1 gene) and was resistant or tolerant to Pc. One plant was selected, allowed to self, and seed was collected.

[0036] January, Year 7: Planted the F_6 inbred line 03LB 08864-01 as stake #04LB 03397. Notes indicate an anthocyaninless, medium sized plant that tested resistant or tolerant to Pc. Fruit were large and ribby with a deep blossom end and acceptable firmness. Mature fruit were yellow. Individual plants were selected and allowed to self. Seed was collected from the individual plants.

[0037] July, Year 7: Planted the F_7 inbred line 04LB 03397-01 as stake #04LB 08899. Notes indicate a medium sized anthocyaninless plant with dark green, firm fruit. The line produces semi-soft yellow fruit with flat sides, ribby shoulders and a non-uniform coloration. Plants were noted as stable and uniform. The line was allowed to self and bulked.

[0038] October, Year 8: The seed of 04LB 08899-M tested resistant or tolerant to Pc and the bulked seed was renamed as line SBR 99-1266.

[0039] Line SBY 99-1266 develops a medium sized, anthocyaninless plant with firm, dark green fruit. The fruit mature to semi-soft yellow fruit with flat sides, ribby shoulders and a non-uniform coloration. The line is resistant to *Phytophthora capsici* (Pc) and *Tobamo* virus (pathotype P_0; Tm0). SBY 99-1266 differs from PalF4 because it is anthocyaninless and has dark green fruit. SBY 99-1266 differs from PE68 because it is resistant to Pc and Tm0, and is yellow at maturity.

[0040] SBR 99-1306 was developed by pedigree selection from Seminis hybrid SVR 9927214. This hybrid resulted from the cross between female “01LB 06792-02” and male “SBY 29-469”.

[0041] The female parent, 01LB 06792-02, develops a uniform, anthocyaninless, medium to large plant and produces a heavy set of medium to large, dark green maturing to red, tapered fruit. 01LB 06792-02 is resistant to Pc, Tm0 and Xcv. The male parent, SBY 29-469, develops a uniform, anthocyaninless, small to medium plant that sets large, medium-green maturing to yellow, medium firm, blocky fruit. SBY 29-469 was resistant to Pc, Tm0, Xcv and to the Tobacco etch virus pathotype P_0 (TEV; pvr2-2 gene).

[0042] The breeding history of line SBR 99-1306 can be summarized as follows:

[0043] January, Year 5: The F_1 hybrid SVR 9927214 was made from the parents 01LB 06792-02 and SBY 29-469.

[0044] July, Year 5: Plants of the F_1 hybrid SVR 9927214 were transplanted into a hybrid trial as stake 02LB 06302 and allowed to self. Seed from the selfed plants were massed.

[0045] January, Year 6: Planted the F_2 inbred line 02LB 06302-M as stake 03LB 02830. The line developed a medium plant, with good leaf cover that produced a heavy set of nicely shaped, medium-sized red fruit. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0046] October, Year 6: Planted the F_3 inbred line 03LB 02830-05 as stake 03LB 15145. The line developed an anthocyaninless plant that produced leaves with notable leaf curl. The plant produced a gradual set of nicely shaped, firm, deep, red fruit. The line tested resistant to Pc. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0047] October, Year 7: Planted the F_4 inbred line 03LB 15145 as stake 04LB 12365. Notes indicate the line tested resistant to Pc and fixed resistant to Xcv. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0048] October, Year 8: Planted the F_5 inbred line 04LB 12365-01 as stake 05LB 13862-03. The line developed a very small plant with good cover, and produced a heavy set of smooth, medium green maturing to red fruit. Very little fruit skin corking was observed. Notes indicate the line tested fixed for resistance to Tm0. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0049] July, Year 9: Planted the F_6 inbred line 05LB 13862-03 as stake 06LB 06317. Notes indicate that the line develops an anthocyaninless plant that produced some very nicely shaped firm fruit of somewhat variable, but generally adequate, size and medium green color. Individual plants were selected and allowed to self. Seed was separately collected from the individual plants.

[0050] July, Year 10: Planted the F_7 inbred line 06LB 06317-01 as stake 07LB 06775. Notes indicate a line that produced a fairly consistent set, shape and green color fruit. The fruit were very deep (Length=11.6 cm×Diameter=9 cm; LD=1.3). Plants were noted as stable and uniform. The line was allowed to self and bulked.

[0051] January, Year 11: The seed of 07LB 06775-M tested resistant to Pc and the bulked seed was renamed as line SBR 99-1306.

[0052] SBR 99-1306 develops a small, anthocyaninless plant with good cover. It produces a heavy set of smooth, firm, deep (length:diameter (LD)>1), medium green, medium-sized fruit. The fruit mature to a red fruit with a consistent shape and set. The line is resistant to *Phytopthora capsici* (Pc) and the Tobacco mosaic virus pathotype P_0 (Tm0; L_1 gene). It is also resistant to bacterial leaf spot races 1, 2, 3, 7 and 9 caused by *Xanthomonas campestris* pv. *vesicatoria* (Xcv; Bs_2 gene). SBR 99-1306 differs from 01LB 06792-02 because it is resistant to Pc while SBR 99-1306 is not. SBR 99-1306 differs from SBY 29-469 because it is resistant to Xcv, susceptible to TEV and is red at maturity while SBY 29-469 is yellow at maturity, susceptible to Xcv, and resistant to TEV.

[0053] The parent lines are uniform and stable, as is a hybrid produced therefrom. A small percentage of variants can occur within commercially acceptable limits for almost any characteristic during the course of repeated multiplication. However no variants are expected.

B. Physiological and Morphological Characteristics of Pepper Hybrid PS09967922, Pepper Line SBR 99-1306 and Pepper Line SBY 99-1266

[0054] In accordance with one aspect of the present invention, there is provided a plant having the physiological and morphological characteristics of pepper hybrid PS09967922 and the parent lines thereof. A description of the physiological and morphological characteristics of such plants is presented in Tables 1-3.

TABLE 1

Physiological and Morphological Characteristics of Hybrid PS09967922

CHARACTERISTIC	PS09967922	Comparison Variety - Early Cal Wonder
1. Species	*C. annuum*	*C. annuum*
2. Maturity (in region of best adaptability)		
days from transplanting until mature green stage	57	67
days from transplanting until mature red or yellow stage	110	85
days from direct seeding until mature green stage	83	104
days from direct seeding until mature red or yellow stage	136	122
beginning of flowering (1st flower on 2nd flowering node)	early (Carré doux extra hâtif, Cupido, Fehér, Flaviano, Lito, Trophy)	early
time of maturity	medium (Lamuyo, Latino, Sonar)	medium
3. Plant		
habit	compact	compact
attitude	upright/erect (De Cayenne, Doux très long des Landes, Piquant d'Algérie)	upright/erect
plant height	37 cm	40.9 cm
plant width	37.7 cm	47.1 cm
length of stem from cotyledon to first flower	13.9 cm	10.7 cm
length of the third internode (from soil surface)	82 mm	54 mm
length of stem	medium (Belsir, Lamuyo)	medium

