

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To: Robert E. Hanson  
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# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year)

MAY 04 2023

Applicant's or agent's file reference  
MONS:510WO

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

PCT/US22/78966

International filing date (day/month/year)

31 October 2022 (31.10.2022)

Priority date (day/month/year)

02 November 2021 (02.11.2021)

International Patent Classification (IPC) or both national classification and IPC

IPC - INV. C12N 15/82; C12Q 1/6888 (2023.01)

ADD. C12N 15/10 (2023.01)

CPC - INV. C12N 15/82; C12Q 1/6888

ADD. C12N 15/10

Applicant MONSANTO TECHNOLOGY LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/  
Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450  
Facsimile No. 571-273-8300

Date of completion of this opinion

13 April 2023 (13.04.2023)

Authorized officer

Shane Thomas

PCT Help Desk

Telephone No. 571-272-4300

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Box No. I      Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed.
  - ☐ a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(b)).
3. ☒ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
  - a. ☒ forming part of the international application as filed.
  - b. ☐ furnished subsequent to the international filing date for the purposes of international search (Rule 13*ter*.1(a)),  
☐ accompanied by a statement to the effect that the sequence listing does not go beyond the disclosure in the international application as filed.
4. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been established to the extent that a meaningful opinion could be formed without a WIPO Standard ST.26 compliant sequence listing.
5. Additional comments:

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 4-6, 18-19, 21-23

because:

☐ the said international application, or the said claims Nos. \_\_\_\_\_ relate to the following subject matter which does not require an international search (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 4-6, 18-19, 21-23 are so unclear that no meaningful opinion could be formed (*specify*):

Claims 4-6, 18-19, 21-23 are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

☐ the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

☒ no international search report has been established for said claims Nos. 4-6, 18-19, 21-23

☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

☐ furnish a sequence listing complying with WIPO Standard ST.26, and such listing was not available to the International Searching Authority in the form, language and manner acceptable to it.

☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rule 13ter.1(a).

☐ See Supplemental Box for further details.

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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
- ☐ paid additional fees.
- ☒ paid additional fees under protest and, where applicable, the protest fee.
- ☐ paid additional fees under protest but the applicable protest fee was not paid.
- ☐ not paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Groups I+, claims 1-3, 7-17, 20, and 24-47, SEQ ID NO: 1 (nucleotide sequence associated with corn event ZM\_BCS216090), are directed to recombinant DNA molecules, DNA probes and primers, methods and kits for detecting DNA molecules related to corn event ZM\_BCS216090, methods of producing hybrid progeny corn plants comprising corn event ZM\_BCS216090, said hybrid corn plants or seeds, and products and methods related to said plants or seeds.

The molecules, kits, plants, seeds, and methods of Claims 1-3, (each in-part), 7, 8-10 (each in-part), 11, 12-17 (each in-part), 20, 24 (in-part), 25-28, 29 (in-part), and 30-47 are believed to encompass the first named invention of Groups I+ and are the claims that will be searched to the extent that they comprise a nucleotide sequence encompassing SEQ ID NO: 1 (first exemplary nucleotide sequence associated with corn event ZM\_BCS216090). This first named invention of Group I+ has been selected to encompass the first species of the genus found in claims 1, 8, 10, 12-14, 24, and 29 based on the guidance set forth in section 10.54 of the PCT International Search and Preliminary Examination Guidelines.

Applicant is invited to elect additional nucleotide sequences associated with corn event ZM\_BCS216090, with specified SEQ ID NO: for each, or with specified substitution(s) at specified site(s) of a SEQ ID NO:, such that the sequence of each elected species is fully specified (i.e. no optional or variable residues or substituents), and where available as an option within at least one searchable claim, to be searched. Additional sequence(s) will be searched upon the payment of additional fees. Applicants must specify the searchable claims that encompass any additionally elected sequence(s). Applicants must further indicate, if applicable, the claims which encompass the first named invention, if different than what was indicated above for this group. Failure to clearly identify how any paid additional invention fees are to be applied to the "+" group(s) will result in only the first claimed invention to be searched/examined. An exemplary election would be SEQ ID NO: 2 (nucleotide sequence associated with corn event ZM\_BCS216090).

No technical features are shared between the nucleotide sequences associated with corn event ZM\_BCS216090 of Groups I+ and, accordingly, these groups lack unity a priori.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

- ☐ all parts.
- ☒ the parts relating to claims Nos. \*\*\*-Please See Supplemental Page-\*\*\*

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement**

**1. Statement**

|                               |        |                                 |     |
|-------------------------------|--------|---------------------------------|-----|
| Novelty (N)                   | Claims | <u>***-Please See Below-***</u> | YES |
|                               | Claims | <u>NONE</u>                     | NO  |
| Inventive step (IS)           | Claims | <u>***-Please See Below-***</u> | YES |
|                               | Claims | <u>NONE</u>                     | NO  |
| Industrial applicability (IA) | Claims | <u>***-Please See Below-***</u> | YES |
|                               | Claims | <u>NONE</u>                     | NO  |

**2. Citations and explanations:**

-Continued from Box No. V. 1: Statement:

Novelty (N): YES: Claims 1st Invention: 1-3, 7-17, 20, and 24-47 // 2nd Invention: 1-3, 7-17, 20, and 24-47

Inventive Step (IS): YES: Claims 1st Invention: 1-3, 7-17, 20, and 24-47 // 2nd Invention: 1-3, 7-17, 20, and 24-47

Industrial Applicability (IA): YES: Claims 1st Invention: 1-3, 7-17, 20, and 24-47 // 2nd Invention: 1-3, 7-17, 20, and 24-47

-Continued from Box No. V. 2: Citations and Explanations:

**\*\*\*-1st Invention-\*\*\***

Claims 1-3, 7-17, 20, and 24-47 meet the criteria set out by the PCT Article 22 (2)-(3).

Claim 1 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest the nucleotide sequence of SEQ ID NO: 1 or a complete complement thereof.

US 2015/0240253 A1 to E. I. DU PONT DE NEMOURS AND COMPANY. (hereinafter 'Du Pont') discloses a recombinant DNA molecule (In a third embodiment, the invention relates to a recombinant DNA construct comprising; paragraph [0009]) and a sequence which is 79.3 % identical to SEQ ID NO:1, but is located amongst a long list (SEQ ID NO: 153,955 of the Du Pont reference is 79.3% identical to the instant PCT Application from residues 44-61, 350-356, 713-719 and 714-720 but it is located in a long list of sequences; paragraph [0018]). Du Pont does not disclose a nucleotide sequence of SEQ ID NO: 1 or a complete complement thereof.

The publication entitled 'Phaeodactylum tricornutum CCAP 1055/1 predicted protein partial mRNA' by Bowler, et al. (hereinafter 'Bowler') discloses a sequence which is 60% identical to SEQ ID NO: 1, but is a much longer sequence than the instant PCT Application (accession XM\_002181742 is 60% identical from residues 64-70, 374-391, and 607-613 but is located amongst a large sequence compared to the instant PCT Application; Page 1). Bowler does not disclose a recombinant DNA molecule comprising a nucleotide sequence of SEQ ID NO: 1 or a complete complement thereof.

The publication entitled 'Drosophila yakuba nullo gene, partial cds' by Cacone, et al. (hereinafter 'Cacone') discloses a sequence which is 60% identical to SEQ ID NO:1, but is located in a much longer sequence (accession U44732 is 60% identical from residues 94-101 to SEQ ID NO:1; Page 1). Cacone does not disclose a recombinant DNA molecule comprising a nucleotide sequence of SEQ ID NO: 1 or a complete complement thereof.

Du Pont, Bowler, and Cacone either alone or in combination fail to disclose the nucleotide sequence of SEQ ID NO: 1 or a complete complement thereof. While Du Pont and Bowler disclose a recombinant DNA molecule, and a sequence which is 60% identical to SEQ ID NO: 1, but is located in a long list, they do not disclose the nucleotide sequence of SEQ ID NO: 1 or a complete complement thereof. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the sequence of claim 1 because the references of record fail to disclose all the elements.

Claims 2-3, 14-17, 30-35, meet the criteria set out in PCT Article 33(2)-(3), because they depend on positive claim 1.

Claim 7 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 DNA in a sample.

