506887156 09/24/2021

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6933976

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JENNIFER BARRY	05/12/2017
CATHERINE CLARK	11/02/2018
RYAN GERBER	05/12/2017
AMY LUM	05/11/2017
JOHN MATHIS	05/11/2017
AZALEA ONG	05/11/2017
BROOKE PETERSON-BURCH	05/15/2017
THOMAS C. WOLFE	05/15/2017
WEIPING XIE	05/11/2017
NASSER YALPANI	05/11/2017
XIAOHONG ZHONG	05/22/2017

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: 2

Property Type	Number
Application Number:	17483973
Application Number:	17483364

CORRESPONDENCE DATA

Fax Number: (515)535-6883

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.

Phone: 515-535-5859

Email: IPSUPPORT@CORTEVA.COM

Correspondent Name: PIONEER HI-BRED INTERNATIONAL, INC.

Address Line 1: 7250 NW 62ND AVENUE

PATENT

506887156 REEL: 057587 FRAME: 0617

Address Line 2: Address Line 4:		BOX 552 INSTON, IOWA 50131-0552		
ATTORNEY DOCKET NUM	BER:	6762-US-PCN AND PCN[2]		
NAME OF SUBMITTER:		JAY SHRESTHA		

/Jay Shrestha/

09/24/2021

Total Attachments: 11

SIGNATURE:

DATE SIGNED:

source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page1.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page2.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page3.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page4.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page5.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page6.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page7.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page8.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page9.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page10.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page10.tif source=6762USPSP_ExecutedAssignments 4846-7411-3962 v.2#page11.tif

WORLDWIDE ASSIGNMENT

WORLDWIDE ASSIGNMENT
I, the undersigned JENNIFER BARRY, hereby declare that I am an inventor of an invention entitled INSECTICIDAL PROTEINS FROM
PLANTS AND METHODS FOR THEIR USE the subject matter of which is described in the application for patent (Attorney Docket No:
<u>6762-US-PSP</u>)
declaration executed on
United States Patent Application Serial No. 62/357501, filed on July 1, 2016
PCT Application Serial No
which claim(s) its earliest priority to Application Serial No
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 lowa 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 partitions, considering and substance which may be
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.

JENNIFER BARRY Name of Inventor

<u>W</u>	<u>ORLDWIDE ASSIGI</u>	<u>IMENT</u>	
I, the undersigned <u>CATHERINE CLARK</u> , hereby declar PLANTS AND METHODS FOR THEIR USE the subject in			•
<u>6762-WO-PCT</u>)			
declaration executed on	<u></u>		
International Procedure Patent	Application Serial No.		filed on,
PCT Application Serial No. PCT/US17/3937	filed on	JUNE 27, 2017	
which claim(s) its earliest priority to Application Ser	ial No. 62/357501		, filed on JULY 1, 2016 .
For valuable consideration, the receipt and a	dequacy of which is	hereby acknowledged,	, and in fulfillment of my pre-existing
obligation of assignment to assignee, which is hereby	- ·	•	
I. Sell, assign, and transfer unto PIONEER HI-BRED IN			
State of Iowa in the United States of America and I			
Johnston, Iowa 50131-1014, herein referred to as the		-	- .
(A) the entire right, title, and interest in and to rights derived from such aforesaid application(s) for			
Property ("International Convention") and any oth	-		
countries of the International Convention or other t	-	-	
(3) any and all of my inventions, whether joint or	•		
arising out of such aforesaid application(s) for Patent			
in any country whatsoever, including all provisional,	non-provisional, divi	sional, renewal, substi	tute, continuation, continuations-in-
part, international and convention applications base	d in whole or in part	upon such aforesaid a	application(s) for Patent and/or such
Inventions, (5) any and all patents for any such Inve		-	- ·
extensions of any patent based in whole or in part u	•		· · · · · · · · · · · · · · · · · · ·
the entire right to (1) file such applications in its na	-	•	
Convention or any other treaty or understanding, (3			
and Trademarks of the United States of America and		•	-
transfer all of said patents to said assignee in accord and damages for any and all infringements thereof,			
said patents may be granted, as fully and entirely as	- · · · ·		
assignment;	the barne would not	e been neid and enjo	yea by the anacroighed without this
II. Agree, whenever assignee asks, without further co	mpensation but at a	ssignee's expense for a	actual and reasonable costs incurred,
(A) to communicate to said assignee, its success			
Inventions or the rights described above, (B) to tes	tify in any legal proc	eeding respecting suc	h Inventions or the rights described
above, the location of that testimony to be in the co	•		
should my country of residence prohibit such testime	** * *		· · · · · · · · · · · · · · · · · · ·
by said assignee, its successors, assigns and legal		•	· · · · · · · · · · · · · · · · · · ·
including petitions, specifications, oaths, assignme			•
requested by said assignee and (D) generally to d			
representatives to obtain, maintain, defend and enfo with assignee;	rce patent protection	i for such inventions a	na/or secure title to such inventions
With assignee, III. Represent, warrant and covenant that I have the	full right and lawful :	outhority to make this	assignment that such assigned right
is not pre-dated by any grant, license, or other right h	=		
IV. Agree that my grants and obligations herein sha			-
assigns; and	•	•	, , , ,
V. Agree that an authorized representative of ass	signee is hereby gra	nted the power to in	sert in this assignment any further
identification which may be necessary or desirable t			
office of any other country for recordation of this		ing the power to ins	ert on this assignment information
regarding application number and filing date when k	nown.		
In Witness Whereof, I have executed this Worldwid	-		-
Assignment shall be effective as of the earliest priorit	y date for the aforesai	d application(s) for Le	tters Patent.
	_	_	
	Catheins	Mark	11/2/10
CATHERINE CLARK	100000	<u> </u>	11/4/10
Name of Inventor 2	Signature of Inventor		Date

