CLAIMS

We claim:

1. Seed of a transgenic *Brassica juncea* line designated NUBJ1207, wherein said *Brassica juncea* line designated NUBJ1207 comprises three recombinant transgene loci: (1) chromosome A06 comprises a Δ6-elongase from *Pyramimonas cordata*, chromosome B07 comprises a Δ6-desaturase from *Micromonas pusilla*, (3) chromosome A08 comprises a Δ6-desaturase from *M. pusilla*, a Δ5-elongase from *P. cordata,* a Δ5-desaturase from *P. salina* and a Δ15/ω3-desaturase from *Pichia pastoris*, wherein the seed does not comprise an exogenous Δ12-desaturase, wherein the three recombinant transgenic loci confers elevated ω3-docosapentaenoic acid to a plant from the seed relative to a plant lacking said three recombinant transgenic loci, wherein the transgene locus (1) is detectable by SEQ ID NO: 3 and SEQ ID NO: 4, the transgene locus (2) is detectable by SEQ ID NO: 5 and SEQ ID NO: 6, and the transgene locus (3) is detectable by SEQ ID NO: 1 and SEQ ID NO: 2, and wherein a sample of seed comprising the three recombinant transgene loci and lacking an exogenous Δ12-desaturase that confers elevated ω3-docosapentaenoic acid to the plant from the seed relative to a plant lacking said three recombinant transgenic loci, having been deposited under ATCC Accession No. PTA-125954.

2. A *Brassica* plant, or part thereof, produced by growing the seed of claim 1.

3. The *Brassica* plant, or part thereof, of claim 2, wherein said part is at least one of seed, leaf, pollen, embryo, root, root tip, pod, flower, ovule, stalk, cell, protoplast, or tissue culture.

4. A method of producing Omega-3 docosapentaenoic acid (DPA) in the seed of the plant of claim 2, comprising cultivating the plant.

5. A method of producing *Brassica* seed, comprising cultivating the plant of claim 2 to produce seed and harvesting said seed.

6. The seed of the plant harvested as in claim 5.

7. A method of producing Omega-3 docosapentaenoic acid (DPA)-containing oil, comprising obtaining seed from inbred *Brassica* line NUBJ1207 or progeny thereof wherein said

seed from inbred *Brassica* line NUBJ1207 or progeny thereof comprise three recombinant transgene loci: (1) chromosome A06 comprises a Δ6-elongase from *Pyramimonas cordata*, chromosome B07 comprises a Δ6-desaturase from *Micromonas pusilla*, (3) chromosome A08 comprises a Δ6-desaturase from *M. pusilla*, a Δ5-elongase from *P. cordata,* a Δ5-desaturase from *P. salina* and a Δ15/ω3-desaturase from *Pichia pastoris*, wherein the seed does not comprise an exogenous Δ12-desaturase, wherein the three recombinant transgenic loci confers elevated ω3-docosapentaenoic acid to a plant from the seed relative to a plant lacking said three recombinant transgenic loci, wherein the transgene locus (1) is detectable by SEQ ID NO: 3 and SEQ ID NO: 4, the transgene locus (2) is detectable by SEQ ID NO: 5 and SEQ ID NO: 6, and the transgene locus (3) is detectable by SEQ ID NO: 1 and SEQ ID NO: 2, and wherein a sample of seed comprising the three recombinant transgene loci and lacking an exogenous Δ12-desaturase that confers elevated ω3-docosapentaenoic acid to the plant from the seed relative to a plant lacking said three recombinant transgenic loci, seed of said inbred *Brassica* line having been deposited under ATCC Accession Number PTA-125954, to obtain DPA-containing oil.

8. The method of claim 7, further comprising the step of producing a foodstuff that comprises the oil for human or animal consumption.

9. The method of claim 7, further comprising the step of producing a nutritional supplement that comprises the oil.

10. The method of claim 7, wherein said seed oil comprises 5% to16% (wt.% of total fatty acids in oil), inclusive, Omega-3 docosapentaenoic acid.