TABLE 1-continued

Physiological and Morphological Characteristics of Hybrid PS09967922

CHARACTERISTIC	PS09967922	Comparison Variety - Early Cal Wonder
shortened internode (in upper part)	present (Fehér, Kalocsai 601, Kalocsai 702)	absent
number of internodes between the first flower and the shortened internodes (for varieties with shortened internodes only)	more than three (Kalocsai 702)	
length of internode on primary side shoots (for varieties without shortened internodes only)		medium
stem: hairiness of nodes	absent or very weak (Arlequin)	absent or very weak
height	medium (HRF)	medium
basal branches	none	few
branch flexibility	rigid (Yolo Wonder)	rigid
stem strength (breakage resistance)	weak	intermediate
4. Leaf		
length of blade	long (Cupido, Dolmy, Encore, Mazurka, Monte)	medium
width of blade	broad (California wonder, Golden calwonder, Seifor, Solario)	medium
width	45.4 mm	60 mm
length	158.1 mm	113.3 mm
petiole length	31.8 mm	46 mm
color	dark green	light green
color (RHS Color Chart value)	146A	147A
intensity of green color	dark (Dolmy, Tinto)	light
mature leaf shape	ovate (Balico, Sonar)	ovate
leaf and stem pubescence	absent	absent
undulation of margin	very weak	absent
blistering	weak (Pusztagold)	weak
profile in cross section	flat (De Cayenne, Recio)	moderately concave
glossiness	weak (De Cayenne, Doux très long des Landes)	medium
5. Flower		
peduncle: attitude	semi-drooping (Blondy)	erect
flowers per leaf axil	1	1
calyx lobes	6	6
petals	6	6
diameter	29.3 mm	25.1 mm
corolla color	white	white
corolla throat markings	yellow	yellow
anther color	yellow	purple
style length	same as stamen	same as stamen
self-incompatibility	absent	absent
6. Fruit		
group	Bell (Yolo Wonder L.)	Bell (Yolo Wonder L.)
color (before maturity)	green (California wonder, Lamuyo)	green
intensity of color (before maturity)	medium	medium
immature fruit color	medium green	medium green
immature fruit color (RHS Color Chart value)	144A	137A
attitude/position	drooping/pendent (De Cayenne, Lamuyo)	drooping/pendent
length	long (Doux d'Espagne, Majister)	medium
diameter	very narrow (De Cayenne, Recio)	broad
ratio length/diameter	large (Heldor, Lamuyo, Magister, Tenno, Vidi)	medium

TABLE 1-continued

Physiological and Morphological Characteristics of Hybrid PS09967922

CHARACTERISTIC	PS09967922	Comparison Variety - Early Cal Wonder
calyx diameter	28.3 mm	32 mm
fruit length	96.5 mm	80 mm
fruit diameter at calyx attachment	74.5 mm	70 mm
fruit diameter at mid-point	76.4 mm	80 mm
flesh thickness at mid-point	5.5 mm	6 mm
average number of fruits per plant	8.6	10
% large fruits	35 (weight range: 200 to 260 g)	50 (weight range 140 to 199 g)
% medium fruits	50.50 (weight range: 100 to 199 g)	30 (weight range 80 to 139 g)
% small fruits	14.50 (weight range: 10 to 99 g)	20 (weight range 20 to 79 g)
average fruit weight	128.2 gm	100 gm
fruit shape (longitudinal section)	trapezoidal (Delta, Piperade)	square
fruit shape (cross section, at level of placenta)	quadrangular	quadrangular
sinuation of pericarp at basal part	weak (Donat)	very weak
sinuation of pericarp excluding basal part	weak (Clovis, Sonar)	very weak
texture of surface	smooth or very slightly wrinkled (Milord)	smooth or very slightly wrinkled
color (at maturity)	red (Fehér, Lamuyo)	red
intensity of color (at maturity)	dark	dark
mature fruit color	red	red
mature fruit color (RHS Color Chart value)	N34A	46A
glossiness	medium/moderate (Carré doux extra hâtif, Lamuyo, Sonar)	medium/moderate
stalk cavity	present (Bingor, Lamuyo)	absent
depth of stalk cavity	very deep (Cancun, Cubor, Pablor, Shy Beauty)	
pedicel length	22.2 mm	20 mm
pedicel thickness	12 mm	6 mm
pedicel shape	curved	curved
pedicel cavity	present	absent
depth of pedicel cavity	23.5 mm	
stalk: length	long (De Cayenne, Sierra Nevada, Sweet Banana)	medium
stalk: thickness	medium (Doux italien, Surpas)	medium
base shape	cupped	cupped
shape of apex	moderately depressed (Quadrato a'Asti rosso)	very depressed
shape	Bell (Yolo Wonder L.)	Bell (Yolo Wonder L.)
set	scattered	scattered
depth of interloculary grooves	medium (Clovis, Lamuyo, Marconi)	medium
number of locules	predominantly four and more (Palio, PAZ szentesi)	predominantly four and more
% fruits with three locules	3.40%	40%
% fruits with four locules	66.60%	60%
% fruits with five or more locules	30%	0%
average number of locules	4	4
thickness of flesh	thick (Andevalo, Bingor, Daniel, Topgirl)	thick
calyx: aspect	non-enveloping/ saucer-shaped (Lamuyo, Sonar)	non-enveloping/ saucer-shaped

TABLE 1-continued

Physiological and Morphological Characteristics of Hybrid PS09967922

CHARACTERISTIC	PS09967922	Comparison Variety - Early Cal Wonder
pungency	sweet	sweet
capsaicin in placenta	absent (Sonar)	absent
flavor	mild pepper flavor	moderate
glossiness	moderate	shiny
7. Seed		
seed cavity length	74.7 mm	43 mm
seed cavity diameter	60.3 mm	52 mm
placenta length	15.7 mm	22 mm
number of seeds per fruit	171	100
grams per 1000 seeds	5.5 gm	7.5 gm
color	yellow	yellow
8. Anthocyanin		
seedling hypocotyl	absent (Albaregia, Albena)	moderate
stem	weak	absent
node	weak	weak
stem: intensity of anthocyanin coloration of nodes	weak (California wonder, Clio, Doux d'Espagne, Dous très long des Landes, Golden calwonder)	medium
leaf	absent	absent
pedicel	absent	absent
calyx	absent	absent
anther	absent (Danza)	present
fruit coloration	absent (Lamuyo)	absent

*These are typical values. Values may vary due to environment. Other values that are substantially equivalent are also within the scope of the invention.

TABLE 2

Physiological and Morphological Characteristics of Line SBR 99-1306

CHARACTERISTIC	SBR 99-1306	Comparison Variety - Early Cal Wonder
1. Species	*C. annuum*	*C. annuum*
2. Maturity (in region of best adaptability)		
days from transplanting until mature green stage	57	67
days from transplanting until mature red or yellow stage	110	85
days from direct seeding until mature green stage	83	104
days from direct seeding until mature red or yellow stage	136	122
beginning of flowering (1st flower on 2nd flowering node)	early (Carré doux extra hâtif, Cupido, Fehér, Flaviano, Lito, Trophy)	early
time of maturity	medium (Lamuyo, Latino, Sonar)	medium
3. Plant		
habit	compact	compact
attitude	upright/erect (De Cayenne, Doux très long des Landes, Piquant d'Algérie)	upright/erect
plant height	30.6 cm	40.9 cm
plant width	34.8 cm	47.1 cm
length of stem from cotyledon to first flower	13.9 cm	10.7 cm
length of the third internode (from soil surface)	77.4 mm	54 mm
length of stem	long (Lipari, Marconi, Rouge long ordinaire)	medium
shortened internode (in upper part)	absent (California wonder, De Cayenne)	absent