US 2020/0032289 A1 to Monsanto Technology LLC (hereinafter 'Monsanto') discloses a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event

**\*\*\*-Continued in Supplemental Box-\*\*\***

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

\*\*\*-Continued From Box IV (iii)-\*\*\*

1st Invention: Claims 1-3, 7-17, 20, and 24-47, SEQ ID NO: 1 (nucleotide sequence associated with corn event ZM\_BCS216090).

2nd Invention: Claims 1-3, 7-17, 20, and 24-47, SEQ ID NO: 2 (nucleotide sequence associated with corn event ZM\_BCS216090).

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Continuation of:

\*\*\*-Continued From Box V. 2: Citations and Explanations-\*\*\*

DNA in a sample (DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn DNA in a sample; paragraph [0010]) wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in a sample (wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event; paragraph [0010]). Monsanto does not disclose corn event ZM\_BCS216090 DNA in a sample.

US 2021/332380 A1 to Monsanto Technology LLC (hereinafter 'Brown') discloses a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample (a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event MON95275 DNA in a sample; paragraph [0010]), wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in said sample (wherein detecting hybridization of the probe to the corn event DNA under the stringent hybridization conditions is diagnostic for confirming the presence of corn event MON95275 DNA in that sample; paragraph [0010]). Brown does not disclose corn event ZM\_BCS216090 DNA in a sample.

CN 104388580 A to OIL CROPS RES INST CAAS (hereinafter 'Oil') discloses a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe (The heterozygous NK603 with DNA amount is template, the primer of corn internal standard gene adh 1 and NK603 specificity of transformant event and probe is adopted to carry out digital pcr amplified reaction respectively; paragraph [0113]). Oil does not disclose that hybridizes specifically under stringent hybridization conditions with corn event ZM\_BCS216090 DNA in a sample, wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event ZM\_BCS216090 DNA in said sample.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090 DNA in a sample. While Monsanto and Brown disclose a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in a sample, they do not disclose corn event ZM\_BCS216090 DNA in a sample. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event of claim 7 because the references of record fail to disclose all the elements.

Claims 8-9, 11, and 13 meet the criteria set out in PCT Article 33(2)-(3), because they depend on positive claim 7.

Claim 10 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 1.

Monsanto discloses a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample containing a corn event template DNA to produce an amplicon diagnostic for the presence of said corn event in said sample (that function as DNA primers when used together in an amplification reaction with a sample containing corn event MON 95379 template DNA to produce an amplicon diagnostic for the presence of said corn event MON 95379 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (wherein said amplicon comprises the nucleotide sequence; paragraph [0011]). Monsanto does not disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 1.

Du Pont discloses a and a sequence which is 79.3 % identical to SEQ ID NO:1 but is located amongst a long list (SEQ ID NO: 153,955 of the Du Pont reference is 79.3% identical to the instant PCT Application from residues 44-61, 350-356, 713-719 and 714-720 but it is located in a long list of sequences; paragraph [0018]). Du Pont does not disclose a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing corn event ZM\_BCS216090 template DNA to produce an amplicon diagnostic for the presence of said corn event ZM\_BCS216090 DNA in said sample, wherein said amplicon comprises a nucleotide sequence selected from SEQ ID NO: 1.

Brown discloses a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (Yet another aspect of the invention provides a first DNA molecule and a second DNA molecule different from the first DNA molecule, i.e. a pair of DNA molecules; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said sample (primers together in an amplification reaction for conducting a DNA amplification procedure with a sample containing corn event MON95275 template DNA to produce an amplicon diagnostic for the presence of said corn event MON95275 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (The amplicon produced may contain at least the nucleotide sequence; paragraph [0011]). Brown does not disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence selected from SEQ ID NO: 1.

Monsanto, Du Pont, Brown either alone or in combination fail to disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 1. While Monsanto and Du Pont disclose a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing a corn event template DNA to produce an amplicon diagnostic for the presence of said corn event in said sample,

\*\*\*-Continued Within the Next Supplemental Box-\*\*\*

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**Supplemental Box**

**In case the space in any of the preceding boxes is not sufficient.**

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wherein said amplicon comprises a nucleotide sequence, and a sequence which is 79.3% identical to SEQ ID NO: 1, they do not disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 1. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event or sequence of claim 10 because the references of record fail to disclose all the elements.

Claim 12 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 10.

Claim 20 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a corn plant, corn plant part, corn seed, or corn cell (the sample comprises a corn plant, corn plant cell, corn seed, corn plant part; paragraph [0010]) that comprises a corn event (corn event MON 95379 DNA in a sample; paragraph [0010]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a corn plant, corn plant part, corn seed, or corn cell (corn plant, corn plant part, corn cell; paragraph [0014]), and a corn event (corn event MON95275 DNA in a sample; paragraph [0012]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a corn cell (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]) Oil does not disclose corn plant, corn plant part, or corn seed that comprises corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a corn plant, corn plant part, corn seed, or corn cell that comprises a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event of claim 20 because the references of record fail to disclose all the elements.

Claim 24 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 1, corn event ZM\_BCS216090 DNA in a sample.

Monsanto discloses a DNA detection kit comprising (DNA detection kits can be developed using the compositions disclosed herein and are useful for identification of corn; paragraph [0093]): a' a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said sample (that function as DNA primers when used together in an amplification reaction with a sample containing corn event MON 95379 template DNA to produce an amplicon diagnostic for the presence of said corn event MON 95379 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (wherein said amplicon comprises the nucleotide sequence; paragraph [0011]); and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample (DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn DNA in a sample; paragraph [0010]), wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in said sample (wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event; paragraph [0010]). Monsanto does not disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 1, corn event ZM\_BCS216090 DNA in a sample.

Brown discloses a DNA detection kit comprising (DNA detection kits can be developed using the compositions disclosed herein; paragraph [0098]): a' a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (Yet another aspect of the invention provides a first DNA molecule and a second DNA molecule different from the first DNA molecule, i.e. a pair of DNA molecules; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said sample (primers together in an amplification reaction for conducting a DNA amplification procedure with a sample containing corn event MON95275 template DNA to produce an amplicon diagnostic for the presence of said corn event MON95275 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (The amplicon produced may contain at least the nucleotide sequence; paragraph [0011]); and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample (a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event MON95275 DNA in a sample; paragraph [0010]), wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event ZM\_BCS216090 DNA in said sample (wherein detecting hybridization of the probe to the corn event DNA under the stringent hybridization conditions is diagnostic for confirming the presence of corn event MON95275 DNA in that sample; paragraph [0010]). Brown does not disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 1, corn event ZM\_BCS216090 DNA in a sample.

Du Pont discloses a sequence which is 79.3 % identical to SEQ ID NO:1 but is located amongst a long list (SEQ ID NO: 153,955 of the Du Pont reference is 79.3% identical to the instant PCT Application from residues 44-61, 350-356, 713-719 and 714-720 but it is located in a long list of sequences; paragraph [0018]). Du Pont does not disclose a DNA detection kit comprising: a' a pair of DNA molecules,

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In case the space in any of the preceding boxes is not sufficient.

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comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing corn event ZM\_BCS216090 template DNA to produce an amplicon diagnostic for the presence of said corn event ZM\_BCS216090 DNA in said sample, wherein said amplicon comprises the nucleotide sequence selected of SEQ ID NO: 1; and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event ZM\_BCS216090 DNA in a sample, wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event ZM\_BCS216090 DNA in said sample.

Monsanto, Du Pont, and Brown either alone or in combination fail to disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 1, corn event ZM\_BCS216090 DNA in a sample. While Monsanto and Du Pont disclose a DNA detection kit comprising: a' a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said sample, wherein said amplicon comprises a nucleotide sequence; and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample, wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in said sample, and a sequence which is 79.3% identical to SEQ ID NO: 1 located in a long list, they do not disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 1, corn event ZM\_BCS216090 DNA in a sample. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event or sequences of claim 24 because the references of record fail to disclose all the elements.

Claim 25 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090.

Monsanto discloses a method of producing a progeny corn plant comprising a corn event (progeny of any generation of a corn plant comprising the corn event MON 95379; paragraph [0014]) comprising: a' sexually crossing a first corn plant that comprises a corn event with itself or a second corn plant (sexually crossing two different corn plants with at least one of the two different corn plants comprising transgenic corn event MON 95379 DNA; paragraph [0016]); b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants (Two or more transgenic events may thus be combined in a progeny seed or plant by crossing two parent plants each comprising one or more transgenic events, collecting the progeny seed, and selecting for progeny seed or plants that contain the two or more transgenic events; paragraph [0103]); and d' selecting at least a first progeny plant or seed comprising a corn event (selecting plant varieties or hybrids comprising corn event MON 95379; paragraph [0111]). Monsanto does not disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090.

