

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT7537842

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
MARY BEATTY	12/06/2017
NICHOLAS DOANE CHILCOAT	12/06/2017
STEPHANE DESCHAMPS	12/06/2017
GREGORY D MAY	12/06/2017
GINA MARIE ZASTROW-HAYES	12/06/2017
RECEIVING PARTY DATA	
Name:	PIONEER HI-BRED INTERNATIONAL, INC.
Street Address:	7100 NW 62ND AVENUE
Internal Address:	PO BOX 1014
City:	JOHNSTON
State/Country:	IOWA
Postal Code:	50131-1014
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16494822
CORRESPONDENCE DATA	
Fax Number:	(515)535-6883
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
Phone:	5155350009
Email:	IPSUPPORT@CORTEVA.COM
Correspondent Name:	PIONEER HI-BRED INTERNATIONAL, INC.
Address Line 1:	7250 NW 62ND AVENUE
Address Line 2:	PO BOX 552
Address Line 4:	JOHNSTON, IOWA 50131-0552
ATTORNEY DOCKET NUMBER:	7409-US-PCT
NAME OF SUBMITTER:	JANAE LEHMAN BELL
SIGNATURE:	/janaelehmanbell/
DATE SIGNED:	09/14/2022

Total Attachments: 5

source=7409USPSP2_ExecutedAssignments#page1.tif

source=7409USPSP2_ExecutedAssignments#page2.tif

source=7409USPSP2_ExecutedAssignments#page3.tif

source=7409USPSP2_ExecutedAssignments#page4.tif

source=7409USPSP2_ExecutedAssignments#page5.tif

WORLDWIDE ASSIGNMENT

I, the undersigned MARY BEATTY, hereby declare that I am an inventor of an invention entitled METHODS OF IDENTIFYING AND CHARACTERIZING GENE EDITING VARIATIONS IN NUCLEIC ACIDS the subject matter of which is described in the application for patent (Attorney Docket No: 7409-US-PSP[2])

☐ declaration executed on _____
☒ United States Of America Patent Application Serial No. 62/511732, filed on May26 2017,
☐ PCT Application Serial No. _____ filed on _____
which claim(s) its earliest priority to Application Serial No. _____, filed on _____.

For valuable consideration, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing obligation of assignment to assignee, which is hereby acknowledged, I hereby:

I. Sell, assign, and transfer unto PIONEER HI-BRED INTERNATIONAL, INC., a corporation organized and existing under the laws of the State of Iowa in the United States of America and having its principal place of business at 7100 NW 62nd Avenue, P.O. Box 1014, Johnston, Iowa 50131-1014, herein referred to as the assignee, and to assignee's successors and assigns,

(A) the entire right, title, and interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industrial Property ("International Convention") and any other treaty or understanding for intellectual property for any and all member countries of the International Convention or other treaty or understanding, including rights in any and all provisional applications, (3) any and all of my inventions, whether joint or sole, disclosed in such aforesaid application(s) for Patent, and/or related to or arising out of such aforesaid application(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such Inventions in any country whatsoever, including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations-in-part, international and convention applications based in whole or in part upon such aforesaid application(s) for Patent and/or such Inventions, (5) any and all patents for any such Inventions in any country whatsoever, including any and all reexams, reissues and extensions of any patent based in whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions; (B) the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid International Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue or transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without this assignment;

II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurred,

(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting such Inventions or the rights described above, (B) to testify in any legal proceeding respecting such Inventions or the rights described above, the location of that testimony to be in the country in which I reside or in the nearest country in which such testimony is legal should my country of residence prohibit such testimony, (C) to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument, including petitions, specifications, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be requested by said assignee and (D) generally to do everything possible to aid said assignee, its successors, assigns, and legal representatives to obtain, maintain, defend and enforce patent protection for such Inventions and/or secure title to such Inventions with assignee;

III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned right is not pre-dated by any grant, license, or other right heretofore given by me to any party other than the assignee hereto;


IV. Agree that my grants and obligations herein shall also bind all of my heirs, executors, administrators, legal representatives, and assigns; and

V. Agree that an authorized representative of assignee is hereby granted the power to insert in this assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent office of any other country for recordation of this Assignment, including the power to insert on this assignment information regarding application number and filing date when known.