TABLE 2-continued

Physiological and Morphological Characteristics of Line SBR 99-1306		
CHARACTERISTIC	SBR 99-1306	Comparison Variety - Early Cal Wonder
length of internode (on primary side shoots) (for varieties without shortened internodes only)	medium (Dolmi, Florian, Órias)	medium
stem: hairiness of nodes	absent or very weak (Arlequin)	absent or very weak
height	medium (HRF)	medium
basal branches	none	few
branch flexibility	rigid (Yolo Wonder)	rigid
stem strength (breakage resistance)	weak	intermediate
4. Leaf		
length of blade	long (Cupido, Dolmy, Encore, Mazurka, Monte)	medium
width of blade	medium (Albaregia, Balaton, Danubia, Marconi, Merit)	medium
width	95.6 mm	60 mm
length	50.6 mm	113.3 mm
petiole length	46.6 mm	46 mm
color	medium green	light green
color (RHS Color Chart value)	137B	147A
intensity of green color	medium (Doux très long des Landes, Merit)	light
mature leaf shape	ovate (Balico, Sonar)	ovate
leaf and stem pubescence	absent	absent
undulation of margin	weak (Doux très long des Landes)	absent
blistering	medium (Merit)	weak
profile in cross section	flat (De Cayenne, Recio)	moderately concave
glossiness	weak (De Cayenne, Doux très long des Landes)	medium
5. Flower		
peduncle: attitude	semi-drooping (Blondy)	erect
flowers per leaf axil	1	1
calyx lobes	6	6
petals	6	6
diameter	25.8 mm	25.1 mm
corolla color	white	white
corolla throat markings	yellow	yellow
anther color	yellow	purple
style length	same as stamen	same as stamen
self-incompatibility	absent	absent
6. Fruit		
group	Bell (Yolo Wonder L.)	Bell (Yolo Wonder L.)
color (before maturity)	green (California wonder, Lamuyo)	green
intensity of color (before maturity)	medium	medium
immature fruit color	medium green	medium green
immature fruit color (RHS Color Chart value)	144A	137A
attitude/position	horizontal (PAZ szentesi, Vinedale)	drooping/pendent
length	medium (Fehér, Lamuyo)	medium
diameter	narrow (Doux très long des Landes)	broad
ratio length/diameter	large (Heldor, Lamuyo, Magister, Tenno, Vidi)	medium
calyx diameter	29.2 mm	32 mm
fruit length	82.7 mm	80 mm
fruit diameter at calyx attachment	67.3 mm	70 mm
fruit diameter at mid-point	66 mm	80 mm
flesh thickness at mid-point	5.2 mm	6 mm

TABLE 2-continued

Physiological and Morphological Characteristics of Line SBR 99-1306

CHARACTERISTIC	SBR 99-1306	Comparison Variety - Early Cal Wonder
average number of fruits per plant	10	10
% large fruits	26 (weight range: 100 to 200 g)	50 (weight range 140 to 199 g)
% medium fruits	63 (weight range: 30 to 99 g)	30 (weight range 80 to 139 g)
% small fruits	11 (weight range: 10 to 29 g)	20 (weight range 20 to 79 g)
average fruit weight	77.2 gm	100 gm
fruit shape (longitudinal section)	trapezoidal (Delta, Piperade)	square
fruit shape (cross section, at level of placenta)	quadrangular	quadrangular
sinuation of pericarp at basal part	weak (Donat)	very weak
sinuation of pericarp excluding basal part	weak (Clovis, Sonar)	very weak
texture of surface	smooth or very slightly wrinkled (Milord)	smooth or very slightly wrinkled
color (at maturity)	red (Fehér, Lamuyo)	red
intensity of color (at maturity)	dark	dark
mature fruit color	red	red
mature fruit color (RHS Color Chart value)	N34A	46A
glossiness	medium/moderate (Carré doux extra hâtif, Lamuyo, Sonar)	medium/moderate
stalk cavity	present (Bingor, Lamuyo)	absent
depth of stalk cavity	medium (Lamuyo, Magister)	
pedicel length	37.5 mm	20 mm
pedicel thickness	16.2 mm	6 mm
pedicel shape	curved	curved
pedicel cavity	present	absent
depth of pedicel cavity	18.2 mm	
stalk: length	long (De Cayenne, Sierra Nevada, Sweet Banana)	medium
stalk: thickness	thick (Lamuyo, Trophy Palio)	medium
base shape	cupped	cupped
shape of apex	moderately depressed (Quadrato a'Asti rosso)	very depressed
shape	Bell (Yolo Wonder L.)	Bell (Yolo Wonder L.)
set	concentrated	scattered
depth of interloculary grooves	medium (Clovis, Lamuyo, Marconi)	medium
number of locules	predominantly four and more (Palio, PAZ szentesi)	predominantly four and more
% fruits with two locules	3.30%	0%
% fruits with three locules	3.30%	40%
% fruits with four locules	53.40%	60%
% fruits with five or more locules	40%	0%
average number of locules	4	4
thickness of flesh	medium (Fehér, Lamuyo)	thick
calyx: aspect	non-enveloping/ saucer-shaped (Lamuyo, Sonar)	non-enveloping/ saucer-shaped
pungency	sweet	sweet
capsaicin in placenta	absent (Sonar)	absent
flavor	mild pepper flavor	moderate
glossiness	moderate	shiny
7. Seed		
seed cavity length	71.8 mm	43 mm
seed cavity diameter	55 mm	52 mm
placenta length	16.7 mm	22 mm

TABLE 2-continued

Physiological and Morphological Characteristics of Line SBR 99-1306

	CHARACTERISTIC	SBR 99-1306	Comparison Variety - Early Cal Wonder
	number of seeds per fruit	113	100
	grams per 1000 seeds	8 gm	7.5 gm
	color	yellow	yellow
8.	Anthocyanin		
	seedling hypocotyl	absent (Albaregia, Albena)	moderate
	stem	absent	absent
	node	weak	weak
	stem: intensity of anthocyanin coloration of nodes	very weak	medium
	leaf	absent	absent
	pedicel	absent	absent
	calyx	absent	absent
	anther	absent (Danza)	present
	fruit coloration	absent (Lamuyo)	absent

*These are typical values. Values may vary due to environment. Other values that are substantially equivalent are also within the scope of the invention.

TABLE 3

Physiological and Morphological Characteristics of Line SBY 99-1266 and a Selected Variety

	CHARACTERISTIC	SBY 99-1266	Early Cal Wonder
1	Species	*C. annuum*	*C. annuum*
2	Maturity in region of most adaptability		
	Days from transplanting until mature green stage	85	67
	Days from transplanting until mature red or yellow stage	104	85
	Days from direct seeding until mature green stage	122	104
	Days from direct seeding until mature red or yellow stage	141	122
3	Plant		
	Habit	compact	compact
	Attitude	upright/erect (De Cayenne, Doux très long des Landes, Piquant d'Algérie)	upright/erect (De Cayenne, Doux très long des Landes, Piquant d'Algérie)
	Plant height	52.4 cm	40.9 cm
	Plant width	45.1 cm	47.1 cm
	Length of stem from cotyledon to first flower	15.5 cm	10.7 cm
	Length of third internode (from soil surface)	58.8 mm	54.0 mm
	Length of stem	medium (Belsir, Lamuyo)	
	Shortened internode (in upper part)	absent (California wonder, De Cayenne)	
	Length of internode (on primary side shoots)	medium, (Dolmi, Florian, Órias)	
	Stem: hairiness of nodes	absent or very weak (Arlequin)	
	Height	medium (HRF)	
	Basal branches	few (2-3)	Few (2-3)
	Branch flexibility	rigid (Yolo Wonder)	rigid (Yolo Wonder)
	Stem strength (breakage resistance)	strong	intermediate
	Leaf		
	Length of blade	long (Cupido, Dolmy, Encore, Mazurka, Monte)	
	Width of blade	medium (Albaregia, Balaton, Danubia, Marconi, Merit)	

TABLE 3-continued

Physiological and Morphological Characteristics of Line SBY 99-1266 and a Selected Variety

