505589730 07/25/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5636530

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MARTIN ARBELBIDE	05/07/2019
EDWIN MICHAEL GROTE	05/08/2019
CHRISTOPHER MICHAEL SCHAEFER	05/07/2019
MATTHEW DAVID WALCH	05/08/2019
JULIA XIULING ZHANG	05/15/2019

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:	16509872

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

Address Line 2: PO BOX 552

Address Line 4: JOHNSTON, IOWA 50131-0552

ATTORNEY DOCKET NUMBER:	7988-US-NP
NAME OF SUBMITTER:	LYNDA M. FITZPATRICK
SIGNATURE:	/lmfitzpatrick/
DATE SIGNED:	07/25/2019

Total Attachments: 5 source=7988USNP_X90N362_ExecutedAssignments#page1.tif source=7988USNP_X90N362_ExecutedAssignments#page2.tif source=7988USNP_X90N362_ExecutedAssignments#page3.tif source=7988USNP_X90N362_ExecutedAssignments#page4.tif source=7988USNP_X90N362_ExecutedAssignments#page5.tif

WORLDWIDE ASSIGNMENT

and the second second	AAOUTDANIDE WOOLGAINIEM	
I, the undersigned MARTIN ARBELBIDE, her	reby declare that I am an inventor of an invi	ention entitled MAIZE HYBRID X90N362 the
	pplication for patent (Attorney Docket No: 7	'988-US-NP)
declaration executed on	1/01 1,2019	
United States Of America	Patent Application Serial No.	, filed on,
PCT Application Serial No.	filed on	
which claim(s) its earliest priority to Applic		, filed on
For valuable consideration, the rece	eipt and adequacy of which is hereby acknow	rledged, and in fulfillment of my pre-existing
obligation of assignment to assignee, which i	IS REFERY BEKNOWIEGEED, I NEFERY:	and and the second seco
State of Imus in the United States of Ameri	BRED INTERNATIONAL, INC., a corporation of ica and having its principal place of busines	organized and existing under the laws of the
Johnston, Jowa 50131-1014, herein referred	to as the assignee, and to assignee's success	s at 7100 MW 62" Avenue, P.O. Box 1014,
(A) the entire right, title, and interest in	n and to: (1) the aforesaid application(s) for	r Letters Datent ("Datent") (7) and princite
rights derived from such aforesaid application	on(s) for Patent by virtue of the Internationa	Convention for the Protection of Industrial
Property ("International Convention") and	any other treaty or understanding for inte	ellectual property for any and all member
countries of the International Convention o	r other treaty or understanding, including ri	ights in any and all provisional applications.
(3) any and all of my inventions, whether j	joint or sole, disclosed in such aforesaid ap-	plication(s) for Patent, and/or related to or
arising out of such aforesaid application(s) for	or Patent ("inventions"), (4) any and all app	plications for Patent for any such Inventions
in any country whatsoever, including all pro	visional, non-provisional, divisional, renewal	l, substitute, continuation, continuations-in-
part, international and convention application	ons based in whole or in part upon such afo	resaid application(s) for Patent and/or such
evidentions, (b) lany and all patents for any s	such inventions in any country whatsoever,	including any and all reexams, reissues and
the entire right to (1) file such applications	in part upon such aforesaid application(s) for in its name or in my name, (2) file such ap	r Letters Patent and/or such inventions; (8)
Convention or any other treaty or understa	nding, (3) have said patents granted in its n	pircations under the dioresaid international
and Trademarks of the United States of Ame	erica and any counterpart in any other pater	of office being hereby authorized to issue or
transfer all of said patents to said assignee i	n accordance herewith, and (4) enforce said	d patents and to sue for and recover profits
and damages for any and all infringements t	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 er	ntirely as the same would have been held ar	nd enjoyed by the undersigned without this
assignment;		
 Agree, whenever assignee asks, without fi 	urther compensation but at assignee's expen	ise for actual and reasonable costs incurred,
(A) to communicate to said assignee, its	s successors, assigns, and legal representative	ves, any facts known to me respecting such
shove the location of that testimony to be	3) to testify in any legal proceeding respect	ing such inventions or the rights described
should my country of recidence archibit such	n the country in which I reside or in the near h testimony, (C) to execute all applications, p	est country in which such testimony is legal
by said assignee, its surressors, assigns an	d legal representatives, to carry into effect	papers or instruments necessary or required
ncluding petitions, specifications, paths, a	ssignments, disclaimers, and lawful affiday	its in form and substance which may be
requested by said assignee and (D) genera	ally to do everything possible to aid said	assigned its sucressors assigns and local
epresentatives to obtain, maintain, defend	and enforce patent protection for such Inver	ntions and/or secure title to such inventions
with assignee;		
 Represent, warrant and covenant that I is 	nave the full right and lawful authority to ma	ke this assignment, that such assigned right
s not pre-dated by any grant, license, or othe	er right heretofore given by me to any party :	other than the assignee hereto:
V. Agree that my grants and obligations he	rein shall also bind all of my heirs, executors	s, administrators, legal representatives, and
assigns; and	an ale and an arrangement of the contract of t	and the second of the second o
destification which may be necessary or de	e of assignee is hereby granted the powe sirable to comply with the rules of the U.S.	if to insert in this assignment any further
office of any other country for recordation	of this Assignment, including the power	ratent and trademark Unice or the patent
egarding application number and filing date	when known.	to unsert on this assignment unoutification
	orldwide Assignment on the date indicated	hu mu hand and acres that this Windowide
Assignment shall be effective as of the earlie:	st priority date for the aforesaid application(s	c) for letters Patent
	and the second of the second o	- A contract company and the Appropriate that
	1 11 1 1 1 1 1	
MARTIN ARBELBIDE	Signature of Inventor	<u>11077,20</u> 19 Date
Name of Inventor 1	Signature of Inventor	Date

