504931714 05/25/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4978460

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHAD CLIFFORD BERGHOEFER	10/17/2017
TRAVIS ALLEN HANSELMAN	10/18/2017
NEIL J. HAUSMANN	10/17/2017
CARLOS MESSINA	10/17/2017

RECEIVING PARTY DATA

Name:	PIONEER HI-BRED INTERNATIONAL, INC.
Street Address:	7100 N.W. 62ND AVENUE
Internal Address:	P.O. BOX 1014
City:	JOHNSTON
State/Country:	IOWA
Postal Code:	50131-1014

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15988739

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@PIONEER.COM**

Correspondent Name: PIONEER HI-BRED INTERNATIONAL, INC.

Address Line 1: 7250 N.W. 62ND AVENUE

Address Line 2: P.O. BOX 552

Address Line 4: JOHNSTON, IOWA 50131-0552

Total Attachments, 4	
DATE SIGNED:	05/25/2018
SIGNATURE:	/Steven Callistein/
NAME OF SUBMITTER:	STEVEN CALLISTEIN
ATTORNEY DOCKET NUMBER:	7444-US-NP

Total Attachments: 4

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WORLDWIDE ASSIGNMENT

AAOVEDAAIDE VIZIGIAIAIEIA.
I, the undersigned <u>CHAD CLIFFORD BERGHOEFER</u> , hereby declare that I am an inventor of an invention entitled <u>METHODS OF YIELI</u>
ASSESSMENT WITH CROP PHOTOMETRY the subject matter of which is described in the application for patent (Attorney Docket No
7444-US-PSP_)
declaration executed on
United States Of America Patent Application Serial No. 62/532498 , filed on July 14, 2017 ,
PCT Application Serial Nofiled 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:
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 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 priority right
derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industrial Propert
("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 or
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 countr
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; (8
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 transfe
all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits and damage
for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which said patents ma
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 suc
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 be a supplied to the country of residence meeting and the supplied by a supplied to the supplied by a supplied to the supplied by a
my country of residence prohibit such testimony, (C) to execute all applications, papers or instruments necessary or required by sai
assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument, including antibions, coather assignments disclaiment, and purish officially assignments disclaiment, and purish officially assignments.
petitions, specifications, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be requested by sai 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 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 Worldwid
Assignment shall be effective as of the earliest priority date for the aforesaid application(s) for Letters Patent.
/
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CHAD CLIFFORD BERGHOEFER WILL INSTANCE SURVEY 10-17-17
Name of Inventor 1 Signature of Inventor Date
Name of inventor 1 Signature of Inventor V Date