	CHARACTERISTIC	SBY 99-1266	Early Cal Wonder
4	Leaf width	70.7 mm	60.0 mm
	Leaf length	113.7 mm	113.3 mm
	Petiole length	54.3 mm	46.0 mm
	Color	dark green	light green
	Color (RHS Color Chart value)	green 137B	147A
	Intensity of green color	dark (Dolmy, Tinto)	
	Mature leaf shape	ovate (Balico, Sonar)	ovate (Balico, Sonar)
	Leaf and stem pubescence	absent	absent
	Undulation of margin	absent (De Cayenne)	absent (De Cayenne)
	Blistering	weak (Pusztagold)	weak (Pusztagold)
	Profile in cross section	moderately concave (Doux italien, Favolor)	
	Glossiness	medium (Alby, Eolo)	
	Peduncle: Attitude	erect (Fehér, Red Chili)	
5	Flower		
	Number of flowers per leaf axil	1	1
	Calyx lobes	6	6
	Petals	7	6
	Diameter	26.2 mm	25.1 mm
	Corolla color	white	white
	Corolla throat markings	yellow	yellow
	Anther color	yellow	purple
	Style length	same as stamen	same as stamen
	Self-incompatibility	absent	absent
6	Fruit		
	Group	Bell (Yolo Wonder L.)	Bell (Yolo Wonder L.)
	Color (before maturity)	green (California wonder, Lamuyo)	
	Intensity of color (before maturity)	medium	
	Immature fruit color	medium green	medium green
	Immature fruit color (RHS Color Chart value)	green N134A	green 137A
	Attitude/position	drooping/pendent (De Cayenne, Lamuyo)	drooping/pendent (De Cayenne, Lamuyo)
	Length	medium (Fehér, Lamuyo)	
	Diameter	broad (Clovis, Lamuyo)	
	Ratio length/diameter	small (Bucano, Topgirl)	
	Calyx diameter	27.9 mm	32.0 mm
	Fruit length	81.7 mm	80.0 mm
	Fruit diameter at calyx attachment	77.3 mm	70.0 mm
	Fruit diameter at mid-point	84.1 mm	80.0 mm
	Flesh thickness at mid-point	5.8 mm	6.0 mm
	Average number of fruits per plant	8.1	10.0
	% large fruits	weight range: 175 to 300 g (21.8%)	weight range: 130 to 200 g (50.0%)
	% medium fruits	weight range: 125 to 170 (31.7%)	weight range: 90 to 120 g (30.0%)
	% small fruits	weight range: 20 to 120 g (46.5%)	weight range: 50 to 75 g (20.0%)
	Average fruit weight	130.0 gm	100.0 gm
	Shape in longitudinal section	square (Delphin, Yolo Wonder)	square (Delphin, Yolo Wonder)
	Shape in cross section (at level of placenta)	quadrangular	quadrangular
	Sinuation of pericarp at basal part	absent or very weak (Delphin, Kalocsai V-2, Milord)	
	Sinuation of pericarp excluding basal part	weak (Clovis, Sonar)	
	Texture of surface	smooth or very slightly wrinkled (Milord)	smooth or very slightly wrinkled (Milord)
	Color (at maturity)	yellow (Golden calwonder, Heldor)	
	Intensity of color (at maturity)	medium	

TABLE 3-continued

Physiological and Morphological Characteristics of Line SBY 99-1266 and a Selected Variety

	CHARACTERISTIC	SBY 99-1266	Early Cal Wonder
	Mature fruit color	orange-yellow	red
	Mature fruit color (RHS Color Chart value)	yellow orange 21A	46A
	Glossiness	medium/moderate (Carré doux extra hâtif, Lamuyo, Sonar)	medium/moderate (Carré doux extra hâtif, Lamuyo, Sonar)
	Stalk cavity	present (Bingor, Lamuyo)	
	Depth of stalk cavity	medium (Lamuyo, Magister)	
	Pedicel length	39.0 mm	20.0 mm
	Pedicel thickness	10.0 mm	6.0 mm
	Pedicel shape	curved	curved
	Pedicel cavity	present	absent
	Depth of pedicel cavity	9.0 mm	
	Stalk: length	medium (Fehér, Sonar)	
	Stalk: thickness	thick (Lamuyo, Trophy Palio)	
	Base shape	cupped	cupped
	Shape of apex	moderately depressed (Quadrato a'Asti rosso)	very depressed (Kerala, Monte, Osir)
	Shape	Bell (Yolo Wonder L.)	Bell (Yolo Wonder L.)
	Fruit set	concentrated	scattered
	Depth of interloculary grooves	deep (Majister, Surpas)	medium (Clovis, Lamuyo, Marconi)
	Number of locules	predominantly four and more (Palio, PAZ szentesi)	
	Fruits with one locule	0%	0%
	Fruits with two locules	0%	0%
	Fruits with three locules	33.3%	40.0%
	Fruits with four locules	63.6%	60.0%
	Fruits with five or more locules	3.1%	0%
	Average number of locules	3.70	3.6
	Thickness of flesh	medium (Fehér, Lamuyo)	
	Calyx: aspect	non-enveloping/ saucer-shaped (Lamuyo, Sonar)	non-enveloping/saucer-shaped (Lamuyo, Sonar)
	Pungency	sweet	sweet
	Capsaicin in placenta	absent (Sonar)	
	Flavor	mild pepper flavor	moderate pepper flavor
	Glossiness	moderate	shiny
7	Seed		
	Seed cavity length	70.2 mm	43.0 mm
	Seed cavity diameter	70.3 mm	52.0 mm
	Placenta length	25.2 mm	22.0 mm
	Number of seeds per fruit	208	100
	Grams per 1000 seeds	8.5 gm	7.5 gm
	Seed color	yellow	yellow
8	Seedling: anthocyanin coloration of hypocotyl	weak	moderate
	Plant: anthocyanin coloration of stem	absent	absent
	Plant: anthocyanin coloration of nodes	absent (Albaregia)	weak
	Stem: intensity of anthocyanin coloration of nodes	very weak	
	Plant: anthocyanin coloration of leaf	absent	absent
	Plant: anthocyanin coloration of pedicel	absent	absent
	Plant: anthocyanin coloration of calyx	absent	absent
	Flower: anthocyanin coloration in anther	absent (Danza)	
	Fruit: anthocyanin coloration	absent (Lamuyo)	absent (Lamuyo)
	Beginning of flowering (1st flower on 2nd flowering node)	late (Daniel, Piquant d'Algérie, Zingaro)	

TABLE 3-continued

Physiological and Morphological Characteristics of Line SBY 99-1266 and a Selected Variety		
CHARACTERISTIC	SBY 99-1266	Early Cal Wonder
Time of maturity	medium (Lamuyo, Latino, Sonar)	

*These are typical values. Values may vary due to environment. Other values that are substantially equivalent are also within the scope of the invention.

C. Breeding Pepper Plants

[0055] One aspect of the current invention concerns methods for producing seed of pepper hybrid PS09967922 involving crossing pepper lines SBR 99-1306 and SBY 99-1266. Alternatively, in other embodiments of the invention, hybrid PS09967922, line SBR 99-1306, or line SBY 99-1266 may be crossed with itself or with any second plant. Such methods can be used for propagation of hybrid PS09967922 and/or the pepper lines SBR 99-1306 and SBY 99-1266, or can be used to produce plants that are derived from hybrid PS09967922 and/or the pepper lines SBR 99-1306 and SBY 99-1266. Plants derived from hybrid PS09967922 and/or the pepper lines SBR 99-1306 and SBY 99-1266 may be used, in certain embodiments, for the development of new pepper varieties.

[0056] The development of new varieties using one or more starting varieties is well known in the art. In accordance with the invention, novel varieties may be created by crossing hybrid PS09967922 followed by multiple generations of breeding according to such well known methods. New varieties may be created by crossing with any second plant. In selecting such a second plant to cross for the purpose of developing novel lines, it may be desired to choose those plants which either themselves exhibit one or more selected desirable characteristics or which exhibit the desired characteristic(s) when in hybrid combination. Once initial crosses have been made, inbreeding and selection take place to produce new varieties. For development of a uniform line, often five or more generations of selfing and selection are involved.