	WORLDWIDE ASS		
I, the undersigned RYAN GERBER,	hereby declare that I am an inver-	ntor of an invention entitled INSECTICIDAL PROTEINS FROM	
PLANTS AND METHODS FOR THEIR	USE the subject matter of which is	described in the application for patent (Attorney Docket No:	
6762-US-PSP)			
declaration executed on			
☐ United States Patent Appli	cation Serial No. <u>62/357501</u> , filed o	n July 1, 2016	
T PCT Application Serial No.			
PCT Application Serial No. which claim(s) its earliest priority to	Application Sprial No.	filed an	
with classified the barries fation in to	- Apprication operation see	is hereby acknowledged, and in fulfillment of my pre-existing	
obligation of assignment to assigne	e, which is hereby acknowledged, I l	reference	
I. Sell, assign, and transfer unto PIC	NEER HI-BRED INTERNATIONAL, IN	, a corporation organized and existing under the laws of the	
State of Iowa in the United States	of America and having its principa	place of business at 7100 NW 62nd Avenue, P.O. Box 1014,	
Johnston, Jawa 50131-1014, herein	referred to as the assignee, and to	assignee's successors and assigns,	
(A) the entire right, title, and i	nterest in and to: (1) the aforesaid	application(s) for Letters Patent ("Patent"), (2) any priority	
rights derived from such aforesald	application(s) for Patent by virtue o	the International Convention for the Protection of Industrial	
Property ("International Convention	n") and any other treaty or unde	rstanding for intellectual property for any and all member	
emerciae of the International Con-	ention or other treaty or understa	nding, including rights in any and all provisional applications,	
103	thushing faint or role dischard in	such aforesaid application(s) for Patent, and/or related to or	
(a) any and an or my inventions,	Amenier joint or sole, disclosed in	4) d. all acultications for Batant for any such inventions	
arising out of such aforesaid applica	ation(s) for Patent ("inventions),	4) any and all applications for Patent for any such inventions	
in any country whatsoever, includi	ng all provisional, non-provisional, o	livisional, renewal, substitute, continuation, continuations-in-	
part, international and convention	applications based in whole or in p	art upon such aforesaid application(s) for Patent and/or such	
Inventions, (5) any and all patents	for any such inventions in any cou	ntry whatsoever, including any and all reexams, reissues and	
extensions of any patent based in v	vhole or in part upon such aforesaid	application(s) for Letters Patent and/or such Inventions; (B)	
the entire right to (1) file such app	dications in its name or in my nam	e, (2) file such applications under the aforesaid International	
Convention or any other treaty or	understanding, (3) have said paten	ts granted in its name or mine, the Commissioner of Patents	
and Trademarks of the United State	es of America and any counterpart	n any other patent office being hereby authorized to issue or	
transfer all of earl nationts to said	essionee in accordance herewith, ar	d (4) enforce said patents and to sue for and recover profits	
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	my and entirely as the same woods	bac acell liche and culotes at the averagement of the	
assignment;			
II. Agree, whenever assignee asks,	without further compensation but a	t assignee's expense for actual and reasonable costs incurred,	
(A) to communicate to said as	signee, 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 p	roceeding respecting such inventions or the rights described	
above, the location of that testimo	ny to be in the country in which I re	side or in the nearest country in which such testimony is legal	
should my country of residence pro	shibit such testimony, (C) to execute	all applications, papers or instruments necessary or required	
hy said assignee, its successors, a	ssigns and legal representatives, t	carry into effect any of the provisions of this instrument,	
including netitions specifications	naths, assignments, disclaimers,	and lawful affidavits in form and substance which may be	
har agnossa his sale battanaa	Ot generally to do everything pos	sible to aid said assignee, its successors, assigns, and legal	
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with assignee;	and the second second second second second figure	the section of market this reciprocant that each reciprocal right	
III. Represent, warrant and covens	int that I have the init light and law	ful authority to make this assignment, that such assigned right	
is not pre-dated by any grant, licen	se, or other right heretolore given t	y me to any party other than the assignee hereto;	
IV. Agree that my grants and oblig	fations herein shall also bind all of i	ny heirs, executors, administrators, legal representatives, and	
assigns; and			
V. Agree that an authorized rep	resentative of assignee is hereby	granted the power to insert in this assignment any further	
identification which may be neces	sary or desirable to comply with th	e rules of the U.S. Patent and Trademark Office or the patent	
office of any other country for r	ecordation of this Assignment, in-	duding the power to insert on this assignment information	
regarding application number and			
In Witness Whereof, I have executed this Worldwide Assignment on the date indicated by my hand and agree that this Worldwide			
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RYAN GERBER	ryan own	<u> 3017- 5- 12 </u>	
Name of Inventor	Significant of Inventor	Date	
	Ψ.		

