CLAIMS:

1. A nucleic acid molecule comprising the sequence of SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3 or SEQ ID NO:4.

2. A soybean plant or part thereof comprising event MON89788, wherein representative soybean seed comprising event MON89788 have been deposited under ATCC accession number PTA-6708.

3. A seed of the plant of claim 2, wherein the seed comprises event MON89788.

4. A soybean commodity product produced from the seed of claim 3.

5. The soybean commodity product of claim 4, further defined as meal, flour, flakes, or oil.

6. The soybean plant part of claim 2, defined as a cell, pollen, ovule, flower, shoot, root, or leaf.

7. The soybean plant of claim 2, further defined as a progeny plant of any generation of a soybean plant comprising the event MON89788.

8. The soybean plant of claim 2, wherein the genome of the plant comprises at least one DNA molecule selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO:21 and SEQ ID NO:22.

9. The soybean plant of claim 2, wherein the genome of the plant produces an amplicon diagnostic for event MON89788 when tested in a DNA amplification method, the amplicon comprising SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3, or SEQ ID NO:4.

10. The seed of claim 3, wherein the DNA of the seed produces an amplicon diagnostic for event MON89788 when tested in a DNA amplification method, the amplicon comprising SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3 or SEQ ID NO:4.

11. The meal, flour, flakes, or oil of claim 5, further defined as comprising a nucleic acid that produces an amplicon diagnostic for event MON89788 when tested in a DNA amplification method, the amplicon comprising SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3 or SEQ ID NO:4.

12. A DNA polynucleotide primer molecule comprising at least 11 contiguous nucleotides of SEQ ID NO:3, or its complement that is useful in a DNA amplification method to produce an

amplicon diagnostic for event MON89788.

13. An isolated DNA polynucleotide primer molecule comprising at least 11 contiguous nucleotides of SEQ ID NO:4, or its complement that is useful in a DNA amplification method to produce an amplicon diagnostic for event MON89788.

14. A DNA detection kit specific for event MON89788 comprising at least nucleic acid comprising 11 or more contiguous nucleotides homologous or complementary to SEQ ID NO:3 or SEQ ID NO:4.

15. A method of producing a soybean plant tolerant to glyphosate herbicide comprising introducing into the genome of the plant event MON89788.

16. The method of claim 15, defined as comprising the steps of:

(a) crossing a first soybean plant comprising event MON89788 with a second soybean plant lacking event MON89788 to produce progeny plants; and

(b) selecting at least a first progeny plant that comprises the event MON89788 and is tolerant to glyphosate.

17. The method of claim 16, further comprising selfing the first progeny plant to produce second generation progeny plants and selecting at least a first plant homozygous for the event MON89788.

18. A method of detecting the presence of DNA corresponding to the soybean event MON89788 in a sample, the method comprising:

(a) contacting a sample comprising soybean DNA with a primer set, which when used in a nucleic acid amplification reaction with genomic DNA from soybean event MON89788, produces a diagnostic amplicon for soybean event MON89788; and

(b) performing a nucleic acid amplification reaction, thereby producing the diagnostic amplicon; and

(c) detecting the diagnostic amplicon.

19. A method of detecting the presence of a nucleic acid corresponding to event MON89788 in a sample, the method comprising:

(a) obtaining a sample of soybean DNA; and

(b) assaying the sample for the presence of a DNA sequence from event MON89788.

20. The method of claim 19, wherein assaying the DNA sample comprises detecting the

presence of the nucleic acid sequence of at least one of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, or complements thereof.

21. A soybean plant comprising a glyphosate tolerant trait that is genetically linked to a nucleic acid molecule comprising SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3 or SEQ ID NO:4.

22. A method of producing a soybean commodity product comprising,

(a) obtaining the soybean plant or part thereof of claim 2; and

(b) producing a soybean commodity product from the soybean plant or part thereof.

23. The method of claim 22, wherein the commodity product is defined as meal, flour, flakes, protein isolate, or oil.

24. A method for controlling the growth of weeds in a field comprising soybean plants comprising event MON89788, the method comprising

treating the field with an amount of glyphosate effective to control the growth of weeds, wherein the soybean plants exhibit tolerance to the glyphosate.

25. The method of claim 24, wherein treating the field is carried out from V1 to R4 stage of growth.

26. The nucleic acid sequence of claim 1, wherein the sequence is SEQ ID NO: 1.

27. The nucleic acid sequence of claim 1, wherein the sequence is SEQ ID NO: 2.

28. The nucleic acid sequence of claim 1, wherein the sequence is SEQ ID NO: 3.

29. The nucleic acid sequence of claim 1, wherein the sequence is SEQ ID NO: 4.

The claims defining the invention are:

1. An isolated nucleic acid molecule comprising the sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, or SEQ ID NO:4, and a glyphosate tolerant 5-enol-pyruvylshikimate-3-phosphate synthase (EPSPS) coding sequence.