[0057] Uniform lines of new varieties may also be developed by way of double-haploids. This technique allows the creation of true breeding lines without the need for multiple generations of selfing and selection. In this manner true breeding lines can be produced in as little as one generation. Haploid embryos may be produced from microspores, pollen, anther cultures, or ovary cultures. The haploid embryos may then be doubled autonomously, or by chemical treatments (e.g. colchicine treatment). Alternatively, haploid embryos may be grown into haploid plants and treated to induce chromosome doubling. In either case, fertile homozygous plants are obtained. In accordance with the invention, any of such techniques may be used in connection with a plant of the invention and progeny thereof to achieve a homozygous line.

[0058] Backcrossing can also be used to improve an inbred plant. Backcrossing transfers a specific desirable trait from one inbred or non-inbred source to an inbred that lacks that trait. This can be accomplished, for example, by first crossing a superior inbred (A) (recurrent parent) to a donor inbred (non-recurrent parent), which carries the appropriate locus or loci for the trait in question. The progeny of this cross are then mated back to the superior recurrent parent (A) followed by selection in the resultant progeny for the desired trait to be transferred from the non-recurrent parent. After five or more backcross generations with selection for the desired trait, the progeny have the characteristic being transferred, but are like the superior parent for most or almost all other loci. The last backcross generation would be selfed to give pure breeding progeny for the trait being transferred.

[0059] The plants of the present invention are particularly well suited for the development of new lines based on the elite nature of the genetic background of the plants. In selecting a second plant to cross with PS09967922 and/or pepper lines SBR 99-1306 and SBY 99-1266 for the purpose of developing novel pepper lines, it will typically be preferred to choose those plants which either themselves exhibit one or more selected desirable characteristics or which exhibit the desired characteristic(s) when in hybrid combination. Examples of desirable traits may include, in specific embodiments, high seed yield, high seed germination, seedling vigor, high fruit yield, disease tolerance or resistance, and adaptability for soil and climate conditions. Consumer-driven traits, such as a fruit shape, color, texture, and taste are other examples of traits that may be incorporated into new lines of pepper plants developed by this invention.

D. Performance Characteristics

[0060] As described above, hybrid PS09967922 exhibits desirable traits, as conferred by pepper lines SBR 99-1306 and SBY 99-1266. The performance characteristics of hybrid PS09967922 and pepper lines SBR 99-1306 and SBY 99-1266 were the subject of an objective analysis of the performance traits relative to other varieties. The results of the analysis are presented below.

TABLE 4

Performance Characteristics For Hybrid PS09967922								
	Source	Xcv Races 0, 1, 2, 3, 7, 8 resistance	Xcv Races 0, 1, 2, 3, 4, 5, 7, 8, 9 resistance	TMV (Po) resistance	High *Phytophthora capsici* resistance	Intermediate *Phytophthora capsici* resistance	antho-cyaninless	Fruit color at green harvest
PS09967922	Monsanto	yes	no	yes	yes	yes	yes	medium-dark
PS09941819	Monsanto	yes	yes	yes	no	yes	yes	dark
Aristotle	Monsanto	yes	no	yes	no	yes	yes	medium

TABLE 4-continued

Performance Characteristics For Hybrid PS09967922								
	Source	Xcv Races 0, 1, 2, 3, 7, 8 resistance	Xcv Races 0, 1, 2, 3, 4, 5, 7, 8, 9 resistance	TMV (Po) resistance	High *Phytophthora capsici* resistance	Intermediate *Phytophthora capsici* resistance	antho-cyaninless	Fruit color at green harvest
Paladin	Syngenta	no	no	yes	yes	yes	no	medium
Revolution	Harris Moran	yes	no	yes	no	yes	no	medium
Intruder	Syngenta	yes	no	yes	yes	yes	no	medium-dark

TABLE 5

Performance Characteristics for Line SBR 99-1306									
	Anthocyanins Anthers	Fruit	Stem	Nodes	*Phytophthora capsici* resistance	*Xanthomonas campestris* pv. *vesicatoria* resistance	Bs_2 gene	Tobacco mosaic virus pathotype P_0 resistance	L_1 gene
SBR 99-1306	None/yellow	Absent	Absent	Absent	Resistant	Resistant to races 1, 2, 3, 7, and 8	Present	Resistant	Present
Early California Wonder	Slight/slight purple hue	Moderate		Moderate	Susceptible	Susceptible	Absent	Susceptible	Absent

TABLE 6

Performance Characteristics for Line SBY 99-1266						
	Anthocyanins Anthers	Fruit	Stem	Nodes	*Phytophthora capsici* resistance	Tobacco mosaic virus pathotype P_0 resistance
SBY 99-1266	None/yellow	Absent	Absent	Absent	Resistant/tolerant	Resistant
Early California Wonder	Slight/slight purple hue	Moderate		Moderate	Susceptible	Susceptible

E. Further Embodiments of the Invention

[0061] In certain aspects of the invention, plants described herein are provided modified to include at least a first desired heritable trait. Such plants may, in one embodiment, be developed by a plant breeding technique called backcrossing, wherein essentially all of the morphological and physiological characteristics of a variety are recovered in addition to a genetic locus transferred into the plant via the backcrossing technique. The term single locus converted plant as used herein refers to those pepper plants which are developed by a plant breeding technique called backcrossing, wherein essentially all of the morphological and physiological characteristics of a variety are recovered in addition to the single locus transferred into the variety via the backcrossing technique. By essentially all of the morphological and physiological characteristics, it is meant that the characteristics of a plant are recovered that are otherwise present when compared in the same environment, other than an occasional variant trait that might arise during backcrossing or direct introduction of a transgene.

[0062] Backcrossing methods can be used with the present invention to improve or introduce a characteristic into the present variety. The parental pepper plant which contributes the locus for the desired characteristic is termed the nonrecurrent or donor parent. This terminology refers to the fact that the nonrecurrent parent is used one time in the backcross protocol and therefore does not recur. The parental pepper plant to which the locus or loci from the nonrecurrent parent are transferred is known as the recurrent parent as it is used for several rounds in the backcrossing protocol.

[0063] In a typical backcross protocol, the original variety of interest (recurrent parent) is crossed to a second variety (nonrecurrent parent) that carries the single locus of interest to be transferred. The resulting progeny from this cross are then crossed again to the recurrent parent and the process is repeated until a pepper plant is obtained wherein essentially all of the morphological and physiological characteristics of the recurrent parent are recovered in the converted plant, in addition to the single transferred locus from the nonrecurrent parent.

[0064] The selection of a suitable recurrent parent is an important step for a successful backcrossing procedure. The goal of a backcross protocol is to alter or substitute a single trait or characteristic in the original variety. To accomplish this, a single locus of the recurrent variety is modified or substituted with the desired locus from the nonrecurrent parent, while retaining essentially all of the rest of the desired genetic, and therefore the desired physiological and morphological constitution of the original variety. The choice of the particular nonrecurrent parent will depend on the purpose of the backcross; one of the major purposes is to add some commercially desirable trait to the plant. The exact backcrossing protocol will depend on the characteristic or trait being altered and the genetic distance between the recurrent and nonrecurrent parents. Although backcrossing methods are simplified when the characteristic being transferred is a dominant allele, a recessive allele, or an additive allele (between recessive and dominant), may also be transferred. In this instance it may be necessary to introduce a test of the progeny to determine if the desired characteristic has been successfully transferred.

[0065] In one embodiment, progeny pepper plants of a backcross in which a plant described herein is the recurrent parent comprise (i) the desired trait from the non-recurrent parent and (ii) all of the physiological and morphological characteristics of pepper the recurrent parent as determined at the 5% significance level when grown in the same environmental conditions.