Brown discloses a method of producing a progeny corn plant comprising a corn event (Plants of the invention may pass along the event MON95275 DNA, including transgene inserted in corn event MON95275, to progeny.; paragraph [0106]) comprising: a' sexually crossing a first corn plant that comprises a corn event with itself or a second corn plant (by sexually crossing a first parent that lacks the specific and unique DNA of the corn event MON95275 with a second parent comprising corn event MON95275; paragraph [0108]); b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants (Two or more transgenic events may thus be combined in a progeny seed or plant by crossing two parent plants each comprising one or more transgenic events, collecting the progeny seed, and selecting for progeny seed or plants that contain the two or more transgenic events; paragraph [0109]); and d' selecting at least a first progeny plant or seed comprising a corn event (selecting plant varieties or hybrids comprising corn event MON95275; paragraph [0117]). Brown does not disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of producing a progeny corn plant comprising corn event ZM\_BCS216090 comprising: a' sexually crossing a first corn plant that comprises corn event ZM\_BCS216090 with itself or a second corn plant; b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants; and d' selecting at least a first progeny plant or seed comprising corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of producing a progeny corn plant comprising a corn event comprising: a' sexually crossing a first corn plant that comprises a corn event with itself or a second corn plant; b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants; and d' selecting at least a first progeny plant or seed comprising a corn event, they do not disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 25 because the references of record fail to disclose all the elements.

Claims 26-28 meet the criteria set out in PCT Article 33(2)-(3), because they depend on positive claim 25.

Claim 29 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest SEQ ID NO: 1, or a complete complement thereof.

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Monsanto discloses a corn seed comprising a detectable amount of a nucleotide sequence (A corn seed comprising a detectable amount of the recombinant DNA molecule; Page 59, claim 15). Monsanto does not disclose of SEQ ID NO: 1, or a complete complement thereof.

Du Pont discloses a sequence which is 79.3 % identical to SEQ ID NO:1 but is located amongst a long list (SEQ ID NO: 153,955 of Du Pont is 79.3% identical to the instant PCT Application from residues 44-61, 350-356, 713-719 and 714-720 but it is located in a long list of sequences; paragraph [0018]). Du Pont does not disclose a corn seed comprising a detectable amount of a nucleotide sequence selected from the group consisting of SEQ ID NO: 1, or a complete complement thereof.

Bowler discloses a sequence which is 60% identical to SEQ ID NO: 1 but is a much longer sequence than the instant PCT Application (accession XM\_002181742 is 60% identical from residues 64-70, 374-391, and 607-613 but is located amongst a large sequence compared to the instant PCT Application; Page 1). Bowler does not disclose a corn seed comprising a detectable amount of a nucleotide sequence selected from the group consisting of SEQ ID NO: 1, or a complete complement thereof.

Monsanto, Du Pont, and Bowler either alone or in combination fail to disclose SEQ ID NO: 1, or a complete complement thereof. While Monsanto and Du Pont disclose a corn seed comprising a detectable amount of a nucleotide sequence, and a sequence which is 79.3 % identical to SEQ ID NO:1, but is located amongst a long list, they do not disclose SEQ ID NO: 1, or a complete complement thereof. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the sequence of claim 29 because the references of record fail to disclose all the elements.

Claim 36 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a method of producing a commodity product (polynucleotides specific for event MON 95379 and plants, plant cells, seeds, plant parts, progeny plants, and commodity products comprising event MON 95379; paragraph [0007]), said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising a corn event; and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed (These junction sequences are useful in detecting the presence of the event MON 95379 in corn plant cells, corn plant tissue, corn seed, and corn plants or corn plant products, such as corn commodity products; Page 6, [0060]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of producing a commodity product, said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising a corn event (polynucleotides specific for corn event MON95275 and plant, plant cells, seed, plant parts, pollen, progeny plants, and commodity products comprising event MON95275 DNA; paragraph [0007]) and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed (Viable commodity products include but are not limited to seeds, plants, and plant cells; paragraph [0111]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose method of producing a commodity product, said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising corn event ZM\_BCS216090; and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of producing a commodity product, said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising a corn event; and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 36 because the references of record fail to disclose all the elements.

Claim 37 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 DNA.

Monsanto discloses a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA amplification method producing an amplicon diagnostic for the presence of a corn event (Another embodiment of the invention is a corn plant, corn plant part, or corn seed thereof comprising DNA functional as a template when tested in DNA amplification method producing an amplicon diagnostic for the presence of event MON 95379 DNA; paragraph [0019]). Monsanto does not disclose corn event ZM\_BCS216090 DNA.

Brown discloses a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA amplification method producing an amplicon diagnostic for the presence of a corn event (A corn plant, corn plant part, or corn seed comprising DNA functional as a template in a DNA amplification method producing an amplicon diagnostic for the presence of the recombinant DNA molecule of claim 1 (corn event); Claim 21). Brown does not disclose corn event ZM\_BCS216090 DNA.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA amplification method producing an amplicon diagnostic for the presence of corn event ZM\_BCS216090 DNA.

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Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA amplification method producing an amplicon diagnostic for the presence of a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 37 because the references of record fail to disclose all the elements.

Claim 38 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising a corn event (a method of determining the zygosity of a corn plant or corn plant seed comprising event MON 95379; paragraph [0021]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for a corn event (contacting a sample comprising corn DNA with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for event MON 95379; paragraph [0021]) and a second amplicon diagnostic for native corn genomic DNA not comprising a corn event (a second amplicon diagnostic for native corn plant genomic DNA not comprising event MON 95379; paragraph [0021]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs (a second amplicon diagnostic for native corn plant genomic DNA not comprising event MON 95379; i) performing a nucleic acid amplification reaction with the sample and the set of primer pairs; paragraph [0021]); and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for a corn event and the second amplicon diagnostic for native corn genomic DNA not comprising a corn event, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event (detecting in the nucleic acid amplification reaction the first amplicon diagnostic for event MON 95379, or the second amplicon diagnostic for native corn genomic DNA not comprising event MON 95379, wherein the presence of only the first amplicon is diagnostic of a corn plant or corn plant seed homozygous for event MON 95379; paragraph [0021]); and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event (and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant or corn seed heterozygous for event MON 95379; paragraph [0021]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising a corn event (a method of determining the zygosity of a corn plant or corn plant seed comprising corn event MON95275; paragraph [0021]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for a corn event (comprising: a) contacting a sample comprising corn DNA with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for corn event MON95275; paragraph [0021]) and a second amplicon diagnostic for native corn genomic DNA not comprising a corn event (a second amplicon diagnostic for native corn genomic DNA not comprising corn event MON95275; paragraph [0021]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; (performing a nucleic acid amplification reaction with the sample and the set of primer pairs; paragraph [0021]) and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for a corn event and the second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event (detecting in the nucleic acid amplification reaction the first amplicon diagnostic for corn event MON95275, or the second amplicon diagnostic for native corn genomic DNA not comprising corn event MON95275, wherein the presence of only the first amplicon is diagnostic of a homozygous event MON95275 DNA in the sample; paragraph [0021]), and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event (and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant heterozygous for corn event MON95275 allele; paragraph [0021]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for corn event ZM\_BCS216090 and a second amplicon diagnostic for native corn genomic DNA not comprising corn event ZM\_BCS216090; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for corn event ZM\_BCS216090 and the second amplicon diagnostic for native corn plant genomic DNA not comprising corn event ZM\_BCS216090, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for corn event ZM\_BCS216090, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for a corn event and a second amplicon diagnostic for native corn genomic DNA not comprising a corn event; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for a corn event and the second amplicon diagnostic for native corn genomic DNA not comprising a corn event, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event; and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 38 because the references of record fail to disclose all the elements.