2. A soybean plant or part thereof comprising event MON89788, wherein representative soybean seed comprising event MON89788 have been deposited under ATCC accession number PTA-6708.

3. A seed of the plant of claim 2, wherein the seed comprises event MON89788.

4. A soybean commodity product produced from the seed of claim 3.

5. The soybean commodity product of claim 4, further defined as meal, flour, flakes, or oil.

6. The soybean plant part of claim 2, defined as a cell, pollen, ovule, flower, shoot, root, or leaf.

7. The soybean plant of claim 2, further defined as a progeny plant of any generation of a soybean plant comprising said event MON89788.

8. The soybean plant of claim 2, wherein the genome of said plant comprises at least one DNA molecule comprising a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:21 and SEQ ID NO:22.

9. The soybean plant of claim 2, wherein the genome of said plant produces an amplicon diagnostic for event MON89788 when tested in a DNA amplification method, said amplicon comprising the sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, or SEQ ID NO:4.

10. The seed of claim 3, wherein the DNA of the seed produces an amplicon diagnostic for event MON89788 when tested in a DNA amplification method, said amplicon comprising the sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, or SEQ ID NO:4.

11. The meal, flour, flakes, or oil of claim 5, further defined as comprising a nucleic acid that produces an amplicon diagnostic for event MON89788 when tested in a DNA amplification method, said amplicon comprising the sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, or SEQ ID NO:4.

12. An isolated DNA polynucleotide primer molecule comprising at least 11 contiguous nucleotides of the sequence of SEQ ID NO:3, or its complement that is useful in a DNA amplification method to produce an amplicon diagnostic for event MON89788.

13. An isolated DNA polynucleotide primer molecule comprising at least 11 contiguous nucleotides of the sequence of SEQ ID NO:4, or its complement that is useful in a DNA amplification method to produce an amplicon diagnostic for event MON89788.

14. A DNA detection kit specific for event MON89788 comprising at least one nucleic acid molecule comprising 11 or more contiguous nucleotides homologous or complementary to the sequence of SEQ ID NO:3 or SEQ ID NO:4.

15. A method of producing a soybean plant tolerant to glyphosate herbicide comprising introducing into the genome of said plant event MON89788.

16. The method of claim 15, defined as comprising the steps of:

(a) crossing a first soybean plant comprising event MON89788 with a second soybean plant lacking event MON89788 to produce progeny plants; and

(b) selecting at least a first progeny plant that comprises said event MON89788 and is tolerant to glyphosate.

17. The method of claim 16, further comprising selecting said first progeny plant to produce second generation progeny plants and selecting at least a first plant homozygous for said event MON89788.

18. A method of detecting the presence of DNA corresponding to the soybean event MON89788 in a sample, the method comprising:

(a) contacting a sample comprising soybean DNA with a primer set, which when used in a nucleic acid amplification reaction with genomic DNA from soybean event MON89788, produces a diagnostic amplicon for soybean event MON89788; and

(b) performing a nucleic acid amplification reaction, thereby producing the diagnostic amplicon; and

(c) detecting the diagnostic amplicon.

19. A method of detecting the presence of a nucleic acid corresponding to event MON89788 in a sample, the method comprising:

(a) obtaining a sample of soybean DNA; and

(b) assaying the sample for the presence of a DNA sequence from event MON89788.

20. The method of claim 19, wherein assaying the DNA sample comprises detecting the presence of the nucleic acid sequence of at least one of SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3, or SEQ ID NO:4, or complements thereof.

21. A soybean plant comprising a glyphosate tolerant trait that is genetically linked to a nucleic acid molecule comprising the sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, or SEQ ID NO:4.

22. A method of producing a soybean commodity product comprising,

(a) obtaining the soybean plant or part thereof of claim 2; and

(b) producing a soybean commodity product from the soybean plant or part thereof.

23. The method of claim 22, wherein the commodity product is defined as meal, flour, flakes, protein isolate, or oil.

24. A method for controlling the growth of weeds in a field comprising soybean plants comprising event MON89788, the method comprising treating the field with an amount of glyphosate effective to control the growth of weeds, wherein the soybean plants exhibit tolerance to the glyphosate.

25. The method of claim 24, wherein treating the field is carried out from VI to R4 stage of growth.

26. An isolated nucleic acid molecule comprising the sequence of SEQ ID NO:1.

27. An isolated nucleic acid molecule comprising the sequence of SEQ ID NO:2.

28. An isolated nucleic acid molecule comprising the sequence of SEQ ID NO:3.

29. An isolated nucleic acid molecule comprising the sequence of SEQ ID NO:4.