[0066] New varieties can also be developed from more than two parents. The technique, known as modified backcrossing, uses different recurrent parents during the backcrossing. Modified backcrossing may be used to replace the original recurrent parent with a variety having certain more desirable characteristics or multiple parents may be used to obtain different desirable characteristics from each.

[0067] Many single locus traits have been identified that are not regularly selected for in the development of a new inbred but that can be improved by backcrossing techniques. Single locus traits may or may not be transgenic; examples of these traits include, but are not limited to, herbicide resistance, resistance to bacterial, fungal, or viral disease, insect resistance, modified fatty acid or carbohydrate metabolism, and altered nutritional quality. These comprise genes generally inherited through the nucleus.

[0068] Direct selection may be applied where the single locus acts as a dominant trait. For this selection process, the progeny of the initial cross are assayed for viral resistance and/or the presence of the corresponding gene prior to the backcrossing. Selection eliminates any plants that do not have the desired gene and resistance trait, and only those plants that have the trait are used in the subsequent backcross. This process is then repeated for all additional backcross generations.

[0069] Selection of pepper plants for breeding is not necessarily dependent on the phenotype of a plant and instead can be based on genetic investigations. For example, one can utilize a suitable genetic marker which is closely genetically linked to a trait of interest. One of these markers can be used to identify the presence or absence of a trait in the offspring of a particular cross, and can be used in selection of progeny for continued breeding. This technique is commonly referred to as marker assisted selection. Any other type of genetic marker or other assay which is able to identify the relative presence or absence of a trait of interest in a plant can also be useful for breeding purposes. Procedures for marker assisted selection are well known in the art. Such methods will be of particular utility in the case of recessive traits and variable phenotypes, or where conventional assays may be more expensive, time consuming or otherwise disadvantageous. Types of genetic markers which could be used in accordance with the invention include, but are not necessarily limited to, Simple Sequence Length Polymorphisms (SSLPs) (Williams et al., 1990), Randomly Amplified Polymorphic DNAs (RAPDs), DNA Amplification Fingerprinting (DAF), Sequence Characterized Amplified Regions (SCARs), Arbitrary Primed Polymerase Chain Reaction (AP-PCR), Amplified Fragment Length Polymorphisms (AFLPs) (EP 534 858, specifically incorporated herein by reference in its entirety), and Single Nucleotide Polymorphisms (SNPs) (Wang et al., 1998).

F. Plants Derived by Genetic Engineering

[0070] Many useful traits that can be introduced by backcrossing, as well as directly into a plant, are those which are introduced by genetic transformation techniques. Genetic transformation may therefore be used to insert a selected transgene into a plant of the invention or may, alternatively, be used for the preparation of transgenes which can be introduced by backcrossing. Methods for the transformation of plants that are well known to those of skill in the art and applicable to many crop species include, but are not limited to, electroporation, microprojectile bombardment, *Agrobacterium*-mediated transformation and direct DNA uptake by protoplasts.

[0071] To effect transformation by electroporation, one may employ either friable tissues, such as a suspension culture of cells or embryogenic callus or alternatively one may transform immature embryos or other organized tissue directly. In this technique, one would partially degrade the cell walls of the chosen cells by exposing them to pectin-degrading enzymes (pectolyases) or mechanically wound tissues in a controlled manner.

[0072] An efficient method for delivering transforming DNA segments to plant cells is microprojectile bombardment. In this method, particles are coated with nucleic acids and delivered into cells by a propelling force. Exemplary particles include those comprised of tungsten, platinum, and preferably, gold. For the bombardment, cells in suspension are concentrated on filters or solid culture medium. Alternatively, immature embryos or other target cells may be arranged on solid culture medium. The cells to be bombarded are positioned at an appropriate distance below the macroprojectile stopping plate.

[0073] An illustrative embodiment of a method for delivering DNA into plant cells by acceleration is the Biolistics Particle Delivery System, which can be used to propel particles coated with DNA or cells through a screen, such as a stainless steel or Nytex screen, onto a surface covered with target cells. The screen disperses the particles so that they are not delivered to the recipient cells in large aggregates. Microprojectile bombardment techniques are widely applicable, and may be used to transform virtually any plant species.

[0074] *Agrobacterium*-mediated transfer is another widely applicable system for introducing gene loci into plant cells. An advantage of the technique is that DNA can be introduced into whole plant tissues, thereby bypassing the need for regeneration of an intact plant from a protoplast. Modern *Agrobacterium* transformation vectors are capable of replication in *E. coli* as well as *Agrobacterium*, allowing for convenient manipulations (Klee et al., 1985). Moreover, recent technological advances in vectors for *Agrobacterium*-mediated gene transfer have improved the arrangement of genes and restriction sites in the vectors to facilitate the construction of vectors capable of expressing various polypeptide coding genes. The vectors described have convenient multi-linker regions flanked by a promoter and a polyadenylation site for direct expression of inserted polypeptide coding genes. Additionally, *Agrobacterium* containing both armed and disarmed Ti genes can be used for transformation.

[0075] In those plant strains where *Agrobacterium*-mediated transformation is efficient, it is the method of choice because of the facile and defined nature of the gene locus transfer. The use of *Agrobacterium*-mediated plant integrating vectors to introduce DNA into plant cells is well known in the art (Fraley et al., 1985; U.S. Pat. No. 5,563,055).

[0076] Transformation of plant protoplasts also can be achieved using methods based on calcium phosphate precipitation, polyethylene glycol treatment, electroporation, and combinations of these treatments (see, e.g., Potrykus et al., 1985; Omirulleh et al., 1993; Fromm et al., 1986; Uchimiya et al., 1986; Marcotte et al., 1988). Transformation of plants and expression of foreign genetic elements is exemplified in Choi et al. (1994), and Ellul et al. (2003).

[0077] A number of promoters have utility for plant gene expression for any gene of interest including but not limited to selectable markers, scoreable markers, genes for pest tolerance, disease resistance, nutritional enhancements and any other gene of agronomic interest. Examples of constitutive promoters useful for plant gene expression include, but are not limited to, the cauliflower mosaic virus (CaMV) P-35S promoter, which confers constitutive, high-level expression in most plant tissues (see, e.g., Odel et al., 1985), including in monocots (see, e.g., Dekeyser et al., 1990; Terada and Shimamoto, 1990); a tandemly duplicated version of the CaMV 35S promoter, the enhanced 35S promoter (P-e35S); 1 the nopaline synthase promoter (An et al., 1988); the octopine synthase promoter (Fromm et al., 1989); and the figwort mosaic virus (P-FMV) promoter as described in U.S. Pat. No. 5,378,619 and an enhanced version of the FMV promoter (P-eFMV) where the promoter sequence of P-FMV is duplicated in tandem; the cauliflower mosaic virus 19S promoter; a sugarcane bacilliform virus promoter; a commelina yellow mottle virus promoter; and other plant DNA virus promoters known to express in plant cells.

[0078] A variety of plant gene promoters that are regulated in response to environmental, hormonal, chemical, and/or developmental signals can also be used for expression of an operably linked gene in plant cells, including promoters regulated by (1) heat (Callis et al., 1988), (2) light (e.g., pea rbcS-3A promoter, Kuhlemeier et al., 1989; maize rbcS promoter, Schaffner and Sheen, 1991; or chlorophyll a/b-binding protein promoter, Simpson et al., 1985), (3) hormones, such as abscisic acid (Marcotte et al., 1989), (4) wounding (e.g., wunl, Siebertz et al., 1989); or (5) chemicals such as methyl jasmonate, salicylic acid, or Safener. It may also be advantageous to employ organ-specific promoters (e.g., Roshal et al., 1987; Schernthaner et al., 1988; Bustos et al., 1989).