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Claim 39 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (Yet another embodiment of the invention is a method of determining the zygosity of a corn plant or corn seed comprising event MON 95379; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon (contacting a sample comprising corn DNA with a primer pair that is capable of producing an amplicon of one of the toxin coding sequences encoding CryIB.868 or Cry1Da\_7; paragraph [0020]) and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant (a primer pair that is capable of producing an amplicon of an internal standard known to be single-copy and homozygous in the corn plant paragraph [0020]); b' contacting the sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of a corn event (contacting the DNA sample with a probe set which contains at least a first probe that specifically hybridizes to one of the coding sequences encoding paragraph [0020]), and a second probe that specifically hybridizes to the standard genomic sequence (second probe that specifically hybridizes to the internal standard genomic DNA known to be single-copy and homozygous in the corn plant; paragraph [0020]); c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon (performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the amplicon corresponding to the toxin coding sequence and the single-copy, homozygous internal standard; paragraph [0020]); d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon; (calculating the difference 'Ct' between the Ct value of the single copy, homozygous internal standard amplicon and the Ct value of the toxin coding sequence amplicon; paragraph [0020]) and 'e' determining the zygosity of a corn event wherein a Ct of about zero '0' indicates homozygosity of a corn event and a Ct of about one '1' indicates heterozygosity of a corn event (determining zygosity, wherein a Ct of about zero (0) indicates homozygosity of the inserted T-DNA of event MON 95739 and a Ct of about one (1) indicates heterozygosity of the event MON 95739; paragraph [0020]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (determining the zygosity of the genome of a corn plant or corn seed comprising DNA descriptive of the corn event MON95275; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon of all or part of a corn event (a sample comprising corn DNA is contacted with a first primer pair that is capable of producing an amplicon diagnostic for DNA that is descriptive of and present exclusively in corn event MON95275; paragraph [0020]) and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant (sample comprising corn DNA is contacted with a second primer pair that is designed to produce an amplicon of an internal standard known to be single-copy and homozygous in the corn plant MON95275; paragraph [0020]); b' contacting the sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of a corn event (contacting the DNA sample with a probe set which contains at least a first probe that specifically hybridizes the allele of corn event MON95275; paragraph [0020]), and a second probe that specifically hybridizes to the standard genomic sequence (a second probe that specifically hybridizes to the internal standard genomic DNA; paragraph [0020]); c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon (a DNA amplification reaction performed using real-time PCR and determining the cycle thresholds 'Ct values' of the amplicon corresponding to the allele of corn event MON95275 and the single-copy, homozygous internal standard; paragraph [0020]); d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon (After the amplification, the difference 'Ct' between the Ct value of the single-copy, homozygous internal standard amplicon and the Ct value of the allele for corn event MON95275 amplicon may be calculated; paragraph [0020]); and 'e' determining the zygosity of a corn event, wherein a Ct of about zero '0' indicates homozygosity of a corn event and a Ct of about one '1' indicates heterozygosity of a corn event (zygosity is determined wherein a 'Ct' of about zero '0' indicates homozygosity of the inserted T-DNA of corn event MON95275 and a 'Ct' of about one '1' indicates heterozygosity of the inserted T-DNA of corn event MON95275; paragraph [0020]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon of all or part of corn event ZM\_BCS216090 and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant; b' contacting the sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of corn event ZM\_BCS216090, and a second probe that specifically hybridizes to the standard genomic sequence; c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon; d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon; and 'e' determining the zygosity of corn event ZM\_BCS216090, wherein a Ct of about zero '0' indicates homozygosity of corn event ZM\_BCS216090 and a Ct of about one '1' indicates heterozygosity of corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant; b' contacting the sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of a corn event, and a second probe that specifically hybridizes to the standard genomic sequence; c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon; d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon; and 'e' determining the zygosity of a

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corn event wherein a Ct of about zero '0' indicates homozygosity of a corn event and a Ct of about one '1' indicates heterozygosity of a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 39 because the references of record fail to disclose all the elements.

Claim 40 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claims 38 or 39.

Claim 41 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event.

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (a method of determining the zygosity of a corn plant or corn seed comprising event MON 95379; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic (contacting a sample comprising corn DNA with a primer pair that is capable of producing an amplicon of one of the toxin coding sequences encoding Cry1B.868 or Cry1Da\_7; paragraph [0020]) and a second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event (a second amplicon diagnostic for native corn plant genomic DNA not comprising event MON 95379; paragraph [0113]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs (performing a nucleic acid amplification reaction with the sample and the set of primer pairs; Claim 26); and c' detecting the first amplicon and the second amplicon, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event (detecting the amplicons, wherein the presence of only the first amplicon is diagnostic of a homozygous event MON 95379 DNA in the sample; paragraph [0113]), and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event (and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant heterozygous for event MON 95379; paragraph [0113]). Monsanto does not disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (determining the zygosity of the genome of a corn plant or corn seed comprising DNA descriptive of the corn event MON95275; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic for a corn event (a sample comprising corn DNA is contacted with a first primer pair that is capable of producing an amplicon diagnostic for DNA that is descriptive of and present exclusively in corn event MON95275; paragraph [0020]) and a second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event (second amplicon diagnostic for native corn genomic DNA not comprising corn event MON95275; paragraph [0021]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs (performing a nucleic acid amplification reaction with the sample and the set of primer pairs; paragraph [0021]); and c' detecting the first amplicon and the second amplicon (detecting in the nucleic acid amplification reaction the first amplicon diagnostic for corn event MON95275, or the second amplicon diagnostic; paragraph [0013]), wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for corn event ZM\_BCS216090 and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090 (wherein the presence of only the first amplicon is diagnostic of a homozygous event MON95275 DNA in the sample, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant heterozygous for corn event MON95275 allele; paragraph [0021]). Brown does not disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn plant genomic DNA not comprising corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic for corn event ZM\_BCS216090 and a second amplicon diagnostic for native corn plant genomic DNA not comprising corn event ZM\_BCS216090; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting the first amplicon and the second amplicon, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for corn event ZM\_BCS216090, the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn plant genomic DNA not comprising corn event ZM\_BCS216090, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic and a second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting the first amplicon and the second amplicon, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event, they do not disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 41

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because the references of record fail to disclose all the elements.

Claim 42 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (a method of determining the zygosity of a corn plant or corn seed comprising event MON 95379; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to a corn event and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by insertion of the heterologous DNA of a corn event and does not hybridize to a corn event (contacting a sample comprising corn DNA with a probe set which contains at least a first probe that specifically hybridizes to event MON 95379 DNA and at least a second probe that specifically hybridizes to corn plant genomic DNA that was disrupted by insertion of the heterologous DNA of event MON 95379 and does not hybridize to event MON 95379 DNA; paragraph [0021]); and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for a corn event (hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant or corn plant seed homozygous for event MON 95379; paragraph [0021]), and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for a corn event (wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant or a corn seed heterozygous for event MON 95379; paragraph [0021]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (a method of determining the zygosity of a corn plant or corn plant seed comprising corn event; paragraph [0021]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to a corn event and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by insertion of the heterologous DNA of a corn event and does not hybridize to a corn event DNA (contacting a sample comprising corn DNA with a probe set which contains at least a first probe that specifically hybridizes to corn event MON95275 DNA and at least a second probe that specifically hybridizes to corn plant genomic DNA that was disrupted by insertion of the heterologous DNA of corn event MON95275 and does not hybridize to corn event MON95275 DNA; paragraph [0021]); and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for corn event, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for a corn event (hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a homozygous allele of corn event MON95275 DNA in the sample, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a heterozygous allele of corn event MON95275 in said sample; paragraph [0021]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to corn event ZM\_BCS216090 and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by insertion of the heterologous DNA of corn event ZM\_BCS216090 and does not hybridize to corn event ZM\_BCS216090 DNA; and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for corn event ZM\_BCS216090, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to a corn event and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by insertion of the heterologous DNA of a corn event and does not hybridize to a corn event; and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for a corn event, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 42 because the references of record fail to disclose all the elements.

Claim 43 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 42.

Claim 44 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest introducing corn event ZM\_BCS216090 into a corn plant.

Brown discloses a method of producing a corn plant having reduced plant height (Table 14 contains MON95275 marked plants which have

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a decreased plant height compared to negative controls; Page 23, Table 14) or increased lodging resistance comprising introducing a corn event into a corn plant (corn event MON95275 provided resistance to WCR when compared to the negative controls, based upon the RDR scale presented in Table 6, corn event MON95275 demonstrated resistance to WCR and only experienced damage that would be considered non-economic across all locations; paragraph [0155]). Brown does not disclose introducing corn event ZM\_BCS216090 into a corn plant.