In Witness Whereof, I have executed this Worldwide Assignment on the date indicated by my hand and agree that this Worldwide Assignment shall be effective as of the earliest priority date for the aforesaid application(s) for Letters Patent.

MARY BEATTY

Name of Inventor 1


Signature of Inventor

12/6/17
Date

WORLDWIDE ASSIGNMENT

I, the undersigned NICHOLAS DOANE CHILCOAT, hereby declare that I am an inventor of an invention entitled METHODS OF IDENTIFYING AND CHARACTERIZING GENE EDITING VARIATIONS IN NUCLEIC ACIDS the subject matter of which is described in the application for patent (Attorney Docket No: 7409-US-PSP[2])

- ☐ declaration executed on _____
☒ United States Of America Patent Application Serial No. 62/511732, filed on May26 2017,
☐ PCT Application Serial No. _____ filed on _____
which claim(s) its earliest priority to Application Serial No. _____, filed on _____.

For valuable consideration, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing obligation of assignment to assignee, which is hereby acknowledged, I hereby:

I. Sell, assign, and transfer unto PIONEER HI-BRED INTERNATIONAL, INC., a corporation organized and existing under the laws of the State of Iowa in the United States of America and having its principal place of business at 7100 NW 62nd Avenue, P.O. Box 1014, Johnston, Iowa 50131-1014, herein referred to as the assignee, and to assignee's successors and assigns,

(A) the entire right, title, and interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industrial Property ("International Convention") and any other treaty or understanding for intellectual property for any and all member countries of the International Convention or other treaty or understanding, including rights in any and all provisional applications, (3) any and all of my inventions, whether joint or sole, disclosed in such aforesaid application(s) for Patent, and/or related to or arising out of such aforesaid application(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such Inventions in any country whatsoever, including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations-in-part, international and convention applications based in whole or in part upon such aforesaid application(s) for Patent and/or such Inventions, (5) any and all patents for any such Inventions in any country whatsoever, including any and all reexams, reissues and extensions of any patent based in whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions; (B) the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid International Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue or transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without this assignment;

II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurred,

(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting such Inventions or the rights described above, (B) to testify in any legal proceeding respecting such Inventions or the rights described above, the location of that testimony to be in the country in which I reside or in the nearest country in which such testimony is legal should my country of residence prohibit such testimony, (C) to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument, including petitions, specifications, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be requested by said assignee and (D) generally to do everything possible to aid said assignee, its successors, assigns, and legal representatives to obtain, maintain, defend and enforce patent protection for such Inventions and/or secure title to such Inventions with assignee;

III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned right is not pre-dated by any grant, license, or other right heretofore given by me to any party other than the assignee hereto;

IV. Agree that my grants and obligations herein shall also bind all of my heirs, executors, administrators, legal representatives, and assigns; and

V. Agree that an authorized representative of assignee is hereby granted the power to insert in this assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent office of any other country for recordation of this Assignment, including the power to insert on this assignment information regarding application number and filing date when known.

In Witness Whereof, I have executed this Worldwide Assignment on the date indicated by my hand and agree that this Worldwide Assignment shall be effective as of the earliest priority date for the aforesaid application(s) for Letters Patent.

NICHOLAS DOANE CHILCOAT

Name of Inventor 2

Nicholas Doane Chilcoat

Signature of Inventor

Dec 6, 2017

Date

WORLDWIDE ASSIGNMENT

I, the undersigned STEPHANE DESCHAMPS, hereby declare that I am an inventor of an invention entitled METHODS OF IDENTIFYING AND CHARACTERIZING GENE EDITING VARIATIONS IN NUCLEIC ACIDS the subject matter of which is described in the application for patent (Attorney Docket No: 7409-US-PSP121)

☐ declaration executed on _____
☒ United States Of America Patent Application Serial No. 62/511732, filed on May26 2017,
☐ PCT Application Serial No. _____ filed on _____
which claim(s) its earliest priority to Application Serial No. _____, filed on _____.