WORLDWIDE ASSIGNMENT

		WOKEDWIDE ASSIGN	IAIEIA I			
	dersigned TRAVIS ALLEN HANSELI					
7444-US-	ENT WITH CROP PHOTOMETRY th	e subject matter of which is de	scribeu in the ap	phication for p	patent (Attorney Doci	ket No.
/ /444-03-	declaration executed on					
\boxtimes	United States Of America	Patent Application Serial No.	62/522/00	filed on	July 14, 2017	
		• •	02/332436	, illed oil	July 14, 2017	- '
LLJ Markich e	PCT Application Serial No.	filed on		, filed	-	
	claim(s) its earliest priority to Appli For valuable consideration, the rec		oroby ocknowlo			
	n of assignment to assignee, which		•	ugeu, anu m i	unimment of my pre-e	:xisting
_	sign, and transfer unto PIONEER H	·	•	anized and e	visting under the laws	of the
	lowa in the United States of Ame				_	
	, Iowa 50131-1014, herein referred					,
	he entire right, title, and interest in	-				v rights
	rom such aforesaid application(s) for					
	tional Convention") and any other					
Internation	onal Convention or other treaty or	r understanding, including right	s in any and all p	provisional ap	plications, (3) any an	d all of
my inven	itions, whether joint or sole, discl	osed in such aforesaid applicat	ion(s) for Patent	, and/or relat	ted to or arising out o	of such
aforesaid	l application(s) for Patent ("Inver	ntions"), (4) any and all applic	ations for Pater	nt for any suc	th Inventions in any o	country
	ver, including all provisional, r					
	onal and convention applications					
	ns, (5) any and all patents for any					
	ns of any patent based in whole or				-	
	e right to (1) file such application					
	on or any other treaty or understan			•		
	rks of the United States of America					
	l patents to said assignee in accorda nd all infringements thereof, whetl		•		•	_
	ed, as fully and entirely as the same					its illay
	, whenever assignee asks, without					curred
	o communicate to said assignee, i					
	ns or the rights described above, (B)		-	-	•	_
	ion of that testimony to be in the				_	
	try of residence prohibit such testi			-		
assignee,	, its successors, assigns and legal	representatives, to carry into	effect any of th	e provisions o	of this instrument, in	cluding
petitions	, specifications, oaths, assignments	s, disclaimers, and lawful affidav	its in form and s	substance whi	ch may be requested	by said
	and (D) generally to do everything					obtain,
	, defend and enforce patent protec					
	esent, warrant and covenant that I		•	_	•	ed right
	e-dated by any grant, license, or ot				-	
-	e that my grants and obligations h	erein shall also bind all of my h	eirs, executors,	administrator	s, legal representative	es, and
assigns; a						
	e that an authorized representat					
	ition which may be necessary or d					
	any other country for recordation on number and filing date when kn		e power to inseri	on this assign	iment information reg	garding
	ss Whereof, I have executed this		date indicated b	u mu hand an	d naree that this Wo	-ldwide
	ent shall be effective as of the earlie					Hawiac
- roaganii	on the carry as of the carry	on priority date for the moresult	appheauon(s) 1	or Policia Lali	viit.	
			// /			
	TRAVIS ALLEN HANSELMAN	_ Trains /	tans!	10-	18-17	
	Name of Inventor 2	Signature of Inventor		Date	· • · · · · · · · · · · · · · · · · · ·	

WORLDWIDE ASSIGNMENT

	WORLDWIDE ASSIGNATION	
		nvention entitled METHODS OF YIELD ASSESSMENT
<u>WITH CROP PHOTOMETRY</u> the subject matter	of which is described in the applicat	tion for patent (Attorney Docket No: 7444-US-PSP
declaration executed on		
	Detects A collection Co. College	
	Patent Application Serial No. 62/53	, filed on <u>July 14, 2017</u> ,
PCT Application Serial No.	filed on	<u> </u>
which claim(s) its earliest priority to Applica	•	, filed on
	· · · · · · · · · · · · · · · · · · ·	cknowledged, and in fulfillment of my pre-existing
obligation of assignment to assignee, which is		ation organized and existing under the laws of the
		usiness at 7100 NW 62 nd Avenue, P.O. Box 1014,
Johnston, Iowa 50131-1014, herein referred to		
	_	for Letters Patent ("Patent"), (2) any priority rights
		Convention for the Protection of Industrial Property
		property for any and all member countries of the
		and all provisional applications, (3) any and all of
		or Patent, and/or related to or arising out of such
aforesaid application(s) for Patent ("Invention	ons"), (4) any and all applications	for Patent for any such Inventions in any country
whatsoever, including all provisional, no	n-provisional, divisional, renewal,	substitute, continuation, continuations-in-part,
		aforesaid application(s) for Patent and/or such
		pever, including any and all reexams, reissues and
		n(s) for Letters Patent and/or such Inventions; (B)
		ich applications under the aforesaid International
		ts name or mine, the Commissioner of Patents and
		t office being hereby authorized to issue or transfer
		ents and to sue for and recover profits and damages and of the term or terms for which said patents may
be granted, as fully and entirely as the same w		
		expense for actual and reasonable costs incurred,
		entatives, any facts known to me respecting such
		cting such inventions or the rights described above,
		est country in which such testimony is legal should
		apers or instruments necessary or required by said
assignee, its successors, assigns and legal re	presentatives, to carry into effect a	ny of the provisions of this instrument, including
		rm and substance which may be requested by said
		ssors, assigns, and legal representatives to obtain,
maintain, defend and enforce patent protection		
		to make this assignment, that such assigned right
is not pre-dated by any grant, license, or other		
	ein shall also bind all of my heirs, ex	ecutors, administrators, legal representatives, and
assigns; and V Agree that an authorized conceentative	of accional is barabu arrated the	manuar ta image in this continuous and final a
v. Agree that an authorized representative	irable to comply with the rules of th	power to insert in this assignment any further e U.S. Patent and Trademark Office or the patent
office of any other country for recordation of t	this Assignment including the nower	to insert on this assignment information regarding
application number and filing date when know		to moer con this assignment information regarding
		icated by my hand and agree that this Worldwide
Assignment shall be effective as of the earliest		
gem or or or our or the current	priority date for the moresaid applied	months, for London atom.
NEIL J HAUSMANN		10.17.2017
Name of Inventor 3	Signature of Inventor	Date

