CLAIMS

What is claimed is:

1. A method for controlling weeds in a cultivated area, comprising:

applying an effective amount of ~~a~~ an AHAS-inhibiting ~~non-selective~~ herbicide to the cultivated area having a soybean plant comprising a nucleic acid molecule that comprises a nucleic acid sequence of positions 1312-6069 of SEQ ID NO:1 ~~an event 127 nucleic acid molecule~~.

2. The method of claim 1, wherein the ~~event 127~~ nucleic acid molecule comprises a nucleic acid sequence of positions 1302-6079 of SEQ ID NO:1 ~~an event 127 specific nucleic acid molecule~~.

3. The method of claim 1, wherein the event 127 nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO:1.

4. The method of claim 1, wherein the ~~non-selective~~AHAS-inhibiting herbicide comprises an imidizolinone herbicide ~~(A) an AHAS-inhibiting herbicide, (B) a combination of AHAS-inhibiting herbicides, or (C) a combination of (A) or (B) with an herbicide selected from the group consisting of EPSPS-inhibiting herbicides, GS-inhibiting herbicides, PPO-inhibiting herbicides, auxinic herbicides, and combinations thereof~~.

5. The method of claim 4, wherein the ~~AHAS-inhibiting~~imidizolinone herbicide is imazapyr, imazapic, or any of the combinations thereof.

6. The method of claim 1 further comprising applying, to the cultivated area, an effective amount of an herbicide selected from the group consisting of EPSPS-inhibiting herbicides, GS-inhibiting herbicides, PPO-inhibiting herbicides, auxinic herbicides, and combinations thereof.

~~6~~7. The method of claim 1, wherein the weeds are resistant to glyphosate.

~~78~~78. A method for controlling glyphosate tolerant weeds in a crop field, comprising:

applying an effective amount of an AHAS-inhibiting herbicide to the crop field having a soybean plant comprising a nucleic acid molecule that comprises a nucleic acid sequence of positions 1312-6069 of SEQ ID NO:1~~an event 127 nucleic acid molecule~~.

~~89~~89. The method of claim ~~78~~78, wherein the soybean plant comprises a nucleic acid molecule having the nucleic acid sequence of SEQ ID NO:1.

~~9~~10. The method of claim ~~7~~8, wherein the ~~event 127~~ nucleic acid molecule comprises a nucleic acird sequence of positions 1302-6079 of SEQ ID NO:1~~an event 127 specific nucleic acid molecule~~.

~~10~~11. The method of claim ~~7~~8, wherein the AHAS-inhibiting herbicide is imazapyr or imazapic.

~~11~~12. An isolated nucleic acid molecule comprising the nucleic acid sequence of positions 1312 to 6069 of SEQ ID NO:1.

~~12~~13. The isolated nucleic acid molecule of claim ~~11~~12, wherein the nucleic acid molecule is in a recombinant nucleic acid construct.

~~13~~14. A soybean plant comprising the isolated nucleic acid molecule of claim ~~11~~12.

~~14~~15. A transgenic soybean plant comprising a heterologous nucleic acid molecule comprising the nucleic acid sequence of nucleotides 1302 to 6079 of SEQ ID NO:1.

~~15~~16. The transgenic soybean plant of claim ~~14~~15, wherein the soybean plant is resistant to an AHAS-inhibiting herbicide.

~~16~~17. An isolated pair of nucleic acid primers comprising:

a first and a second isolated nucleic acid molecule, wherein the first isolated nucleic acid molecule comprises a nucleic acid sequence selected from SEQ ID NOs:37, 39, 41, 43, and 67 and the second isolated nucleic acid molecule comprises a nucleic acid sequence selected from SEQ ID NOs:38, 40, 42, 44, and 68 ~~capable of amplifying an event 127 nucleic acid molecule~~.

~~17. The isolated pair of nucleic acid primers of claim 16, wherein the first isolated nucleic acid molecule is selected from the group consisting of SEQ ID NOS:37, 39, 41, 43, and 67.~~

~~18. The isolated pair of nucleic acid primers of claim 16, wherein the second isolated nucleic acid molecule is selected from the group consisting of SEQ ID NOS:38, 40, 42, 44, and 68.~~

~~19~~18. The isolated pair of nucleic acid primers of claim ~~16~~17, wherein the first isolated nucleic acid molecule comprises the sequence of SEQ ID NO:41, and the second isolated nucleic acid molecule comprises the sequence of SEQ ID NO:42.