PATENT REEL: 057587 FRAME: 0621

	WORLDWIDE	ASSIGIVIVIEN I		
			titled <u>INSECTICIDAL PROTEINS FROM PLANTS</u>	
AND METHODS FOR THEIR USE the	subject matter of which is desc	cribed in the application	on for patent (Attorney Docket No: <u>6762-US-</u>	
PSP)				
declaration executed on				
☑ United States Patent Appl	lication Serial No. 62/357501, fi	iled on <u>July 1, 2016</u>		
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PCT Application Serial No. which claim(s) its earliest priority to	o Application Serial No.	, filed on	_	
			wledged, and in fulfillment of my pre-existing	
obligation of assignment to assigne			meages, and in ramination of my pre-emounts	
	•	•	organized and existing under the laws of the	
_ · · · · · · - · · · · · · · · · · · ·		•	ss at 7100 NW 62 nd Avenue, P.O. Box 1014,	
Johnston, Iowa 50131-1014, herein				
			or Letters Patent ("Patent"), (2) any priority	
=			al Convention for the Protection of Industrial	
			tellectual property for any and all member	
countries of the International Con-	vention or other treaty or unde	erstanding, including r	rights in any and all provisional applications,	
(3) any and all of my inventions,	whether joint or sole, disclosed	d in such aforesaid ap	oplication(s) for Patent, and/or related to or	
arising out of such aforesaid applic	ation(s) for Patent ("Inventions	s"), (4) any and all ap	oplications for Patent for any such Inventions	
in any country whatsoever, includi	ing all provisional, non-provisior	nal, divisional, renewa	l, substitute, continuation, continuations-in-	
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			including any and all reexams, reissues and	
		-	or Letters Patent and/or such Inventions; (B)	
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			id patents and to sue for and recover profits	
•			the full end of the term or terms for which	
	illy and entirely as the same wo	ould nave been neid a	and enjoyed by the undersigned without this	
assignment;				
			nse for actual and reasonable costs incurred,	
• •	-	-	ives, any facts known to me respecting such	
			ting such Inventions or the rights described	
above, the location of that testimo	my to be in the country in which	n I reside or in the nea	rest country in which such testimony is legal	
should my country of residence pro	ohibit such testimony, (C) to exe	ecute all applications,	papers or instruments necessary or required	
by sald assignee, its successors, a	assigns and legal representative	es, to carry into effec	ct any of the provisions of this instrument,	
including petitions, specifications,	, oaths, assignments, disclaime	ers, and lawful affida	vits in form and substance which may be	
- ,			assignee, Its successors, assigns, and legal	
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with assignee;	,			
	ant that I have the full right and	lawful authority to m	ake this assignment, that such assigned right	
is not pre-dated by any grant, licen				
			rs, administrators, legal representatives, and	
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assigns; and			and the format in this maximum and any fourth an	
			er 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 execut	ted this Worldwide Assignment	on the date indicated	I 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.				
	(2) N		1 /	
AMY LUM	Cerry D	-	5/11/1+	
Name of Inventor	Signature of Inventor		5/11/17 Date	