[0079] Exemplary nucleic acids which may be introduced to plants of this invention include, for example, DNA sequences or genes from another species, or even genes or sequences which originate with or are present in the same species, but are incorporated into recipient cells by genetic engineering methods rather than classical reproduction or breeding techniques. However, the term "exogenous" is also intended to refer to genes that are not normally present in the cell being transformed, or perhaps simply not present in the form, structure, etc., as found in the transforming DNA segment or gene, or genes which are normally present and that one desires to express in a manner that differs from the natural expression pattern, e.g., to over-express. Thus, the term "exogenous" gene or DNA is intended to refer to any gene or DNA segment that is introduced into a recipient cell, regardless of whether a similar gene may already be present in such a cell. The type of DNA included in the exogenous DNA can include DNA which is already present in the plant cell, DNA from another plant, DNA from a different organism, or a DNA generated externally, such as a DNA sequence containing an antisense message of a gene, or a DNA sequence encoding a synthetic or modified version of a gene.

[0080] Many hundreds if not thousands of different genes are known and could potentially be introduced into a pepper plant according to the invention. Non-limiting examples of particular genes and corresponding phenotypes one may choose to introduce into a pepper plant include one or more genes for insect tolerance, such as a *Bacillus thuringiensis* (B.t.) gene, pest tolerance such as genes for fungal disease control, herbicide tolerance such as genes conferring glyphosate tolerance, and genes for quality improvements such as yield, nutritional enhancements, environmental or stress tolerances, or any desirable changes in plant physiology, growth, development, morphology or plant product(s). For example, structural genes would include any gene that confers insect tolerance including but not limited to a *Bacillus* insect control protein gene as described in WO 99/31248, herein incorporated by reference in its entirety, U.S. Pat. No. 5,689,052, herein incorporated by reference in its entirety, U.S. Pat. Nos. 5,500,365 and 5,880,275, herein incorporated by reference in their entirety. In another embodiment, the structural gene can confer tolerance to the herbicide glyphosate as conferred by genes including, but not limited to *Agrobacterium* strain CP4 glyphosate resistant EPSPS gene (aroA:CP4) as described in U.S. Pat. No. 5,633,435, herein incorporated by reference in its entirety, or glyphosate oxidoreductase gene (GOX) as described in U.S. Pat. No. 5,463,175, herein incorporated by reference in its entirety.

[0081] Alternatively, the DNA coding sequences can affect these phenotypes by encoding a non-translatable RNA molecule that causes the targeted inhibition of expression of an endogenous gene, for example via antisense- or cosuppression-mediated mechanisms (see, for example, Bird et al., 1991). The RNA could also be a catalytic RNA molecule (i.e., a ribozyme) engineered to cleave a desired endogenous mRNA product (see for example, Gibson and Shillito, 1997). Thus, any gene which produces a protein or mRNA which expresses a phenotype or morphology change of interest is useful for the practice of the present invention.

G. Definitions

[0082] In the description and tables herein, a number of terms are used. In order to provide a clear and consistent understanding of the specification and claims, the following definitions are provided:

[0083] Allele: Any of one or more alternative forms of a gene locus, all of which alleles relate to one trait or characteristic. In a diploid cell or organism, the two alleles of a given gene occupy corresponding loci on a pair of homologous chromosomes.

[0084] Backcrossing: A process in which a breeder repeatedly crosses hybrid progeny, for example a first generation hybrid (F_1), back to one of the parents of the hybrid progeny. Backcrossing can be used to introduce one or more single locus conversions from one genetic background into another.

[0085] Crossing: The mating of two parent plants.

[0086] Cross-pollination: Fertilization by the union of two gametes from different plants.

[0087] Diploid: A cell or organism having two sets of chromosomes.

[0088] Emasculate: The removal of plant male sex organs or the inactivation of the organs with a cytoplasmic or nuclear genetic factor or a chemical agent conferring male sterility.

[0089] Enzymes: Molecules which can act as catalysts in biological reactions.

[0090] F_1 Hybrid: The first generation progeny of the cross of two nonisogenic plants.

[0091] Genotype: The genetic constitution of a cell or organism.

[0092] Haploid: A cell or organism having one set of the two sets of chromosomes in a diploid.

[0093] Linkage: A phenomenon wherein alleles on the same chromosome tend to segregate together more often than expected by chance if their transmission was independent.

[0094] Marker: A readily detectable phenotype, preferably inherited in codominant fashion (both alleles at a locus in a diploid heterozygote are readily detectable), with no environmental variance component, i.e., heritability of 1.

[0095] Phenotype: The detectable characteristics of a cell or organism, which characteristics are the manifestation of gene expression.

[0096] Quantitative Trait Loci (QTL): Quantitative trait loci (QTL) refer to genetic loci that control to some degree numerically representable traits that are usually continuously distributed.

[0097] Resistance: As used herein, the terms "resistance" and "tolerance" are used interchangeably to describe plants that show no symptoms to a specified biotic pest, pathogen, abiotic influence or environmental condition. These terms are also used to describe plants showing some symptoms but that are still able to produce marketable product with an acceptable yield. Some plants that are referred to as resistant or tolerant are only so in the sense that they may still produce a crop, even though the plants are stunted and the yield is reduced.

[0098] Regeneration: The development of a plant from tissue culture.

[0099] Royal Horticultural Society (RHS) color chart value: The RHS color chart is a standardized reference which allows accurate identification of any color. A color's designation on the chart describes its hue, brightness and saturation. A color is precisely named by the RHS color chart by identifying the group name, sheet number and letter, e.g., Yellow-Orange Group 19A or Red Group 41B.

[0100] Self-pollination: The transfer of pollen from the anther to the stigma of the same plant.

[0101] Single Locus Converted (Conversion) Plant: Plants which are developed by a plant breeding technique called backcrossing, wherein essentially all of the morphological and physiological characteristics of a pepper variety are recovered in addition to the characteristics of the single locus transferred into the variety via the backcrossing technique and/or by genetic transformation.

[0102] Substantially Equivalent: A characteristic that, when compared, does not show a statistically significant difference (e.g., p=0.05) from the mean.

[0103] Tissue Culture: A composition comprising isolated cells of the same or a different type or a collection of such cells organized into parts of a plant.

[0104] Transgene: A genetic locus comprising a sequence which has been introduced into the genome of a pepper plant by transformation.

H. Deposit Information

[0105] A deposit of pepper hybrid PS09967922 and inbred parent lines SBR 99-1306 and SBY 99-1266, disclosed above and recited in the claims, has been made with the American Type Culture Collection (ATCC), 10801 University Blvd., Manassas, Va. 20110-2209. The date of the deposits were Dec. 1, 2010, Dec. 1, 2010, and May 30, 2008. The accession numbers for those deposited seeds of pepper hybrid PS09967922 and inbred parent lines SBR 99-1306 and SBY 99-1266 are ATCC Accession No. PTA-11524, ATCC Accession No. PTA-PTA-11521, and ATCC Accession No. PTA-9228, respectively. Upon issuance of a patent, all restrictions upon the deposits will be removed, and the deposits are intended to meet all of the requirements of 37 C.F.R. §1.801-1.809. The deposits will be maintained in the depository for a period of 30 years, or 5 years after the last request, or for the effective life of the patent, whichever is longer, and will be replaced if necessary during that period.

[0106] Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity and understanding, it will be obvious that certain changes and modifications may be practiced within the scope of the invention, as limited only by the scope of the appended claims.

[0107] All references cited herein are hereby expressly incorporated herein by reference.