Monsanto discloses comprising introducing a corn event into a corn plant (Plants of the invention may pass along the event MON 95379 DNA; paragraph [0100]). Monsanto does not disclose a method of producing a corn plant having reduced plant height or increased lodging resistance or introducing corn event ZM\_BCS216090 into a corn plant.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of producing a corn plant having reduced plant height or increased lodging resistance comprising introducing corn event ZM\_BCS216090 into a corn plant.

Monsanto, Brown, and Oil either alone or in combination fail to disclose introducing corn event ZM\_BCS216090 into a corn plant. While Monsanto and Brown disclose a method of producing a corn plant having reduced plant height or increased lodging resistance comprising introducing a corn event into a corn plant, they do not disclose introducing corn event ZM\_BCS216090 into a corn plant. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 44 because the references of record fail to disclose all the elements.

Claim 45 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a population of transgenic corn plants wherein each transgenic corn plant comprises a corn event (hundreds of corn cells were transformed with the construct used to generate event MON 95379, creating a population of transgenic plants; paragraph [0058]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a population of transgenic corn plants, wherein each transgenic corn plant comprises a corn event (thousands of corn plant cells were transformed with the construct used to generate event MON95275, creating a population of transgenic plants; paragraph [0062]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a population of transgenic corn plants, wherein each transgenic corn plant comprises corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose discloses a population of transgenic corn plants wherein each transgenic corn plant comprises a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 45 because the references of record fail to disclose all the elements.

Claim 46 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 45.

Claim 47 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claims 45 or 46.

Claims 1-3, 7-17, 20, and 24-47 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

\*\*\*-2nd Invention-\*\*\*

Claims 1-3, 7-17, 20, and 24-47 meet the criteria set out by the PCT Article 22 (2)-(3).

Claim 1 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest the nucleotide sequence of SEQ ID NO: 2 or a complete complement thereof.

US 2014/0230087 A1 to Hartig et al. (hereinafter 'Hartig') discloses a recombinant DNA molecule comprising (introducing a recombinant DNA construct into a plant; paragraph [0030]) and a nucleotide sequence which is 93% identical to SEQ ID NO: 2, but is located in a long list of sequences (SEQ ID NO 272 of the Hartig reference is 93 % identical from residues 33-56, but it is located amongst a long list and is a longer sequence; paragraph [0010]). Hartig does not disclose a nucleotide sequence of SEQ ID NO: 2 or a complete complement thereof.

The publication entitled 'Drosophila melanogaster DNA, chromosome 2R, 43A1, GS vector insertion site flanking region, clone: 14174-5p-6.seq' by Muramatsu, et al. (hereinafter 'Muramatsu') discloses a sequence which is 63% identical to SEQ ID NO:2 (accession AB317463 is 63% identical from residues 52-70; Page 1). Muramatsu does not disclose a recombinant DNA molecule comprising a nucleotide sequence of SEQ ID NO: 2 or a complete complement thereof.

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The publication entitled 'PREDICTED: Alligator mississippiensis LSM5 homolog, U6 small nuclear RNA and mRNA degradation associated 'LSM5', mRNA' by National Center for Biotechnology Information (hereinafter 'NCBI') discloses a sequence which is 60% identical to SEQ ID NO:2 (accession XM\_006258198 is 60% identical from residues 65-82; Pages 1-2). NCBI does not disclose a recombinant DNA molecule comprising a nucleotide sequence of SEQ ID NO: 2 or a complete complement thereof.

Hartig, Muramatsu and NCBI either alone or in combination fail to disclose the nucleotide sequence of SEQ ID NO: 2 or a complete complement thereof. While Hartig and Muramatsu disclose a recombinant DNA molecule comprising and a nucleotide sequence which is at most 93% identical to SEQ ID NO: 2, but is located in a long list of sequences, they do not disclose the nucleotide sequence of SEQ ID NO: 2 or a complete complement thereof. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the sequence of claim 1 because the references of record fail to disclose all the elements.

Claims 2-3, 14-17, and 30-35 meet the criteria set out in PCT Article 33(2)-(3), because they depend on positive claim 1.

Claim 7 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 DNA in a sample.

Monsanto discloses a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample (DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn DNA in a sample; paragraph [0010]) wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in a sample (wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event; paragraph [0010]). Monsanto does not disclose corn event ZM\_BCS216090 DNA in a sample.

Brown discloses a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample (a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event MON95275 DNA in a sample; paragraph [0010]), wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in said sample (wherein detecting hybridization of the probe to the corn event DNA under the stringent hybridization conditions is diagnostic for confirming the presence of corn event MON95275 DNA in that sample; paragraph [0010]). Brown does not disclose corn event ZM\_BCS216090 DNA in a sample.

Oil discloses a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe (The heterozygous NK603 with DNA amount is template, the primer of corn internal standard gene adh 1 and NK603 specificity of transformant event and probe is adopted to carry out digital pcr amplified reaction respectively; paragraph [0113]). Oil does not disclose that hybridizes specifically under stringent hybridization conditions with corn event ZM\_BCS216090 DNA in a sample, wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event ZM\_BCS216090 DNA in said sample.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090 DNA in a sample. While Monsanto and Brown disclose a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in a sample, they do not disclose corn event ZM\_BCS216090 DNA in a sample. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event of claim 7 because the references of record fail to disclose all the elements.

Claims 8-9, 11, 13, meet the criteria set out in PCT Article 33(2)-(3), because they depend on positive claim 7.

Claim 10 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 2.

Monsanto discloses a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample containing a corn event template DNA to produce an amplicon diagnostic for the presence of said corn event in said sample (that function as DNA primers when used together in an amplification reaction with a sample containing corn event MON 95379 template DNA to produce an amplicon diagnostic for the presence of said corn event MON 95379 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (wherein said amplicon comprises the nucleotide sequence; paragraph [0011]). Monsanto does not disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 2.

Brown discloses a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (Yet another aspect of the invention provides a first DNA molecule and a second DNA molecule different from the first DNA molecule, i.e. a pair of DNA molecules; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said

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sample (primers together in an amplification reaction for conducting a DNA amplification procedure with a sample containing corn event MON95275 template DNA to produce an amplicon diagnostic for the presence of said corn event MON95275 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (The amplicon produced may contain at least the nucleotide sequence; paragraph [0011]). Brown does not disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence selected from SEQ ID NO: 2.

Hartig discloses a sequence which is 93% identical to SEQ ID NO: 2 (SEQ ID NO 272 of the Hartig reference is 93 % identical from residues 33-56, but it is located amongst a long list and is a longer sequence; paragraph [0010]). Hartig does not disclose a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing corn event ZM\_BCS216090 template DNA to produce an amplicon diagnostic for the presence of said corn event ZM\_BCS216090 DNA in said sample, wherein said amplicon comprises a nucleotide sequence selected from SEQ ID NO: 2.

Monsanto, Brown, and Hartig either alone or in combination fail to disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 2. While Monsanto and Brown disclose a pair of DNA molecules comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing a corn event template DNA to produce an amplicon diagnostic for the presence of said corn event in said sample, wherein said amplicon comprises a nucleotide sequence, they do not disclose corn event ZM\_BCS216090 template DNA, or a nucleotide sequence of SEQ ID NO: 2. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event or sequence of claim 10 because the references of record fail to disclose all the elements.

Claim 12 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 10.

Claim 20 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a corn plant, corn plant part, corn seed, or corn cell (the sample comprises a corn plant, corn plant cell, corn seed, corn plant part; paragraph [0010]) that comprises a corn event (corn event MON 95379 DNA in a sample; paragraph [0010]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a corn plant, corn plant part, corn seed, or corn cell (corn plant, corn plant part, corn cell; paragraph [0014]), and a corn event (corn event MON95275 DNA in a sample; paragraph [0012]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a corn cell (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]) Oil does not disclose corn plant, corn plant part, or corn seed that comprises corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a corn plant, corn plant part, corn seed, or corn cell that comprises a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event of claim 20 because the references of record fail to disclose all the elements.

Claim 24 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 2, corn event ZM\_BCS216090 DNA in a sample.