	WOKLDWIDE	E ASSIGNIVIEN I	
I, the undersigned JOHN MATH	IIS hereby declare that I am an	inventor of an invent	ion entitled INSECTICIDAL PROTEINS FROM
PLANTS AND METHODS FOR TH	<u>EIR USE</u> the subject matter of wh	nich is described in the	application for patent (Attorney Docket No:
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			r Letters Patent ("Patent"), (2) any priority
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			ights in any and all provisional applications,
	•		plication(s) for Patent, and/or related to or
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in any country whatsoever, inclu	iding all provisional, non-provisio	onal, divisional, renewa	l, substitute, continuation, continuations-in-
part, international and conventi-	on applications based in whole o	r in part upon such afc	presaid application(s) for Patent and/or such
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extensions of any patent based i	in whole or in part upon such afo	presaid application(s) fo	or Letters Patent and/or such Inventions; (B)
the entire right to (1) file such a	applications in its name or in my	name, (2) file such ap	plications under the aforesaid International
Convention or any other treaty	or understanding, (3) have said	patents granted in its r	name or mine, the Commissioner of Patents
and Trademarks of the United St	tates of America and any counter	rpart in any other pater	nt office being hereby authorized to issue or
			d patents and to sue for and recover profits
•			the full end of the term or terms for which
			nd enjoyed by the undersigned without this
assignment;			
	cs, without further compensation	but at assignee's expe	nse for actual and reasonable costs incurred,
		The state of the s	ives, any facts known to me respecting such
			ting such Inventions or the rights described
			rest country in which such testimony is legal
			papers or instruments necessary or required
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	ense, or other right heretofore gi		
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assigns; and			
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JOHN MATHIS			5////7
Name of Inventor	Signature of Inventor	***************************************	Date
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			tion entitled <u>INSECTICIDAL PROTEINS FROM</u>
PLANTS AND METHODS FOR THEIR US	<u>SE</u> the subject matter of which	h is described in the	application for patent (Attorney Docket No:
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declaration executed on			
United States Patent Applicati			
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which claim(s) its earliest priority to Ap	oplication Serial No	, filed on _	
			wledged, and in fulfillment of my pre-existing
obligation of assignment to assignee, w			
	-	•	organized and existing under the laws of the
State of lowa in the United States of	America and having its princ	cipal place of busine	ss at 7100 NW 62 nd Avenue, P.O. Box 1014,
Johnston, Iowa 50131-1014, herein refe	ferred to as the assignee, and	to assignee's success	sors and assigns,
(A) the entire right, title, and inte	erest in and to: (1) the afores	said application(s) fo	or Letters Patent ("Patent"), (2) any priority
rights derived from such aforesaid app	olication(s) for Patent by virtu	e of the Internation	al Convention for the Protection of Industrial
Property ("International Convention")) and any other treaty or u	nderstanding for int	tellectual property for any and all member
countries of the International Convent	tion or other treaty or under	standing, including i	rights in any and all provisional applications,
(3) any and all of my inventions, whe	ether joint or sole, disclosed	in such aforesaid ap	oplication(s) for Patent, and/or related to or
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			including any and all reexams, reissues and
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		• -	oplications under the aforesaid International
			name or mine, the Commissioner of Patents
•		_	nt office being hereby authorized to issue or
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	•		and enjoyed by the undersigned without this
assignment;	•		, ,
-	hout further compensation by	ut at assignee's expe	nse for actual and reasonable costs incurred,
<u> </u>			ives, any facts known to me respecting such
			ting such Inventions or the rights described
			rest country in which such testimony is legal
·	-		papers or instruments necessary or required
• •	** * *	* *	ct any of the provisions of this instrument,
•			vits in form and substance which may be
= · · · · · · · · · · · · · · · · · · ·		•	assignee, its successors, assigns, and legal
•	The state of the s		entions and/or secure title to such Inventions
with assignee;			
	that I have the full right and I	awful authority to m	ake this assignment, that such assigned right
is not pre-dated by any grant, license, o	_		
			rs, administrators, legal representatives, and
assigns; and		,, c	io, administratore, regar representatives, ena
-	entative of assignee is here!	ov granted the now	er to insert in this assignment any further
•	_		. Patent and Trademark Office or the patent
	• -		r to insert on this assignment information
regarding application number and filing		moraum and powe	to modify on the assignment information
	=	on the date indicated	I by my hand and agree that this Worldwide
Assignment shall be effective as of the	·		
Assignment stidii be effective as of the	earnest priority date for the a	aroresain ahhiiration	(3) TO LECCETS FACETIC
	// / _		-1
AZALEA ONG 9	HWY)		5/11/17
	nature of Inventor		Date
106			