~~20. The isolated pair of nucleic acid primers of claim 19, wherein the pair is capable of amplifying a nucleic acid molecule having a nucleic acid sequence of SEQ ID NO:1.~~

~~21. A kit for identifying an event 127 nucleic acid molecule in a biological sample, comprising: a first and a second nucleic acid primer, wherein the first and second nucleic acid primers are capable of amplifying an event 127 nucleic acid molecule.~~

~~22. The kit of claim 21, wherein the first and second nucleic acid primers are capable of amplifying a nucleic acid molecule having the nucleic acid sequence of SEQ ID NO:1 or a fragment thereof.~~

~~23~~19. A method for identifying ~~a~~an event 127 soybean plant comprising a nucleic acid molecule comprising the nucleic acid sequence of positions 1312 to 6069 of SEQ ID NO:1, comprising:

(a) forming a mixture comprising a biological sample containing soybean DNA and a first and second nucleic acid primer, wherein the first nucleic acid primer comprises a nucleic acid sequence selected from SEQ ID NOs:37, 39, 41, 43, and 67 and the second nucleic acid primer comprises a nucleic acid sequence selected from SEQ ID NOs: 38, 40, 42, 44, and 68 ~~capable of amplifying an event 127 specific nucleic acid molecule~~;

(b) reacting the mixture under conditions that allow the first and second nucleic acid primers to amplify ~~an event 127 specific~~ a nucleic acid molecule; and

(c) detecting the presence or absence of the amplified fragment nucleic acid molecule, wherein the presence of the ~~soybean event 127 specific~~ amplified nucleic acid molecule indicates that the soybean plant comprises a nucleic acid molecule comprising the nucleic acid sequence of positions 1312 to 6069 of SEQ ID NO:1 ~~is an event 127 soybean plant~~.

~~24. A method for identifying a soybean plant having an event 127 nucleic acid molecule, comprising:~~

~~(a) forming a mixture comprising a biological sample containing soybean DNA and a nucleic acid molecule probe that is capable of hybridizing to an event 127 specific nucleic acid molecule;~~

~~(b) reacting the mixture under conditions that allow the nucleic acid molecule probe to hybridize to an event 127 specific nucleic acid molecule; and~~

~~(c) detecting hybridization of the probe to the DNA, wherein the presence of hybridization of the nucleic acid molecule probe to the soybean DNA indicates the presence of an event 127 nucleic acid molecule.~~

~~25~~20. A method for increasing yield in a soybean plant ~~comprising an event 127 nucleic acid molecule~~, the method comprising:

applying an effective amount of an AHAS-inhibiting herbicide to one or more soybean plants comprising a nucleic acid molecule that comprises a nucleic acid sequence from positions 1312-6069 of SEQ ID NO:1 ~~an event 127 nucleic acid molecule~~ and the surrounding area, wherein the AHAS-inhibiting herbicide reduces weed growth in the surrounding area; and

harvesting seed from the one or more soybean plants.

~~26~~21. A method for breeding an AHAS-inhibiting-herbicide-resistant soybean plant, comprising:

(a) crossing a soybean plant comprising a nucleic acid molecule that comprises a nucleic acid sequence from positions 1312-6069 of SEQ ID NO:1 ~~an event 127 nucleic acid molecule~~ with a second soybean plant;

(b) obtaining seed from the cross of step (a);

(c) obtaining a DNA sample from the seed; and

(d) detecting the presence of a nucleic acid molecule that comprises a nucleic acid sequence from positions 1312-6069 of SEQ ID NO:1~~an event 127 nucleic acid molecule~~ in the sample, where the presence of the nucleic acid molecule that comprises a nucleic acid sequence from positions 1312-6069 of SEQ ID NO:1 ~~event 127 nucleic acid molecule~~ indicates that the seed is capable of producing an AHAS-inhibiting-herbicide-resistant soybean plant.

~~27~~22. A seed of a soybean plant comprising a nucleic acid molecule that comprises a nucleic acid sequence from positions 1312-6069 of SEQ ID NO:1 ~~an event 127 nucleic acid molecule~~.

~~28~~23. The seed of claim ~~27~~22, wherein the ~~event 127~~ nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO:1.

~~29~~24. The seed of claim ~~28~~23, wherein a representative sample of said seed ~~comprising an event 127 nucleic acid molecule~~ was deposited under NCIMB Accession No. 41603.

~~30~~25. A soybean plant, or part thereof, produced by growing the seed of claim ~~27~~22.

~~31. A method for detecting the presence of an event 127 nucleic acid molecule in a biological sample, comprising:~~

~~(a) forming a mixture comprising a biological sample containing DNA and a first and second nucleic acid primer capable of amplifying an event 127 specific nucleic acid molecule;~~

~~(b) reacting the mixture under conditions that allow the first and second nucleic acid primers to amplify the nucleic acid molecule comprising an event 127 specific nucleic acid molecule; and~~

~~(c) detecting the presence of the amplified nucleic acid molecule, wherein the presence of the event 127 specific nucleic acid molecule indicates that the sample contains event 127 nucleic acid molecule.~~

~~32. The method of claim 31, wherein the biological sample is obtained from a soybean plant.~~

~~33. A method for detecting an event 127 nucleic acid molecule in a biological sample comprising:~~

~~(a) forming a mixture comprising a biological sample containing DNA and a nucleic acid probe capable of hybridizing to an event 127 specific nucleic acid molecule;~~

~~(b) reacting the mixture under conditions that allow the probe to hybridize to an event 127 specific nucleic acid molecule; and~~

~~(c) detecting the presence of a hybridized nucleic acid molecule, wherein the presence of the event 127 specific nucleic acid molecule indicates that the sample contains event 127 nucleic acid molecule.~~