Monsanto discloses a DNA detection kit comprising (DNA detection kits can be developed using the compositions disclosed herein and are useful for identification of corn; paragraph [0093]): a' a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said sample (that function as DNA primers when used together in an amplification reaction with a sample containing corn event MON 95379 template DNA to produce an amplicon diagnostic for the presence of said corn event MON 95379 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (wherein said amplicon comprises the nucleotide sequence; paragraph [0011]); and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample (DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn DNA in a sample; paragraph [0010]), wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in said sample (wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event; paragraph [0010]). Monsanto does not disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 2, corn event ZM\_BCS216090 DNA in a sample.

Brown discloses a DNA detection kit comprising (DNA detection kits can be developed using the compositions disclosed herein; paragraph [0098]): a' a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule (Yet another aspect of the invention provides a first DNA molecule and a second DNA molecule different from the first DNA molecule, i.e. a pair of DNA molecules; paragraph [0011]), that function as DNA primers when used together in an amplification reaction with a sample

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containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said sample (primers together in an amplification reaction for conducting a DNA amplification procedure with a sample containing corn event MON95275 template DNA to produce an amplicon diagnostic for the presence of said corn event MON95275 DNA in said sample; paragraph [0011]), wherein said amplicon comprises a nucleotide sequence (The amplicon produced may contain at least the nucleotide sequence; paragraph [0011]); and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample (a DNA molecule comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event MON95275 DNA in a sample; paragraph [0010]), wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event ZM\_BCS216090 DNA in said sample (wherein detecting hybridization of the probe to the corn event DNA under the stringent hybridization conditions is diagnostic for confirming the presence of corn event MON95275 DNA in that sample; paragraph [0010]). Brown does not disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 1, corn event ZM\_BCS216090 DNA in a sample.

Hartig discloses a sequence which is 93% identical to SEQ ID NO: 2 (SEQ ID NO 272 of the Hartig reference is 93 % identical from residues 33-56, but it is located amongst a long list and is a longer sequence; paragraph [0010]). Hartig does not disclose a DNA detection kit comprising: a' a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing corn event ZM\_BCS216090 template DNA to produce an amplicon diagnostic for the presence of said corn event ZM\_BCS216090 DNA in said sample, wherein said amplicon comprises the nucleotide sequence selected of SEQ ID NO: 2; and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event ZM\_BCS216090 DNA in a sample, wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the present.

Monsanto, Brown and Hartig either alone or in combination fail to disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 2, corn event ZM\_BCS216090 DNA in a sample. While Monsanto and Brown disclose a DNA detection kit comprising: a' a pair of DNA molecules, comprising a first DNA molecule and a second DNA molecule different from the first DNA molecule, that function as DNA primers when used together in an amplification reaction with a sample containing corn event template DNA to produce an amplicon diagnostic for the presence of said corn event DNA in said sample, wherein said amplicon comprises a nucleotide sequence; and b' a DNA probe comprising a polynucleotide segment of sufficient length to function as a DNA probe that hybridizes specifically under stringent hybridization conditions with corn event DNA in a sample, wherein detecting hybridization of said DNA molecule under said stringent hybridization conditions is diagnostic for the presence of corn event DNA in said sample, they do not disclose corn event ZM\_BCS216090 template DNA, the nucleotide sequence selected of SEQ ID NO: 2, corn event ZM\_BCS216090 DNA in a sample. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the corn event and sequence of claim 24 because the references of record fail to disclose all the elements.

Claim 25 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090.

Monsanto discloses a method of producing a progeny corn plant comprising a corn event (progeny of any generation of a corn plant comprising the corn event MON 95379; paragraph [0014]) comprising: a' sexually crossing a first corn plant that comprises a corn event with itself or a second corn plant (sexually crossing two different corn plants with at least one of the two different corn plants comprising transgenic corn event MON 95379 DNA; paragraph [0016]); b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants (Two or more transgenic events may thus be combined in a progeny seed or plant by crossing two parent plants each comprising one or more transgenic events, collecting the progeny seed, and selecting for progeny seed or plants that contain the two or more transgenic events; paragraph [0103]); and d' selecting at least a first progeny plant or seed comprising a corn event (selecting plant varieties or hybrids comprising corn event MON 95379; paragraph [0111]). Monsanto does not disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090.

Brown discloses a method of producing a progeny corn plant comprising a corn event (Plants of the invention may pass along the event MON95275 DNA, including transgene inserted in corn event MON95275, to progeny; paragraph [0106]) comprising: a' sexually crossing a first corn plant that comprises a corn event with itself or a second corn plant (by sexually crossing a first parent that lacks the specific and unique DNA of the corn event MON95275 with a second parent comprising corn event MON95275; paragraph [0108]); b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants (Two or more transgenic events may thus be combined in a progeny seed or plant by crossing two parent plants each comprising one or more transgenic events, collecting the progeny seed, and selecting for progeny seed or plants that contain the two or more transgenic events; paragraph [0109]); and d' selecting at least a first progeny plant or seed comprising a corn event (selecting plant varieties or hybrids comprising corn event MON95275; paragraph [0117]). Brown does not disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of producing a progeny corn plant comprising corn event ZM\_BCS216090 comprising: a' sexually crossing a first corn plant that comprises corn event ZM\_BCS216090 with itself or a second corn plant; b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants; and d' selecting at least a first progeny plant or seed comprising corn event ZM\_BCS216090.

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Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of producing a progeny corn plant comprising a corn event comprising: a' sexually crossing a first corn plant that comprises a corn event with itself or a second corn plant; b' collecting one or more seeds produced from said cross; c' growing said seed to produce one or more progeny plants; and d' selecting at least a first progeny plant or seed comprising a corn event, they do not disclose corn event ZM\_BCS216090 or selecting a first progeny plant or seed comprising corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 25 because the references of record fail to disclose all the elements.

Claims 26-28 meet the criteria set out in PCT Article 33(2)-(3), because they depend on positive claim 25.

Claim 29 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest SEQ ID NO: 2, or a complete complement thereof.

Monsanto discloses a corn seed comprising a detectable amount of a nucleotide sequence (A corn seed comprising a detectable amount of the recombinant DNA molecule; Page 59, claim 15). Monsanto does not disclose of SEQ ID NO: 2, or a complete complement thereof.

Hartig discloses a sequence which is 93% identical to SEQ ID NO: 2 (SEQ ID NO 272 of the Hartig reference is 93 % identical from residues 33-56, but it is located amongst a long list and is a longer sequence; paragraph [0010]). Hartig does not disclose a corn seed comprising a detectable amount of a nucleotide sequence selected from the group consisting of SEQ ID NO: 2, or a complete complement thereof.

Muramatsu discloses a sequence which is 63% identical to SEQ ID NO:2 (accession AB317463 is 63% identical from residues 52-70; Page 1). Muramatsu does not disclose a corn seed comprising a detectable amount of a nucleotide sequence selected from the group consisting of SEQ ID NO: 2, or a complete complement thereof.

Monsanto, Hartig and Muramatsu either alone or together fail to disclose SEQ ID NO: 2, or a complete complement thereof. While Monsanto and Hartig disclose a corn seed comprising a detectable amount of a nucleotide sequence, and a sequence which is 93% identical to SEQ ID NO: 2, they do not disclose SEQ ID NO: 2, or a complete complement thereof. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the sequence of claim 29 because the references of record fail to disclose all the elements.

Claim 36 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a method of producing a commodity product (polynucleotides specific for event MON 95379 and plants, plant cells, seeds, plant parts, progeny plants, and commodity products comprising event MON 95379; paragraph [0007]), said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising a corn event; and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed (These junction sequences are useful in detecting the presence of the event MON 95379 in corn plant cells, corn plant tissue, corn seed, and corn plants or corn plant products, such as corn commodity products; Page 6, [0060]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of producing a commodity product, said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising a corn event (polynucleotides specific for corn event MON95275 and plant, plant cells, seed, plant parts, pollen, progeny plants, and commodity products comprising event MON95275 DNA; paragraph [0007]) and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed (Viable commodity products include but are not limited to seeds, plants, and plant cells; paragraph [0111]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose method of producing a commodity product, said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising corn event ZM\_BCS216090; and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of producing a commodity product, said method comprising: a' obtaining a transgenic corn plant, corn plant part, or corn seed comprising a corn event; and b' producing a commodity product from the transgenic corn plant, corn plant part, or corn seed, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 36 because the references of record fail to disclose all the elements.

Claim 37 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090 DNA.