		E ASSIGNMENT	
I, the undersigned BROOKE PET	ERSON-BURCH, hereby decla	ire that I am an inve	ntor of an invention entitled INSECTICIDAL
PROTEINS FROM PLANTS AND M	ETHODS FOR THEIR USE the	subject matter of which	ch is described in the application for patent
(Attorney Docket No: 6762-US-PS	<u>P</u>)		
declaration executed on			
	lication Serial No. <u>62/357501,</u>		
PCT Application Serial No	•	filed on	
which claim(s) its earliest priority			
			wledged, and in fulfillment of my pre-existing
obligation of assignment to assign			
			organized and existing under the laws of the
			ess at 7100 NW 62 nd Avenue, P.O. Box 1014,
Johnston, Iowa 50131-1014, herei			
			or Letters Patent ("Patent"), (2) any priority
			al Convention for the Protection of Industrial
			tellectual property for any and all member
			rights in any and all provisional applications,
			oplication(s) for Patent, and/or related to or
			oplications for Patent for any such Inventions
			al, substitute, continuation, continuations-in- oresaid application(s) for Patent and/or such
•	• •	•	, including any and all reexams, reissues and
			or Letters Patent and/or such Inventions; (B)
			oplications under the aforesaid International
=	-		name or mine, the Commissioner of Patents
			ent office being hereby authorized to issue or
	•		id patents and to sue for and recover profits
	=		the full end of the term or terms for which
			and enjoyed by the undersigned without this
assignment;	,		
•	without further compensation	n but at assignee's expe	nse for actual and reasonable costs incurred,
			lves, any facts known to me respecting such
			ting such Inventions or the rights described
			arest country in which such testimony is legal
should my country of residence pr	ohlbit such testimony, (C) to e	xecute all applications,	papers or instruments necessary or required
by said assignee, its successors,	assigns and legal representati	ves, to carry into effe	ct any of the provisions of this instrument,
including petitions, specifications	, oaths, assignments, disclain	ners, and lawful affida	wits in form and substance which may be
requested by said assignee and	(D) generally to do everythin	g possible to aid said	assignee, its successors, assigns, and legal
representatives to obtain, maintai	n, defend and enforce patent	protection for such inve	entions and/or secure title to such inventions
with assignee;	•		
III. Represent, warrant and covers	ant that I have the full right an	d lawful authority to m	ake this assignment, that such assigned right
is not pre-dated by any grant, licer			
IV. Agree that my grants and obli	gations herein shall also bind a	all of my heirs, executo	rs, administrators, legal representatives, and
assigns; and			
			er to insert in this assignment any further
•	•		. Patent and Trademark Office or the patent
•	-	nt, including the powe	er to insert on this assignment information
regarding application number and			
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.			
	$a / \Delta / \lambda$	(/)	
	Brench 7 11/1	SALL K. M	5/17/2017
BROOKE PETERSON-BURCH	V V I - 1 / 1 / V V		5/15/2017
Name of Inventor	Signature of Inventor		Date