		<u>WORLDWIDE ASSIGN</u>	<u>MENT</u>			
-		ereby declare that I am an inventor				
WITH C	ROP PHOTOMETRY the subject n	natter of which is described in the	application for p	atent (Attorn	ey Docket No: Z	<u> 144-US-PSP</u>
)						
	declaration executed on					
\boxtimes	United States Of America	Patent Application Serial No.	62/532498	, filed on	July 14, 2017	
	PCT Application Serial No.	filed on	-			
which	r claim(s) its earliest priority to A	pplication Serial No.		, filed	- on	
		receipt and adequacy of which is h	ereby acknowled	dged, and in f	ulfillment of my j	re-existing
obligati	•	nich is hereby acknowledged, I here	-	- '		
I. Sell, a	essign, and transfer unto PIONEE	R HI-BRED INTERNATIONAL, INC., a	corporation org	anized and ex	isting under the	laws of the
State o	f Iowa in the United States of A	merica and having its principal pla	ace of business a	t 7100 NW 6	2 nd Avenue, P.O.	Box 1014,
Johnsto	on, Iowa 50131-1014, herein refe	rred to as the assignee, and to assign	gnee's successors	s and assigns,		
(A)	the entire right, title, and interes	it in and to: (1) the aforesaid applic	ation(s) for Letter	rs Patent ("Pa	tent"), (2) any pr	iority rights
derived	l from such aforesald application(s) for Patent by virtue of the Interna	ational Convention	on for the Prof	ection of Industri	ai Property
-	•	her treaty or understanding for int		•		
		y or understanding, including right	•	• •		•
-		Isclosed in such aforesaid applicat	* *	•	_	
		ventions"), (4) any and all applic				
	• •	l, non-provisional, divisional, re	•	•	•	
		ons based in whole or in part up				
		any such inventions in any country				
	* *	e or in part upon such aforesald ap	• • •		•	
		ions in its name or in my name, (? standing, (3) have said patents gra				
	•	rica and any counterpart in any othe		-		
		ordance herewith, and (4) enforce s	•	_ ,		
	-	hether past, present or future, to the	•		•	-
	=	ame would have been held and enj			•	•
-	-	out further compensation but at as		_	-	•
_	——————————————————————————————————————	e, its successors, assigns, and lega				-
Inventi	ons or the rights described above,	, (B) to testify in any legal proceeding	g respecting such	n Inventions o	r the rights descri	bed above,
the loc	ation of that testimony to be in t	he country in which I reside or in ti	he nearest count	ry in which su	ch testimony is l	egal should
-	· · ·	estimony, (C) to execute all applica	• • •		•	•
		gal representatives, to carry into				
		ents, disclaimers, and lawful affidav				
		ning possible to aid said assignee, i				s to obtain,
		otection for such Inventions and/or				
		at I have the full right and lawful a				ilgned right
		r other right heretofore given by m				
		ns herein shall also bind all of my h	eirs, executors, a	soministrator	s, legai represent	atives, and
assigns V Aa	•	ntative of assignee is hereby gran			ble seelessmant .	
		or desirable to comply with the rui				
office o	of any other country for recordable	on of this Assignment, including the	nower to insert	on this assign	ment informatio	nic pateill
	tion number and filing date when		porter to misere	O11 11113 0331B1		n reforming
	•	nis Worldwide Assignment on the	data indicated by	my hand an	d name that this	Worldwide
		arliest priority date for the aforesaid	-		-	OHWHUC
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	CARLOS MESSINA) 10	17/201-	7

Signature of Inventor

PATENT

Date

REEL: 045902 FRAME: 0516

Name of Inventor 4