Monsanto discloses a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA

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amplification method producing an amplicon diagnostic for the presence of a corn event (Another embodiment of the invention is a corn plant, corn plant part, or corn seed thereof comprising DNA functional as a template when tested in DNA amplification method producing an amplicon diagnostic for the presence of event MON 95379 DNA; paragraph [0019]). Monsanto does not disclose corn event ZM\_BCS216090 DNA.

Brown discloses a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA amplification method producing an amplicon diagnostic for the presence of a corn event (A corn plant, corn plant part, or corn seed comprising DNA functional as a template in a DNA amplification method producing an amplicon diagnostic for the presence of the recombinant DNA molecule of claim 1 (corn event); Claim 21). Brown does not disclose corn event ZM\_BCS216090 DNA.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA amplification method producing an amplicon diagnostic for the presence of corn event ZM\_BCS216090 DNA.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a corn plant, corn plant part, or corn seed comprising a DNA molecule functional as a template when tested in a DNA amplification method producing an amplicon diagnostic for the presence of a corn event, they do not corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 37 because the references of record fail to disclose all the elements.

Claim 38 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising a corn event (a method of determining the zygosity of a corn plant or corn plant seed comprising event MON 95379; paragraph [0021]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for a corn event (contacting a sample comprising corn DNA with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for event MON 95379; paragraph [0021]) and a second amplicon diagnostic for native corn genomic DNA not comprising a corn event (a second amplicon diagnostic for native corn plant genomic DNA not comprising event MON 95379; paragraph [0021]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs (a second amplicon diagnostic for native corn plant genomic DNA not comprising event MON 95379; i) performing a nucleic acid amplification reaction with the sample and the set of primer pairs; paragraph [0021]); and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for a corn event and the second amplicon diagnostic for native corn genomic DNA not comprising a corn event, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event (detecting in the nucleic acid amplification reaction the first amplicon diagnostic for event MON 95379, or the second amplicon diagnostic for native corn genomic DNA not comprising event MON 95379, wherein the presence of only the first amplicon is diagnostic of a corn plant or corn plant seed homozygous for event MON 95379; paragraph [0021]); and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event (and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant or corn seed heterozygous for event MON 95379; paragraph [0021]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising a corn event (a method of determining the zygosity of a corn plant or corn plant seed comprising corn event MON95275; paragraph [0021]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for a corn event (contacting a sample comprising corn DNA with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for corn event MON95275; paragraph [0021]) and a second amplicon diagnostic for native corn genomic DNA not comprising a corn (a second amplicon diagnostic for native corn genomic DNA not comprising corn event MON95275; paragraph [0021]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; (performing a nucleic acid amplification reaction with the sample and the set of primer pairs; paragraph [0021]) and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for a corn event and the second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event (detecting in the nucleic acid amplification reaction the first amplicon diagnostic for corn event MON95275, or the second amplicon diagnostic for native corn genomic DNA not comprising corn event MON95275, wherein the presence of only the first amplicon is diagnostic of a homozygous event MON95275 DNA in the sample; paragraph [0021]), and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event (and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant heterozygous for corn event MON95275 allele; paragraph [0021]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for corn event ZM\_BCS216090 and a second amplicon diagnostic for native corn genomic DNA not comprising corn event ZM\_BCS216090; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for corn event ZM\_BCS216090 and the second amplicon diagnostic for native corn plant genomic DNA not comprising corn event ZM\_BCS216090, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for corn event

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ZM\_BCS216090, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn seed comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn seed with a set of primer pairs comprising at least two different primer pairs capable of producing a first amplicon diagnostic for a corn event and a second amplicon diagnostic for native corn genomic DNA not comprising a corn event; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting in the nucleic acid amplification reaction the first amplicon diagnostic for a corn event and the second amplicon diagnostic for native corn genomic DNA not comprising a corn event, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event; and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 38 because the references of record fail to disclose all the elements.

Claim 39 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (Yet another embodiment of the invention is a method of determining the zygosity of a corn plant or corn seed comprising event MON 95379; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon (contacting a sample comprising corn DNA with a primer pair that is capable of producing an amplicon of one of the toxin coding sequences encoding CryIB.868 or Cry1Da\_7; paragraph [0020]) and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant (a primer pair that is capable of producing an amplicon of an internal standard known to be single-copy and homozygous in the corn plant paragraph [0020]); b' contacting the sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of a corn event (contacting the DNA sample with a probe set which contains at least a first probe that specifically hybridizes to one of the coding sequences encoding paragraph [0020]), and a second probe that specifically hybridizes to the standard genomic sequence (second probe that specifically hybridizes to the internal standard genomic DNA known to be single-copy and homozygous in the corn plant; paragraph [0020]); c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon (performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the amplicon corresponding to the toxin coding sequence and the single-copy, homozygous internal standard; paragraph [0020]); d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon; (calculating the difference 'Ct' between the Ct value of the single copy, homozygous internal standard amplicon and the Ct value of the toxin coding sequence amplicon; paragraph [0020]) and 'e' determining the zygosity of a corn event wherein a 'Ct' of about zero '0' indicates homozygosity of a corn event and a 'Ct' of about one '1' indicates heterozygosity of a corn event (determining zygosity, wherein a 'Ct' of about zero (0) indicates homozygosity of the inserted T-DNA of event MON 95739 and a 'Ct' of about one (1) indicates heterozygosity of the event MON 95739; paragraph [0020]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (determining the zygosity of the genome of a corn plant or corn seed comprising DNA descriptive of the corn event MON95275; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon of all or part of a corn event (a sample comprising corn DNA is contacted with a first primer pair that is capable of producing an amplicon diagnostic for DNA that is descriptive of and present exclusively in corn event MON95275; paragraph [0020]) and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant (sample comprising corn DNA is contacted with a second primer pair that is designed to produce an amplicon of an internal standard known to be single-copy and homozygous in the corn plant MON95275; paragraph [0020]); b' contacting the sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of a corn event (contacting the DNA sample with a probe set which contains at least a first probe that specifically hybridizes the allele of corn event MON95275), and a second probe that specifically hybridizes to the standard genomic sequence (a second probe that specifically hybridizes to the internal standard genomic DNA; paragraph [0020]); c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon (a DNA amplification reaction performed using real-time PCR and determining the cycle thresholds 'Ct values' of the amplicon corresponding to the allele of corn event MON95275 and the single-copy, homozygous internal standard paragraph [0020]); d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon (After the amplification, the difference 'Ct' between the Ct value of the single-copy, homozygous internal standard amplicon and the Ct value of the allele for corn event MON95275 amplicon may be calculated; paragraph [0020]); and 'e' determining the zygosity of a corn event, wherein a 'Ct' of about zero '0' indicates homozygosity of a corn event and a 'Ct' of about one '1' indicates heterozygosity of a corn event (zygosity is determined wherein a 'Ct' of about zero '0' indicates homozygosity of the inserted T-DNA of corn event MON95275 and a 'Ct' of about one '1' indicates heterozygosity of the inserted T-DNA of corn event MON95275 paragraph [0020]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon of all or part of corn event ZM\_BCS216090 and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant; b' contacting the

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sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of corn event ZM\_BCS216090, and a second probe that specifically hybridizes to the standard genomic sequence; c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon; d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon; and 'e' determining the zygosity of corn event ZM\_BCS216090, wherein a Ct of about zero '0' indicates homozygosity of corn event ZM\_BCS216090 and a Ct of about one '1' indicates heterozygosity of corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a first primer pair capable of producing a first amplicon and a second primer pair capable of producing a second amplicon of a standard genomic sequence known to be single copy and homozygous in the corn plant, corn plant part, or corn plant; b' contacting the sample with a first probe that specifically hybridizes to the first amplicon and/or all or part of a corn event, and a second probe that specifically hybridizes to the standard genomic sequence; c' performing a DNA amplification reaction using real-time PCR and determining the cycle thresholds 'Ct values' of the first amplicon and the second amplicon; d' calculating the difference 'Ct' between the Ct values of the second amplicon and the first amplicon; and 'e' determining the zygosity of a corn event wherein a Ct of about zero '0' indicates homozygosity of a corn event and a Ct of about one '1' indicates heterozygosity of a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 39 because the references of record fail to disclose all the elements.

Claim 40 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 38 or 39.

Claim 41 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event.