REFERENCES

[0108] The following references, to the extent that they provide exemplary procedural or other details supplementary to those set forth herein, are specifically incorporated herein by reference:

[0109] U.S. Pat. No. 5,378,619
[0110] U.S. Pat. No. 5,463,175
[0111] U.S. Pat. No. 5,500,365
[0112] U.S. Pat. No. 5,563,055
[0113] U.S. Pat. No. 5,633,435
[0114] U.S. Pat. No. 5,689,052
[0115] U.S. Pat. No. 5,880,275
[0116] An et al., *Plant Physiol.,* 88:547, 1988.
[0117] Bird et al., *Biotech. Gen. Engin. Rev.,* 9:207, 1991.
[0118] Bustos et al., *Plant Cell,* 1:839, 1989.
[0119] Callis et al., *Plant Physiol.,* 88:965, 1988.
[0120] Choi et al., *Plant Cell Rep.,* 13: 344-348, 1994.
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[0128] Klee et al., *Bio-Technology,* 3(7):637-642, 1985.
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[0134] Potrykus et al., *Mol. Gen. Genet.,* 199:183-188, 1985.
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[0136] Schaffner and Sheen, *Plant Cell,* 3:997, 1991.
[0137] Schernthaner et al., *EMBO J.,* 7:1249, 1988.
[0138] Siebertz et al., *Plant Cell,* 1:961, 1989.
[0139] Simpson et al., *EMBO J.,* 4:2723, 1985.
[0140] Terada and Shimamoto, *Mol. Gen. Genet.,* 220:389, 1990.
[0141] Uchimiya et al., *Mol. Gen. Genet.,* 204:204, 1986.

[0142] Wang et al., *Science,* 280:1077-1082, 1998.
[0143] Williams et al., *Nucleic Acids Res.,* 1 8:6531-6535, 1990.
[0144] WO 99/31248

What is claimed is:

1. A pepper plant comprising at least a first set of the chromosomes of pepper line SBR 99-1306, a sample of seed of said line having been deposited under ATCC Accession No. PTA-11521.

2. A seed comprising at least a first set of the chromosomes of pepper line SBR 99-1306, a sample of seed of said line having been deposited under ATCC Accession No. PTA-11521.

3. The plant of claim **1**, which is hybrid.

4. The plant of claim **3**, wherein the hybrid plant is pepper hybrid PS09967922, a sample of seed of said hybrid having been deposited under ATCC Accession No. PTA-11524.

5. A plant part of the plant of claim **1**.

6. The plant part of claim **5**, further defined as a leaf, a ovule, pollen, a fruit, or a cell.

7. The plant part of claim **6**, further defined as a fruit.

8. A pepper plant, or a part thereof, having all the physiological and morphological characteristics of the pepper plant of claim **1**.

9. A pepper plant, or a part thereof, having all the physiological and morphological characteristics of the pepper plant of claim **4**.

10. A tissue culture of regenerable cells of the plant of claim **1**.

11. The tissue culture according to claim **10**, comprising cells or protoplasts from a plant part selected from the group consisting of embryos, meristems, cotyledons, pollen, leaves, anthers, roots, root tips, pistil, flower, seed and stalks.

12. A pepper plant regenerated from the tissue culture of claim **11**.

13. A method of vegetatively propagating the plant of claim **1** comprising the steps of:
- (a) obtaining tissue capable of being propagated from a plant according to claim **1**;
- (b) cultivating said tissue to obtain proliferated shoots; and
- (c) rooting said proliferated shoots to obtain rooted plantlets.

14. The method of claim **13**, further comprising growing plants from said rooted plantlets.

15. A method of introducing a desired trait into a pepper line comprising:
- (a) crossing a plant of line SBR 99-1306, a sample of seed of said line having been deposited under ATCC Accession No. PTA-11521, with a second pepper plant that comprises a desired trait to produce F1 progeny;
- (b) selecting an F1 progeny that comprises the desired trait;
- (c) crossing the selected F1 progeny with a plant of line SBR 99-1306 to produce backcross progeny; and
- (d) repeating steps (b) and (c) three or more times to produce selected fourth or higher backcross progeny that comprise the desired trait.

16. A pepper plant produced by the method of claim **15**.

17. A method of producing a plant comprising a single locus conversion, the method comprising obtaining a plant of line SBY 99-1266 comprising the single locus conversion, and crossing the plant of line SBY 99-1266 comprising the single locus conversion with a plant of line SBR 99-1306, a sample of seed of said lines having been deposited under ATCC Accession No. PTA-9228 and ATCC Accession No. PTA-11521, respectively.

18. A pepper plant produced by the method of claim **17**.

19. A method of producing a plant comprising a transgene, the method comprising introducing a transgene into a plant of pepper hybrid PS09967922 or pepper line SBR 99-1306, a sample of seed of said hybrid and line having been deposited under ATCC Accession No. PTA-11524 and ATCC Accession No. PTA-11521, respectively.

20. A plant produced by the method of claim **19**.

21. A plant of pepper hybrid PS09967922 or pepper line SBR 99-1306 further comprising a transgene, a sample of seed of said hybrid and line having been deposited under ATCC Accession No. PTA-11524 and ATCC Accession No. PTA-11521, respectively.

22. A seed that produces the plant of claim **21**.

23. A plant of pepper hybrid PS09967922 or pepper line SBR 99-1306 comprising a single locus conversion, a sample of seed of said hybrid and line having been deposited under ATCC Accession No. PTA-11524 and ATCC Accession No PTA-11521, respectively.

24. The plant of claim **23**, wherein the plant comprising the single locus conversion is pepper hybrid PS09967922, and wherein pepper line SBY 99-1266 comprises the single locus conversion, a sample of seed of said hybrid and line having been deposited under ATCC Accession No. PTA-11524 and ATCC Accession No. PTA-9228, respectively.

25. The plant of claim **23**, wherein the plant comprising the single locus conversion is pepper hybrid PS09967922, and wherein pepper line SBR 99-1306 comprises the single locus conversion, a sample of seed of said hybrid and line having been deposited under ATCC Accession No. PTA-11524 and ATCC Accession No. PTA-11521, respectively.

26. A seed that produced the plant of claim **22**.

27. A method for producing a seed of a plant derived from hybrid PS09967922 or line SBR 99-1306 comprising the steps of:
- (a) crossing a pepper plant of hybrid PS09967922 or line SBR 99-1306 with a second pepper plant; a sample of seed of said hybrid and line having been deposited under ATCC Accession No. PTA-11524 and ATCC Accession No. PTA-11521, respectively; and
- (b) allowing seed of a hybrid PS09967922 or line SBR 99-1306-derived pepper plant to form.

28. The method of claim **27**, further comprising the steps of:
- (c) crossing a plant grown from said hybrid PS09967922 or SBR 99-1306-derived pepper seed with itself or a second pepper plant to yield additional hybrid PS09967922 or SBR 99-1306-derived pepper seed;
- (d) growing said additional hybrid PS09967922 or SBR 99-1306-derived pepper seed of step (c) to yield additional hybrid PS09967922 or SBR 99-1306-derived pepper plants; and
- (e) repeating the crossing and growing steps of (c) and (d) to generate at least a first further hybrid PS09967922 or SBR 99-1306-derived pepper plant.

29. The method of claim **27**, wherein the second pepper plant is of an inbred pepper line.

30. The method of claim **26**, comprising crossing line SBR 99-1306 with a second pepper plant of line SBY 99-1266, a sample of seed of said lines having been deposited under ATCC Accession Number PTA-11521, and ATCC Accession Number PTA-9228, respectively.

32. The method of claim **28**, further comprising:

(f) crossing the further hybrid PS09967922 or SBR 99-1306-derived pepper plant with a second pepper plant to produce seed of a hybrid progeny plant.

33. A method of producing a pepper comprising:

(a) obtaining a plant according to claim **1**, wherein the plant has been cultivated to maturity; and

(b) collecting a pepper from the plant.

34. The method of claim **33**, wherein the plant is a plant of pepper hybrid PS09967922, a sample of seed of said hybrid PS09967922 having been deposited under ATCC Accession No. PTA-11524.

35. A method of producing seed comprising crossing the plant of claim **1** with itself or a second plant.

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