	WORLDWIDE ASSIGNMENT	
I, the undersigned EDWIN MICHAEL GF	<u>IOTE</u> , hereby declare that I am an inventor o	f an invention entitled MAIZE HYBRID X90N362
	in the application for patent (Attorney Docke	t No: <u>7988-US-NP</u>)
declaration executed on	May 8 2019	
United States Of America	Patent Application Serial No.	, filed on ,
PCT Application Serial No.	filed on	
which claim(s) its earliest priority to A	pplication Serial No.	, filed on .
For valuable consideration, the	receipt and adequacy of which is hereby acki	nowledged, and in fulfillment of my pre-existing
obligation of assignment to assignee, wh	nich is hereby acknowledged, I hereby:	
I. Sell, assign, and transfer unto PIONEE	R HI-BRED INTERNATIONAL, INC., a corporation	on organized and existing under the laws of the
State of Iowa in the United States of A	merica and having its principal place of busi	ness at 7100 NW 62 nd Avenue, P.O. Box 1014,
Johnston, Iowa 50131-1014, herein refe	rred to as the assignee, and to assignee's succ	essors and assigns,
(A) the entire right, title, and inter	est in and to: (1) the aforesaid application(s)	for Letters Patent ("Patent"), (2) any priority
Property ("International Convention")	and any other treety or and antended in	onal Convention for the Protection of Industrial
Countries of the International Convention	and any other treaty or understanding for	intellectual property for any and all member
(3) any and all of my inventions what	her joint or sole, disclosed in such aforesaid	ng rights in any and all provisional applications, application(s) for Patent, and/or related to or
arising out of such aforesaid application	(s) for Patent ("Inventions") (A) any and all	application(s) for Patent, and/or related to or applications for Patent for any such Inventions
in any country whatsoever, including al	nrovisional non-provisional divisional range	wal, substitute, continuation, continuations-in-
part, international and convention appl	ications 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 whatsoey	er, 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 applicat	ions in its name or in my name, (2) file such	applications under the aforesaid International
Convention or any other treaty or unde	erstanding, (3) have said patents granted in it	ts name or mine, the Commissioner of Patents
and Trademarks of the United States of	America and any counterpart in any other pa	atent office being hereby authorized to issue or
transter all of said patents to said assign	nee in accordance herewith, and (4) enforce	said patents and to sue for and recover profits
and damages for any and all infringeme	ents thereof, whether past, present or future,	, to the full end of the term or terms for which
said patents may be granted, as fully ar	nd entirely as the same would have been held	d and enjoyed by the undersigned without this
assignment;		
Agree, whenever assignee asks, with	out further compensation but at assignee's ex	pense for actual and reasonable costs incurred,
(A) to communicate to said assigned	e, its successors, assigns, and legal represent	tatives, any facts known to me respecting such
shove the location of that testimony to	e, (B) to testify in any legal proceeding resp	pecting such Inventions or the rights described
should my country of residence probibit	be in the country in which I reside or in the r	nearest country in which such testimony is legal
by said assignee its successors assign	s and legal representatives, to early into of	ns, papers or instruments necessary or required ffect any of the provisions of this instrument,
including petitions, specifications, path	s and legal representatives, to carry into el	idavits in form and substance which may be
requested by said assignee and (D) ge	enerally to do everything possible to aid sa	id assignee, its successors, assigns, and legal
representatives to obtain, maintain, def	end and enforce patent protection for such Ir	nventions and/or secure title to such Inventions
with assignee;	The second procession for Such II	iventions and or secure title to such inventions
III. Represent, warrant and covenant th	at 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 pa	rty other than the assignee hereto:
IV. Agree that my grants and obligation	is herein shall also bind all of my heirs, execu	itors, administrators, legal representatives, and
assigns; and		
V. Agree that an authorized represer	tative of assignee is hereby granted the po	ower to insert in this assignment any further
identification which may be necessary of	or desirable to comply with the rules of the L	J.S. Patent and Trademark Office or the patent
office of any other country for record	ation of this Assignment, including the po	wer to insert on this assignment information
regarding application number and filing		
In Witness Whereof, I have executed the	is Worldwide Assignment on the date indica	ted by my hand and agree that this Worldwide
Assignment shall be effective as of the e	arliest priority date for the aforesaid applicatio	n(s) for Letters Patent.
	- 7	
	11 -111.	$\rightarrow m$
EDWIN MICHAEL GROTE		May 8, 2019
Name of Inventor 2	Signature of Inventor	Date