~~34. The method of claim 33, wherein the biological sample is obtained from a soybean plant.~~

~~35. A method for growing a soybean plant, comprising:~~

~~(A) providing a soybean seed comprising an event 127 nucleic acid molecule;~~

~~(B) planting the soybean seed in a growth medium under conditions that allow the seed to germinate to produce a growing soybean plant comprising an event 127 nucleic acid molecule; and~~

~~(C) contacting the growth medium, seed, or plant with an herbicidal composition comprising at least one component selected from the group consisting of imidazolinone herbicides, sulfonylurea herbicides, combinations thereof with one another, and combinations thereof with at least one other active ingredient.~~

~~36. The method of Claim 35, wherein step (C) is performed before step (B) and comprises contacting the growth medium with the herbicidal composition.~~

~~37. The method of Claim 35, wherein step (C) is performed after step (B) and comprises contacting the plant or growth medium after the plant has emerged from the growth medium.~~

~~38. The method of Claim 35, wherein the herbicidal composition comprises a combination of (1) at least one imidazolinone herbicide, or at least one sulfamide herbicide, or both, with (2) at least one other active ingredient that is selected from the group consisting of fungicides, bacteriacides, organophosphate herbicides, sulfamide herbicides, benzothiadiazinone herbicides, and combinations thereof.~~

~~39. The method of Claim 35, wherein the herbicidal composition comprises imazapyr, imazapic, or any one of the following:~~

~~(A) combinations of imazapyr and imazapic;~~

~~(B) combinations of imazapyr, imazapic, and bentazon;~~

~~(C) combinations of imazapyr, imazapic, and pyraclostrobin;~~

~~(D) combinations of imazapyr, imazapic, and saflufenacil;~~

~~(E) combinations of imazapyr, imazapic, saflufenacil, and glyphosate;~~

~~(F) combinations of imazaypr and bentazon;~~

~~(G) combinations of imazapyr and pyraclostrobin;~~

~~(H) combinations of imazapyr and saflufenacil;~~

~~(I)~~(A) ~~combinations of imazapyr, saflufenacil, and glyphosate;~~

(J) combinations of imazapyr and glyphosate;

(K) combinations of imazapic and glyphosate;

(L) combinations of imazapic, saflufenacil, and glyphosate; and

(M) combinations of saflufenacil and glyphosate.

40. The method of claim 35, wherein the event 127 nucleic acid molecule has the nucleic acid sequence of nucleotides 1302 to 6069 of SEQ ID NO:1.

41. A method of detecting an event 127 polypeptide in a sample, comprising:

obtaining a biological sample from a soybean plant; and

conducting at least one immunological assay on the sample, wherein the assay is capable of detecting an event 127 polypeptide.

42. The method of claim 41, wherein the immunological assay is selected from the group consisting of ELISAs (enzyme linked immunoabsorbent assays), immunostaining assays, immuno-histochemistry assays, protein chip assays, radioimmunoprecipitation assays, rapid membrane immunochromatographic assays, rapid stick immunochromatographic assays, and combinations thereof.

43. A device for use in detecting biological molecules, comprising:

a solid support having a surface; and

at least one event 127 diagnostic molecule attached to the surface of the solid support.

44. The device of claim 43, wherein the solid support is (A) selected from the group consisting of glasses, gels, polymers, plastics, elastics, ceramics, metals, and combinations thereof, or is (B) selected from the group consisting of plates, chips, membranes, rods, sticks, beads, fibers, mats, lattices, fabrics, vessel walls, and combinations thereof, or is (C) selected from both (A) and (B).

45. The device of claim 43, wherein the event 127 diagnostic molecules are selected from the group consisting of nucleobase oligomer probes, aptamers, antibodies, and combinations thereof.

~~46. The device of claim 45, wherein the nucleose base oligomer probes comprise nucleic acid analogs.~~

~~47. The device of claim 45, wherein the antibody is selected from the group consisting of monoclonal antibodies, single chain antibodies, and immunoreactive antibody fragments that retain binding specificity for an event 127 polypeptide.~~

~~48. The device of claim 43, wherein the diagnostic molecule(s) are immobilized by a method selected from covalent, coordinate, and non-covalent bonding to the surface.~~

~~49. The device of claim 43, wherein the substrate comprises an immunochromatographic strip.~~

~~50. The device of claim 43, wherein the device comprises an array of a plurality of defined zones, each zone comprising: (a) a portion of the surface of the solid support and attached thereto (b) at least one event 127 diagnostic molecule.~~

~~51. The device of claim 43, wherein the event 127 diagnostic molecule is selected from the group consisting of event 127 nucleic acid molecules, event 127 polypeptides, antibodies specific therefor, detectably labeled forms of the foregoing, derivatives of any of these, and combinations thereof.~~

~~52~~26. The method of claim 1, wherein the method further comprises applying a strobilurin to the cultivated area.

~~53~~27. The method of claim ~~52~~26, wherein strobilurin comprises pyraclostrobin.

~~54~~28. The method of claim ~~7~~8, wherein the method further comprises applying a strobilurin to the cultivated area.