REEL: 057587 FRAME: 0625

<u>WORLDWIDE ASSIGNMENT</u>
I, the undersigned THOMAS C. WOLFE, hereby declare that I am an inventor of an invention entitled INSECTICIDAL PROTEINS FROM
PLANTS AND METHODS FOR THEIR USE the subject matter of which is described in the application for patent (Attorney Docket No:
<u>6762-U5-PSP</u>)
declaration executed on United States Patent Application Serial No. 62/357501, filed on July 1, 2016
United States Patent Application Serial No. 62/357501, filed on July 1, 2016
PCT Application Serial No
PCT Application Serial No
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:
1. 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, Jowa 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.
- The state of the
THOMAS C. WOLFE 1/5/17

Signature of Inventor

Name of Inventor

PATENT REEL: 057587 FRAME: 0626

Date

WORLDWIDE ASSIGNMENT I, the undersigned WEIPING XIE, hereby declare that I am an inventor of an invention entitled INSECTICIDAL PROTEINS FROM

PLANTS AND METHODS FOR THEIR USE the subject matter of which is described in the application for patent (Attorney Docket No:

declaration executed on	
United States Patent Application Serial No. 62/357501, filed on July 1, 2016 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-exist	ing
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 10	14,
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 prio	rity
rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Indust	rial
Property ("International Convention") and any other treaty or understanding for intellectual property for any and all mem	ber
countries of the International Convention or other treaty or understanding, including rights in any and all provisional application	ns,
(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	ons
in any country whatsoever, including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations	
part, international and convention applications based in whole or in part upon such aforesald application(s) for Patent and/or si	uch
Inventions, (5) any and all patents for any such Inventions in any country whatsoever, including any and all reexams, reissues a	
extensions of any patent based in whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions;	
the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid Internation	
Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Pate	nts
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 pro	fits
and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for wh	ich
said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without	his
assignment;	
II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurr	ed,
(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting su	ıch
Inventions or the rights described above, (B) to testify in any legal proceeding respecting such inventions or the rights describ	
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 le	

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;

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

- 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.

WEIPING XIE
Name of Inventor

Signature of Inventor

5/11/2017 Date

	WORLDWID	<u> E ASSIGNMENT</u>	
			tion entitled INSECTICIDAL PROTEINS FROM
PLANTS AND METHODS FOR THEIR	<u>USE</u> the subject matter of w	hich is described in the	application for patent (Attorney Docket No:
<u>6762-US-PSP</u> }			
declaration executed on			
	ication Serial No. <u>62/357501,</u>		
PCT Application Serial No. which claim(s) its earliest priority to		filed on	/
which claim(s) its earliest priority to	3 Application Serial No	, filed on _	
			vledged, and in fulfillment of my pre-existing
obligation of assignment to assigne	·		
			organized and existing under the laws of the ss at 7100 NW 62 nd Avenue, P.O. Box 1014,
Johnston, Iowa 50131-1014, herein			
			r Letters Patent ("Patent"), (2) any priority
			al Convention for the Protection of Industrial
			ellectual property for any and all member
			ights in any and all provisional applications,
	the state of the s		plication(s) for Patent, and/or related to or
			plications for Patent for any such Inventions
			I, substitute, continuation, continuations-in-
			presaid application(s) for Patent and/or such
-7'			including any and all reexams, reissues and
			or Letters Patent and/or such Inventions; (B)
	*.		plications under the aforesaid International
			name or mine, the Commissioner of Patents
			nt office being hereby authorized to issue or
			d patents and to sue for and recover profits
			the full end of the term or terms for which
			nd enjoyed by the undersigned without this
assignment;			
•	without further compensation	n but at assignee's expe	nse for actual and reasonable costs incurred,
			ves, any facts known to me respecting such
			ting such inventions or the rights described
			rest country in which such testimony is legal
			papers or instruments necessary or required
			et any of the provisions of this instrument,
			vits in form and substance which may be
			assignee, its successors, assigns, and legal
			ntions and/or secure title to such inventions
with assignee;		•	
-	int that I have the full right a	nd lawful authority to m	ake this assignment, that such assigned right
is not pre-dated by any grant, licen			
			rs, administrators, legal representatives, and
assigns; and			
T 1	resentative of assignee is h	ereby granted the pow	er to insert in this assignment any further
			. Patent and Trademark Office or the patent
			r to insert on this assignment information
regarding application number and	filing date when known.		
		nt on the date indicated	by my hand and agree that this Worldwide
Assignment shall be effective as of			
ELECTION AND ADDRESS OF THE SECOND	-11 (N)	May	Automa.
NASSER YALPANI	<u> </u>		5/4/2017
Name of Inventor	Signature of Inventor	•	Date