For valuable consideration, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing obligation of assignment to assignee, which is hereby acknowledged, I hereby:

I. Sell, assign, and transfer unto PIONEER HI-BRED INTERNATIONAL, INC., a corporation organized and existing under the laws of the State of Iowa in the United States of America and having its principal place of business at 7100 NW 62nd Avenue, P.O. Box 1014, Johnston, Iowa 50131-1014, herein referred to as the assignee, and to assignee's successors and assigns,

(A) the entire right, title, and interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industrial Property ("International Convention") and any other treaty or understanding for Intellectual property for any and all member countries of the International Convention or other treaty or understanding, including rights in any and all provisional applications, (3) any and all of my inventions, whether joint or sole, disclosed in such aforesaid application(s) for Patent, and/or related to or arising out of such aforesaid application(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such inventions in any country whatsoever, including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations-in-part, International and convention applications based in whole or in part upon such aforesaid application(s) for Patent and/or such inventions, (5) any and all patents for any such inventions in any country whatsoever, including any and all reexams, reissues and extensions of any patent based in whole or in part upon such aforesaid application(s) for Letters Patent and/or such inventions; (B) the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid International Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue or transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without this assignment;

II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurred,

(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting such inventions or the rights described above, (B) to testify in any legal proceeding respecting such inventions or the rights described above, the location of that testimony to be in the country in which I reside or in the nearest country in which such testimony is legal should my country of residence prohibit such testimony, (C) to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument, including petitions, specifications, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be requested by said assignee and (D) generally to do everything possible to aid said assignee, its successors, assigns, and legal representatives to obtain, maintain, defend and enforce patent protection for such inventions and/or secure title to such inventions with assignee;

III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned right is not pre-dated by any grant, license, or other right heretofore given by me to any party other than the assignee hereto;


IV. Agree that my grants and obligations herein shall also bind all of my heirs, executors, administrators, legal representatives, and assigns; and

V. Agree that an authorized representative of assignee is hereby granted the power to insert in this assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent office of any other country for recordation of this Assignment, including the power to insert on this assignment information regarding application number and filing date when known.

In Witness Whereof, I have executed this Worldwide Assignment on the date indicated by my hand and agree that this Worldwide Assignment shall be effective as of the earliest priority date for the aforesaid application(s) for Letters Patent.

STEPHANE DESCHAMPS

Name of Inventor 3


Signature of Inventor

12/6/2017
Date

WORLDWIDE ASSIGNMENT

I, the undersigned GREGORY D MAY, hereby declare that I am an inventor of an invention entitled METHODS OF IDENTIFYING AND CHARACTERIZING GENE EDITING VARIATIONS IN NUCLEIC ACIDS the subject matter of which is described in the application for patent (Attorney Docket No: 7409-US-PSP[2])

- ☐ declaration executed on _____
- ☒ United States Of America Patent Application Serial No. 62/511732, filed on May26 2017,
- ☐ PCT Application Serial No. _____ filed on _____
- which claim(s) its earliest priority to Application Serial No. _____, filed on _____.

For valuable consideration, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing obligation of assignment to assignee, which is hereby acknowledged, I hereby:

I. Sell, assign, and transfer unto PIONEER HI-BRED INTERNATIONAL, INC., a corporation organized and existing under the laws of the State of Iowa in the United States of America and having its principal place of business at 7100 NW 62nd Avenue, P.O. Box 1014, Johnston, Iowa 50131-1014, herein referred to as the assignee, and to assignee's successors and assigns,

(A) the entire right, title, and interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industrial Property ("International Convention") and any other treaty or understanding for intellectual property for any and all member countries of the International Convention or other treaty or understanding, including rights in any and all provisional applications, (3) any and all of my inventions, whether joint or sole, disclosed in such aforesaid application(s) for Patent, and/or related to or arising out of such aforesaid application(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such Inventions in any country whatsoever, including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations-in-part, international and convention applications based in whole or in part upon such aforesaid application(s) for Patent and/or such Inventions, (5) any and all patents for any such Inventions in any country whatsoever, including any and all reexams, reissues and extensions of any patent based in whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions; (B) the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid International Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue or transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without this assignment;

II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurred,

(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting such Inventions or the rights described above, (B) to testify in any legal proceeding respecting such Inventions or the rights described above, the location of that testimony to be in the country in which I reside or in the nearest country in which such testimony is legal should my country of residence prohibit such testimony, (C) to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument, including petitions, specifications, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be requested by said assignee and (D) generally to do everything possible to aid said assignee, its successors, assigns, and legal representatives to obtain, maintain, defend and enforce patent protection for such Inventions and/or secure title to such Inventions with assignee;

III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned right is not pre-dated by any grant, license, or other right heretofore given by me to any party other than the assignee hereto;

IV. Agree that my grants and obligations herein shall also bind all of my heirs, executors, administrators, legal representatives, and assigns; and

V. Agree that an authorized representative of assignee is hereby granted the power to insert in this assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent office of any other country for recordation of this Assignment, including the power to insert on this assignment information regarding application number and filing date when known.