	WORLDWIDE ASSIGNMENT	
		inventor of an invention entitled MAIZE HYBRID
X90N362 the subject matter of which is des	scribed in the application for patent (Attor	ney Docket No: <u>7988-US-NP</u>)
\boxtimes declaration executed on $_$	17/19	
United States Of America	Patent Application Serial No.	, filed on
PCT Application Serial No.	filed on	
which claim(s) its earliest priority to Appli		, filed on .
	· · · · · · · · · · · · · · · · · · ·	knowledged, and in fulfillment of my pre-existing
obligation of assignment to assignee, which		and meaged, and miramment of my pre-existing
	- · · · · · · · · · · · · · · · · · · ·	ion organized and existing under the laws of the
		siness at 7100 NW 62 nd Avenue, P.O. Box 1014,
Johnston, Iowa 50131-1014, herein referred	d to as the assignee, and to assignee's suc	cessors and assigns,
		s) for Letters Patent ("Patent"), (2) any priority
rights derived from such aforesaid applicat	ion(s) for Patent by virtue of the Internati	ional Convention for the Protection of Industrial
Property ("International Convention") and	I any other treaty or understanding for	intellectual property for any and all member
		ng rights in any and all provisional applications,
		application(s) for Patent, and/or related to or
arising out of such aforesaid application(s)	for Patent ("Inventions"), (4) any and al	I applications for Patent for any such Inventions
in any country whatsoever, including all pr	ovisional, non-provisional, divisional, rene	ewal, substitute, continuation, continuations-in-
part, international and convention applicat	ions 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 whatsoev	ver, including any and all reexams, reissues and
		s) for Letters Patent and/or such Inventions; (B)
the entire right to (1) file such applications	s in its name or in my name, (2) file such	n applications under the aforesaid International
Convention or any other treaty or underst	anding, (3) have said patents granted in i	its name or mine, the Commissioner of Patents
		atent office being hereby authorized to issue or
		e said patents and to sue for and recover profits
		e, to the full end of the term or terms for which
	entirely as the same would have been hel	ld and enjoyed by the undersigned without this
assignment;	<i>'</i>	
		xpense for actual and reasonable costs incurred,
		tatives, any facts known to me respecting such
		pecting such Inventions or the rights described
		nearest country in which such testimony is legal
		ns, papers or instruments necessary or required
	- •	ffect any of the provisions of this instrument,
		fidavits in form and substance which may be
		aid assignee, its successors, assigns, and legal
	and enforce patent protection for such li	nventions and/or secure title to such Inventions
with assignee;		
		make this assignment, that such assigned right
is not pre-dated by any grant, license, or oth		
assigns; and	erein shall also bind all of my heirs, exect	utors, administrators, legal representatives, and
-	ive of pecianos is horoby granted the m	array to insort in this parley would any fruth a
		ower to insert in this assignment any further U.S. Patent and Trademark Office or the patent
		o.s. ratent and Trademark Office of the patent ower to insert on this assignment information
regarding application number and filing date		wer to insert on this assignment information
		. 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		ated by my hand and agree that this Worldwide
Assignment shall be effective as of the earlie	est priority date for the aforesaid application	on(s) for Letters Patent.
CIDICEODIED MCILLEY	,	
CHRISTOPHER MICHAEL		5/2/10
SCHAEFER		7/1/1