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (a method of determining the zygosity of a corn plant or corn seed comprising event MON 95379; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic (contacting a sample comprising corn DNA with a primer pair that is capable of producing an amplicon of one of the toxin coding sequences encoding CryI<sub>B</sub>.868 or CryI<sub>Da</sub>.7; paragraph [0020]) and a second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event (a second amplicon diagnostic for native corn plant genomic DNA not comprising event MON 95379; paragraph [0113]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs (performing a nucleic acid amplification reaction with the sample and the set of primer pairs; Claim 26); and c' detecting the first amplicon and the second amplicon, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event (detecting the amplicons, wherein the presence of only the first amplicon is diagnostic of a homozygous event MON 95379 DNA in the sample; paragraph [0113]), and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event (and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant heterozygous for event MON 95379; paragraph [0113]). Monsanto does not disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (determining the zygosity of the genome of a corn plant or corn seed comprising DNA descriptive of the corn event MON95275; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic for a corn event (a sample comprising corn DNA is contacted with a first primer pair that is capable of producing an amplicon diagnostic for DNA that is descriptive of and present exclusively in corn event MON95275; paragraph [0020]) and a second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event (second amplicon diagnostic for native corn genomic DNA not comprising corn event MON95275; paragraph [0021]); b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs (performing a nucleic acid amplification reaction with the sample and the set of primer pairs; paragraph [0021]); and c' detecting the first amplicon and the second amplicon (detecting in the nucleic acid amplification reaction the first amplicon diagnostic for corn event MON95275, or the second amplicon diagnostic; paragraph [0013]), wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for corn event ZM\_BCS216090 and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090 (wherein the presence of only the first amplicon is diagnostic of a homozygous event MON95275 DNA in the sample, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant heterozygous for corn event MON95275 allele; paragraph [0021]). Brown does not disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn plant genomic DNA not comprising corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic for corn event ZM\_BCS216090 and a second amplicon diagnostic for native corn plant genomic DNA not comprising corn event ZM\_BCS216090; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting the first amplicon and the second amplicon, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for corn event ZM\_BCS216090, the presence of only the second amplicon is diagnostic of a corn

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plant, corn plant part, or corn plant homozygous for native corn plant genomic DNA not comprising corn event ZM\_BCS216090, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a primer pair capable of producing a first amplicon diagnostic and a second amplicon diagnostic for native corn plant genomic DNA not comprising a corn event; b' performing a nucleic acid amplification reaction with the sample and the set of primer pairs; and c' detecting the first amplicon and the second amplicon, wherein the presence of only the first amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for a corn event, and the presence of both the first amplicon and the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant heterozygous for a corn event, they do not disclose corn event ZM\_BCS216090, or the presence of only the second amplicon is diagnostic of a corn plant, corn plant part, or corn plant homozygous for native corn genomic DNA not comprising a corn event. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 41 because the references of record fail to disclose all the elements.

Claim 42 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090

Monsanto discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (a method of determining the zygosity of a corn plant or corn seed comprising event MON 95379; paragraph [0020]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to a corn event and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by insertion of the heterologous DNA of a corn event and does not hybridize to a corn event (contacting a sample comprising corn DNA with a probe set which contains at least a first probe that specifically hybridizes to event MON 95379 DNA and at least a second probe that specifically hybridizes to corn plant genomic DNA that was disrupted by insertion of the heterologous DNA of event MON 95379 and does not hybridize to event MON 95379 DNA; paragraph [0021]); and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for a corn event (hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant or corn plant seed homozygous for event MON 95379; paragraph [0021]), and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for a corn event (wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant or a corn seed heterozygous for event MON 95379; paragraph [0021]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event (a method of determining the zygosity of a corn plant or corn plant seed comprising corn event; paragraph [0021]) comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to a corn event and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by insertion of the heterologous DNA of a corn event and does not hybridize to a corn event DNA (contacting a sample comprising corn DNA with a probe set which contains at least a first probe that specifically hybridizes to corn event MON95275 DNA and at least a second probe that specifically hybridizes to corn plant genomic DNA that was disrupted by insertion of the heterologous DNA of corn event MON95275 and does not hybridize to corn event MON95275 DNA; paragraph [0021]); and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for corn event, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for a corn event (hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a homozygous allele of corn event MON95275 DNA in the sample, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a heterozygous allele of corn event MON95275 in said sample; paragraph [0021]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising corn event ZM\_BCS216090 comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to corn event ZM\_BCS216090 and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by insertion of the heterologous DNA of corn event ZM\_BCS216090 and does not hybridize to corn event ZM\_BCS216090 DNA; and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for corn event ZM\_BCS216090, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose a method of determining the zygosity of a corn plant, corn plant part, or corn plant comprising a corn event comprising: a' contacting a sample comprising DNA from the corn plant, corn plant part, or corn plant with a probe set which contains at least a first probe that specifically hybridizes to a corn event and at least a second probe that specifically hybridizes to corn genomic DNA that was disrupted by

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insertion of the heterologous DNA of a corn event and does not hybridize to a corn event; and b' hybridizing the probe set with the sample under stringent hybridization conditions, wherein detecting hybridization of only the first probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant homozygous for a corn event, and wherein detecting hybridization of both the first probe and the second probe under the hybridization conditions is diagnostic for a corn plant, corn plant part, or corn plant heterozygous for a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 42 because the references of record fail to disclose all the elements.

Claim 43 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 42.

Claim 44 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest introducing corn event ZM\_BCS216090 into a corn plant.

Brown discloses a method of producing a corn plant having reduced plant height (Table 14 contains MON95275 marked plants which have a decreased plant height compared to negative controls; Page 23, Table 14) or increased lodging resistance comprising introducing a corn event into a corn plant (corn event MON95275 provided resistance to WCR when compared to the negative controls, based upon the RDR scale presented in Table 6, corn event MON95275 demonstrated resistance to WCR and only experienced damage that would be considered non-economic across all locations; paragraph [0155]). Brown does not disclose introducing corn event ZM\_BCS216090 into a corn plant.

Monsanto discloses comprising introducing a corn event into a corn plant (Plants of the invention may pass along the event MON 95379 DNA; paragraph [0100]). Monsanto does not disclose a method of producing a corn plant having reduced plant height or increased lodging resistance or introducing corn event ZM\_BCS216090 into a corn plant.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a method of producing a corn plant having reduced plant height or increased lodging resistance comprising introducing corn event ZM\_BCS216090 into a corn plant.

Monsanto, Brown, and Oil either alone or in combination fail to disclose introducing corn event ZM\_BCS216090 into a corn plant. While Monsanto and Brown disclose a method of producing a corn plant having reduced plant height or increased lodging resistance comprising introducing a corn event into a corn plant, they do not disclose introducing corn event ZM\_BCS216090 into a corn plant. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 44 because the references of record fail to disclose all the elements.

Claim 45 meets the criteria set out by the PCT Article 22 (2)-(3) because it does not teach or fairly suggest corn event ZM\_BCS216090.

Monsanto discloses a population of transgenic corn plants wherein each transgenic corn plant comprises a corn event (hundreds of corn cells were transformed with the construct used to generate event MON 95379, creating a population of transgenic plants; paragraph [0058]). Monsanto does not disclose corn event ZM\_BCS216090.

Brown discloses a population of transgenic corn plants, wherein each transgenic corn plant comprises a corn event (thousands of corn plant cells were transformed with the construct used to generate event MON95275, creating a population of transgenic plants; paragraph [0062]). Brown does not disclose corn event ZM\_BCS216090.

Oil discloses a method of developing transgenic corn (homozygous transgenic herbicide-resistant corn NK603; paragraph [0110]). Oil does not disclose a population of transgenic corn plants, wherein each transgenic corn plant comprises corn event ZM\_BCS216090.

Monsanto, Brown, and Oil either alone or in combination fail to disclose corn event ZM\_BCS216090. While Monsanto and Brown disclose discloses a population of transgenic corn plants wherein each transgenic corn plant comprises a corn event, they do not disclose corn event ZM\_BCS216090. Thus, it would not have been obvious to a person of ordinary skill in the art, at the time of invention, to have implemented the method of claim 45 because the references of record fail to disclose all the elements.

Claim 46 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 45.

Claim 47 meets the criteria set out in PCT Article 33(2)-(3), because it depends on positive claim 45 or 46.

Claims 1-3, 7, 8-10, 11, 12-17, 20, 24, 25-28, 29, and 30-47 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.