In Witness Whereof, I have executed this Worldwide Assignment on the date indicated by my hand and agree that this Worldwide Assignment shall be effective as of the earliest priority date for the aforesaid application(s) for Letters Patent.

GREGORY D MAY

Name of Inventor 4


Signature of Inventor

12-6-2017
Date

WORLDWIDE ASSIGNMENT

I, the undersigned GINA MARIE ZASTROW-HAYES, hereby declare that I am an inventor of an invention entitled METHODS OF IDENTIFYING AND CHARACTERIZING GENE EDITING VARIATIONS IN NUCLEIC ACIDS the subject matter of which is described in the application for patent (Attorney Docket No: 7409-US-PSP[2])

- ☐ declaration executed on _____
☒ United States Of America Patent Application Serial No. 62/511732, filed on May26 2017,
☐ PCT Application Serial No. _____ filed on _____
which claim(s) its earliest priority to Application Serial No. _____, filed on _____.

For valuable consideration, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing obligation of assignment to assignee, which is hereby acknowledged, I hereby:

I. Sell, assign, and transfer unto PIONEER HI-BRED INTERNATIONAL, INC., a corporation organized and existing under the laws of the State of Iowa in the United States of America and having its principal place of business at 7100 NW 62nd Avenue, P.O. Box 1014, Johnston, Iowa 50131-1014, herein referred to as the assignee, and to assignee's successors and assigns,

(A) the entire right, title, and interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industrial Property ("International Convention") and any other treaty or understanding for intellectual property for any and all member countries of the International Convention or other treaty or understanding, including rights in any and all provisional applications, (3) any and all of my inventions, whether joint or sole, disclosed in such aforesaid application(s) for Patent, and/or related to or arising out of such aforesaid application(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such Inventions in any country whatsoever, including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations-in-part, international and convention applications based in whole or in part upon such aforesaid application(s) for Patent and/or such Inventions, (5) any and all patents for any such Inventions in any country whatsoever, including any and all reexams, reissues and extensions of any patent based in whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions; (B) the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid International Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue or transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without this assignment;

II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurred,

(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting such inventions or the rights described above, (B) to testify in any legal proceeding respecting such inventions or the rights described above, the location of that testimony to be in the country in which I reside or in the nearest country in which such testimony is legal should my country of residence prohibit such testimony, (C) to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument, including petitions, specifications, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be requested by said assignee and (D) generally to do everything possible to aid said assignee, its successors, assigns, and legal representatives to obtain, maintain, defend and enforce patent protection for such inventions and/or secure title to such inventions with assignee;

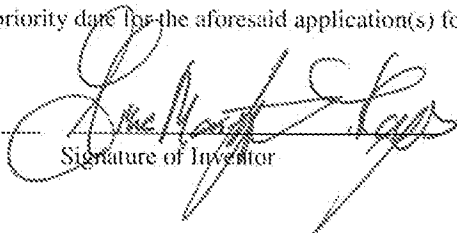
III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned right is not pre-dated by any grant, license, or other right heretofore given by me to any party other than the assignee hereto;

IV. Agree that my grants and obligations herein shall also bind all of my heirs, executors, administrators, legal representatives, and assigns; and

V. Agree that an authorized representative of assignee is hereby granted the power to insert in this assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent office of any other country for recordation of this Assignment, including the power to insert on this assignment information regarding application number and filing date when known.

In Witness Whereof, I have executed this Worldwide Assignment on the date indicated by my hand and agree that this Worldwide Assignment shall be effective as of the earliest priority date for the aforesaid application(s) for Letters Patent.

GINA MARIE ZASTROW-HAYES
Name of Inventor 5


Signature of Inventor

12.6.17
Date

PATENT

RECORDED: 09/14/2022

REEL: 061093 FRAME: 0458