> **PATENT REEL: 057587 FRAME: 0628**

		WORLDWIDE AS	<u>SSIGNMENT</u>			
I, the ur	dersigned XIAOHONG ZHO	<u>ONG</u> , hereby declare that I am an i	inventor of an inver	ntion entitled <u>INSECTICIDAL PROTEINS FROM</u>		
PLANTS	AND METHODS FOR THEIR	R USE the subject matter of which	is described in the	application for patent (Attorney Docket No:		
6762-U	5-PSP)					
	declaration executed on					
\boxtimes		lication Serial No. 62/357501, filed	d on July 1, 2016			
Ħ		•		,		
	alm(s) its earliest priority t	o Application Serial No.	filed on			
				wledged, and in fulfillment of my pre-existing		
obligatio		ee, which is hereby acknowledged,		area goar, and in ramining		
				organized and existing under the laws of the		
				ss at 7100 NW 62 nd Avenue, P.O. Box 1014,		
		n referred to as the assignee, and to	•			
				or Letters Patent ("Patent"), (2) any priority		
				al Convention for the Protection of Industrial		
_		• •				
-			_	tellectual property for any and all member		
		•		rights in any and all provisional applications,		
			·	oplication(s) for Patent, and/or related to or		
				oplications for Patent for any such Inventions		
-	-			al, substitute, continuation, continuations-in-		
		* -	•	oresaid application(s) for Patent and/or such		
				, including any and all reexams, reissues and		
				or Letters Patent and/or such Inventions; (B)		
	_ ,,	•		oplications under the aforesaid International		
				name or mine, the Commissioner of Patents		
				nt office being hereby authorized to issue or		
				id patents and to sue for and recover profits		
				the full end of the term or terms for which		
said pat	ents may be granted, as fu	ally and entirely as the same would	d have been held a	and enjoyed by the undersigned without this		
assignm	ent;	•				
II. Agre	e, whenever assignee asks,	without further compensation but	t at assignee's expe	nse for actual and reasonable costs incurred,		
(A)	to communicate to said as	ssignee, its successors, assigns, and	d legal representati	ives, any facts known to me respecting such		
Inventio	ns or the rights described	above, (B) to testify in any legal	proceeding respec	ting such inventions or the rights described		
above, t	he location of that testimo	ony to be in the country in which I	reside or in the nea	arest country in which such testimony is legal		
should i	ny country of residence pro	ohibit such testimony, (C) to execu	ite all applications,	papers or instruments necessary or required		
				ct any of the provisions of this instrument,		
includin	g petitions, specifications,	, oaths, assignments, disclaimers,	, and lawful affida	ivits in form and substance which may be		
request	ed by said assignee and ((D) generally to do everything po	ossible to aid said	assignee, its successors, assigns, and legal		
				entions and/or secure title to such inventions		
with ass		•		·		
	_	ant that I have the full right and lay	wful authority to ma	ake this assignment, that such assigned right		
•		ise, or other right heretofore given	•			
-		· · · · · · · · · · · · · · · · · · ·		rs, administrators, legal representatives, and		
assigns;		,	,,			
		resentative of assignee is hereby	granted the now	er 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 aforesald application(s) for Letters Patent.						
Assignm	ent snall be effective as of	the earliest priority date for the af	oresaid application	(s) for Letters Patent.		
		A f		-		
		1 12-1-1		5/22/2017		
	NG ZHONG		_	-		
Name o	f Inventor	Signature of Inventor		Date !		
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PATENT REEL: 057587 FRAME: 0629

RECORDED: 09/24/2021