Signature of Inventor

Name of Inventor 3

WORLDWIDE ASSIGNMENT
I, the undersigned MATTHEW DAVID WALCH, hereby declare that I am an inventor of an invention entitled MAIZE HYBRID X90N363
the subject matter of which is described in the application for patent (Attorney Docket No: 7988-US-NP)
\boxtimes declaration executed on $5/8/2019$
United States Of America Patent Application Serial No. , filed on ,
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 62 nd 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 priorit
rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industria
Property ("International Convention") and any other treaty or understanding for intellectual property for any and all membe
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 o
arising out of such aforesaid application(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such Invention
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 sucl
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 Internationa
Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patent
and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue o
transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profit
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 thi
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 sucl
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 lega
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 lega
representatives to obtain, maintain, defend and enforce patent protection for such inventions and/or secure title to such invention
with assignee;
with assignee, III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned righ
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 furthe
identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the paten
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.
Assignment shan be effective as of the earnest priority date for the aforesaid application(s) for Letters Fatent.
$\mathcal{A}_{\mathcal{A}}$, $\mathcal{A}_{\mathcal{A}}$, $\mathcal{A}_{\mathcal{A}}$
MATTHEW DAVID WALCH MALL 5/8/2019
MATTHEW DAVID WALCH VIMING VIMING S/8/1019

Signature of Inventor

Name of Inventor 4

PATENT REEL: 049861 FRAME: 0885

Date

WORLDWIDE ASSIGNMENT

	VICILE WILL ASSIGNMENT		
	·	n invention entitled <u>MAIZE HYBRID X90N362</u> t	he
subject matter of which is described in the ap	plication for patent (Attorney Docket N	lo: <u>7988-US-NP</u>)	
declaration executed on	2/15/2019		
United States Of America	Patent Application Serial No	, filed on,	
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which claim(s) its earliest priority to Applicat		, filed on	
		knowledged, and in fulfillment of my pre-existi	ng
obligation of assignment to assignee, which is			
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		siness at 7100 NW 62 nd Avenue, P.O. Box 101	.4,
Johnston, Iowa 50131-1014, herein referred to			٠ ـ
		s) for Letters Patent ("Patent"), (2) any prior ional Convention for the Protection of Industr	
		r intellectual property for any and all memb	
		ng rights in any and all provisional application	
		d application(s) for Patent, and/or related to	
		Il applications for Patent for any such Inventio	
		ewal, substitute, continuation, continuations-i	
part, international and convention application	is based in whole or in part upon such	n aforesaid application(s) for Patent and/or su	ch
	· · · · · · · · · · · · · · · · · · ·	ver, including any and all reexams, reissues a	
		s) for Letters Patent and/or such Inventions; (
		h applications under the aforesaid Internation	
		its name or mine, the Commissioner of Pater	
		patent office being hereby authorized to issue e said patents and to sue for and recover prof	
		e, to the full end of the term or terms for whi	
		eld and enjoyed by the undersigned without the	
assignment;	· · · · · · · · · · · · · · · · · · ·		
II. Agree, whenever assignee asks, without fur	ther compensation but at assignee's e	xpense for actual and reasonable costs incurre	d,
(A) to communicate to said assignee, its	successors, assigns, and legal represer	ntatives, any facts known to me respecting su	ch
		pecting such Inventions or the rights describe	
		nearest country in which such testimony is leg	
		ons, papers or instruments necessary or require	
		effect any of the provisions of this instrumer	
		fidavits in form and substance which may I aid assignee, its successors, assigns, and leg	
		Inventions and/or secure title to such Inventio	
with assignee;	ia emoree patent protection for such t	mivertions analytic secure sine to such inventio	, ,,,
5 ,	ve the full right and lawful authority to	o make this assignment, that such assigned rig	ht
is not pre-dated by any grant, license, or other			
IV. Agree that my grants and obligations here	in shall also bind all of my heirs, exec	utors, administrators, legal representatives, ar	٦d
assigns; and			
		power to insert in this assignment any furth	
· · · · · · · · · · · · · · · · · · ·		U.S. Patent and Trademark Office or the pate	
		ower to insert on this assignment information	ınد
regarding application number and filing date w		. 11	1
		ated by my hand and agree that this Worldwig	ae
Assignment shall be effective as of the earliest	priority date for the aforesaid application	on(s) for Letters Patent.	
	0 0 00		
JULIA XIULING ZHANG	On Washax	5/15/2018	
Name of Inventor 5	Signature of Inventor	Date	
THE OF THE CHILD S	Digitalate of Hitelitor	Date /	

PATENT REEL: 049861 FRAME: 0886

RECORDED: 07/25/2019