11. A method for producing a *Brassica* line NUBJ1207-derived plantcomprising:

(a) crossing a plant of *Brassica juncea* line NUBJ1207 wherein said *Brassica juncea* line designated NUBJ1207 comprises three recombinant transgene loci: (1) chromosome A06 comprises a Δ6-elongase from *Pyramimonas cordata*, chromosome B07 comprises a Δ6-desaturase from *Micromonas pusilla*, (3) chromosome A08 comprises a Δ6-desaturase from *M. pusilla*, a Δ5-elongase from *P. cordata,* a Δ5-desaturase from *P. salina* and a Δ15/ω3-desaturase from *Pichia pastoris*, wherein the seed does not comprise an exogenous Δ12-desaturase, wherein the three recombinant transgenic loci confers elevated ω3-docosapentaenoic acid to a plant from the seed relative to a plant lacking said three recombinant transgenic loci, wherein the transgene locus (1) is

detectable by SEQ ID NO: 3 and SEQ ID NO: 4, the transgene locus (2) is detectable by SEQ ID NO: 5 and SEQ ID NO: 6, and the transgene locus (3) is detectable by SEQ ID NO: 1 and SEQ ID NO: 2, and wherein a sample of seed comprising the three recombinant transgene loci and lacking an exogenous Δ12-desaturase that confers elevated ω3-docosapentaenoic acid to the plant from the seed relative to a plant lacking said three recombinant transgenic loci, deposited under ATCC Number PTA-125954, with a second *Brassica* plant to yield progeny canola seed; and

(b) growing said progeny *Brassica* seed, under plant growth conditions, to yield said *Brassica* line NUBJ1207-derived *Brassica* plant.

12. The method of claim 11, characterized by said NUBJ1207-derived progeny plant comprises at least one characteristic selected from herbicide resistance, insect resistance, bacterial disease resistance, fungal disease resistance, viral disease resistance, or sterility.

13. The plant or plant part of claim 2, or a progeny, derivative, or hybrid of said plant, comprising:

(a) SEQ ID NO:1 and a nucleic acid sequence of SEQ ID NO:2, sequences at least 95% identical to either or both of these, or complements thereof;

(b) SEQ ID NO:3 and a nucleic acid sequence of SEQ ID NO:4, sequences at least 95% identical to either or both of these, or complements thereof; and

(c) SEQ ID NO:5 and a nucleic acid sequence of SEQ ID NO:6, sequences at least 95% identical to either or both of these, or complements thereof;

wherein the derivative or hybrid of said plant exhibits the trait of the seed of *Brassica juncea* line NUBJ1207 of claim 1, wherein the trait is elevated ω3-docosapentaenoic acid relative to a plant lacking (a), (b) and (c).

14. A method of detecting the presence of event NUBJ1207, the seed of which has been deposited under ATCC Accession No. PTA-125954, in a sample comprising plant DNA, wherein said method comprises contacting said sample with at least one primer or probe that binds to at least one transgene-flanking junction region of the *Brassica* genome as shown in SEQ ID NO:1 to SEQ ID NO:6, wherein said event NUBJ1207 comprises three recombinant transgene loci: (1) chromosome A06 comprises a Δ6-elongase from *Pyramimonas cordata*, chromosome B07 comprises a Δ6-desaturase from *Micromonas pusilla*, (3) chromosome A08 comprises a Δ6-

desaturase from *M. pusilla*, a Δ5-elongase from *P. cordata,* a Δ5-desaturase from *P. salina* and a Δ15/ω3-desaturase from *Pichia pastoris*.

