Title: CORN EVENT MIRI 62

Abstract: A novel transgenic corn event designated MIRI 62 is disclosed. The invention relates to nucleic acids that are unique to event MIRI 62 and to methods for detecting the presence of the MIRI 62 event based on DNA sequences of the recombinant constructs inserted into the corn genome that resulted in the MIRI 62 event and of genomic sequences flanking the insertion site. The invention further relates to corn plants comprising the transgenic genotype of MIRI 62 and to methods for producing a corn plant by crossing a corn plant comprising the MIRI 62 genotype with itself or another corn variety. Seeds of corn plants comprising the MIRI62 genotype are also objects of the present invention. The invention also relates to methods of controlling insects using MIRI 62 corn plants.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC: C12N 18/111(2006.01),15/32(2006.01);C12Q 1/68(2006.01)

USPC: 536/23.1, 23.71; 435/6

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 536/ 23.1, 23.71; 435/6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>WO 98/44137 (NOVARTIS-ERFINDUNGEN VERWALTUNGSGESELLSCHAFT MBH) 8 October 1998 (08.10.1998) See SEQ ID NO 6; last paragraph of pg 13 to paragraph 2 of pg 16; pg 46, paragraph 3, claims 1, 6, 13, 24, 26</td>
<td>1-6 and 27-28</td>
</tr>
</tbody>
</table>

I I Further documents are listed in the continuation of Box C.

See patent family annex.

I later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

& document member of the same patent family

Date of the actual completion of the international search
21 August 2008 (21.08.2008)

Date of mailing of this report
30 SEP 2008

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Form PCT/ISA/210 (second sheet) (April 2007)
## INTERNATIONAL SEARCH REPORT

### Box Na II  Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. **Claims Nos.:**
   - because they relate to subject matter not required to be searched by this Authority, namely:

2. **Claims Nos.:**
   - because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. **Claims Nos.:** 7, 32-37, 39
   - because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box Na in  Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Continuation Sheet

1. **As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.**
2. **As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.**
3. **As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:**

4. **No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:** 1-6, 27 and 28

**Remark on Protest**

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet(2)) (April 2007)
BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

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.

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.

Group I, claim(s) 1-6, 27-28, drawn to a nucleic acid comprising a nucleotide sequence unique to event MIRI 62 and a method of using it to detect the presence of event MIR 162.

Group II, claim(s) 9-26, 29-31, drawn to a pair of primers to amplify and amplicon diagnostic for event MIR162, and a method of using them to detect the presence of event MIR162.

Group IH, claim(s) 38, 40-45, drawn to corn seed of event MIR162, biological samples derived from it, and a method of crossing it.

Group IV, claim(s) 46-50, drawn to a method of crossing plants that comprise a nucleic acid.

Group V, claim(s) 51-55, drawn to an insecticidal protein, a nucleic acid encoding it and chimeric genes, vectors and host cells comprising the nucleic acid.

Group VI, claim(s) 56-61, drawn to a maize chromosomal target site.

The inventions listed as Groups I-VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking Groups I-V appears to be an insecticidal protein of SEQ ID NO:2.

Group VI does not share this technical feature. Thus, these groups are deemed to lack unity of invention because they are not so linked to form a single general inventive concept.

Further, the insecticidal protein of SEQ ID NO:2 is made obvious by the Vf3A(c) protein taught by ESTRUCH et al (2002, US Patent 6,429,360), which, like the insecticidal protein of SEQ ID NO:2 has a Met at amino acid 129.

Therefore, the technical feature linking the Groups is not special and the Groups are not so linked under PCR Rule 13.1.
Continuation of FIELDS SEARCHED Item 3:
USPAT, PGPUBS, EPO, JPO, DERWENT, sequence databases
SEQ ID NOs: 1 and 2; VIP3Aa?