15. A collection of seed comprising at least 95% seed of the plant of claim 2 or a progeny, derivative, or hybrid thereof comprising three recombinant transgene loci: (1) chromosome A06 comprises a Δ6-elongase from *Pyramimonas cordata*, chromosome B07 comprises a Δ6-desaturase from *Micromonas pusilla*, (3) chromosome A08 comprises a Δ6-desaturase from *M. pusilla*, a Δ5-elongase from *P. cordata,* a Δ5-desaturase from *P. salina* and a Δ15/ω3-desaturase from *Pichia pastoris*, wherein the seed does not comprise an exogenous Δ12-desaturase, wherein said seed comprises 5% to 20%, inclusive, Omega-3 docosapentaenoic acid (DPA) (as wt. % of total fatty acids in seed oil).

16. Seed oil, seed meal, or seed meal protein obtained from the collection of seed of claim 15.

17. The method of claim 7, wherein the oil comprises fatty acids in an esterified form, the fatty acids comprising palmitic acid (C16), steric acid (C18), oleic acid (C18:1), cis-vaccenic acid (C18:1n7c), linoleic acid (C18:2n6c), α-linolenic acid (C18:3n3), stearidonic acid (C18:4n3), gondoic acid (C20:1n9c), eicosatetraenoic acid (C20:4n3), ω3 docosatrienoic acid (C22:4n3), and ω3 docosapentaenoic (C22:5n3),

wherein in the total fatty acid content of said seed oil:

the level of palmitic acid is less than 5%, the level of steric acid is less than 4%, the level of oleic acid is 35%-48%, the level of cis-vaccenic acid is less than 4%, the level of linoleic acid is less than 9%, the level of α-linolenic acid is 15%-20%, the level of stearidonic acid is less than 2%, the level of gondoic acid is less than 2%, the level of eicosatetraenoic acid is less than 4.5%, the level of ω3 docosatrienoic acid is 1%-3%, and the level of ω3 docosapentaenoic acid is 8%-15%, inclusive.

18. An *in vitro* method of detecting the presence of at least one transgenic locus characteristic of event NUBJ1207 of *Brassica juncea* NUBJ1207or progeny thereof in a sample comprising plant DNA, wherein said event NUBJ1207 comprises three recombinant transgene loci: (1) chromosome A06 comprises a Δ6-elongase from *Pyramimonas cordata*, chromosome B07 comprises a Δ6-desaturase from *Micromonas pusilla*, (3) chromosome A08 comprises a Δ6-

desaturase from *M. pusilla*, a Δ5-elongase from *P. cordata,* a Δ5-desaturase from *P. salina* and a Δ15/ω3-desaturase from *Pichia pastoris*, and wherein said method comprises:

(a) contacting said sample with:

a primer that binds to a 5' transgenic junction region on chromosome A08, wherein said at least one first junction region comprises SEQ ID NO:1, a sequence at least 95% identical to SEQ ID NO:1, or complement thereof;

a primer that binds to a 3' transgenic junction region on chromosome A08, wherein said at least one first junction region comprises SEQ ID NO:2, a sequence at least 95% identical to SEQ ID NO:2, or complement thereof;

a primer that binds to a 5' transgenic junction region on chromosome A06, wherein said at least one first junction region comprises SEQ ID NO:3, a sequence at least 95% identical to SEQ ID NO:3, or complement thereof;

a primer that binds to a 3' transgenic junction region on chromosome A06, wherein said at least one first junction region comprises SEQ ID NO:4, a sequence at least 95% identical to SEQ ID NO:4, or complement thereof;

a primer that binds to a 5' transgenic junction region on chromosome B07, wherein said at least one first junction region comprises SEQ ID NO:5, a sequence at least 95% identical to SEQ ID NO:5, or complement thereof; or

a primer that binds to a 3' transgenic junction region on chromosome B07, wherein said at least one first junction region comprises SEQ ID NO:6, a sequence at least 95% identical to SEQ ID NO:6, or complement thereof;

(b) subjecting said sample to polymerase chain reaction; and

(c) assaying for amplicons,

wherein said method is, optionally, a competitive allele-specific PCR-based genotyping assay, and wherein said method is diagnostic of elite event NUBJ1207, seed of which has been deposited under ATCC Accession No. PTA-125954.