# 504451987 07/11/2017

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:			NEW ASSIGNMENT		
NATURE OF CONVEYANCE:			ASSIGNMENT		
CONVEYING PARTY	ΔΑΤΑ	·			
			Name		Execution Date
ANDREW MARK CIGAN					08/12/2014
HUIRONG GAO					08/22/2014
SERGEI SVITASHEV					08/18/2014
RECEIVING PARTY D	ΑΤΑ				
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State/Country:	IOWA	IOWA			
Postal Code:	50131	50131-1014			
Property Type		14012	Number		
Application Number:1491		14913	0030		
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NAME OF SUBMITTER:			AHNALESE RUSHMANN		
SIGNATURE:			/Ahnalese Rushmann/		
DATE SIGNED:			07/11/2017		
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#### WORLDWIDE ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in fulfillment of a pre-existing obligation of assignment, we, Andrew Mark Cigan, Huirong Gao, Sergei Svitashev and Joshua K. Young, at PIONEER HI-BRED INTERNATIONAL, INC., 7250 NW 62<sup>nd</sup> Avenue, P.O. Box 552, Johnston, Iowa 50131-0552, the undersigned inventor(s) have sold and assigned, and by these presents hereby sells and assigns, as indicated below, unto

PIONEER HI-BRED INTERNATIONAL, INC. 7100 NW 62<sup>nd</sup> Avenue P.O. Box 1014 Johnston, Iowa 50131-1014

its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries in and to the inventions in "PLANT GENOME MODIFICATION USING GUIDE RNA/CAS ENDONUCLEASE SYSTEMS AND METHODS OF USE", including all improvements to said invention ("Invention")

#### AND

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in fulfillment of a pre-existing obligation of assignment, Saverio Carl Falco, Zhongsen Li and Zhan-Bin Liu, at E. I. du PONT de NEMOURS and COMPANY, 1007 Market Street, Wilmington, Delaware 19898, the undersigned inventor(s) has sold and assigned, and by these presents hereby sells and assigns, as indicated below, unto

#### E. I. du PONT de NEMOURS and COMPANY 1007 Market Street Wilmington, Delaware 19898

its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries in and to the inventions in "Maize mutations increasing production efficiency and methods of use", including all improvements to said invention ("Invention")

as set forth in this United States Patent Application and in the PCT Patent Application

	executed concurrently herewith					
	executed on					
$\boxtimes$	US Serial No. 61/937045 filed	February 7, 2014 and;				
	PCT Serial No. filed ,					
which	claim(s) priority as of filed	Serial No				

including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuationsin-part, international and Convention applications based in whole or in part upon said Inventions or upon said Applications, and any and all Letters Patent and reissues and extensions of Letters Patent

granted for said Inventions or upon said Applications and every priority right that is or may be predicated upon or arise from said Inventions, said Applications, and said Letters Patent; said Assignee being hereby authorized to file patent applications in any or all countries on any or all said Inventions in the name of the undersigned or in the name of said Assignee or otherwise as said Assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America being hereby authorized to issue or transfer all said Letters Patent to said Assignee in accordance herewith; said assignment including the right to bring legal proceedings and obtain any relief to which the undersigned would have been entitled if this assignment had not been made, in respect of any infringements of the undersigned's rights in relation to said inventions, Applications and Letters Patent which occur before or after the date of this assignment; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right theretofore given, and that the undersigned will do all acts reasonably serving to ensure that the said Inventions, patent applications and Letters Patent shall be held and enjoyed by said Assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, and lawful affidavits in form and substance which may be requested by said Assignee, to furnish said Assignee with all facts relating to said Inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may be of said Inventions, and to testify in any proceedings relating to said Inventions, patent applications, Letters Patent, and to bind our heirs, legal representatives, and assigns, promptly to communicate to said Assignee or its representatives any facts known to us relating to said Inventions, to testify in any interference or legal proceedings involving said Inventions, the location of that testimony to be in the country in which we reside or in the nearest country in which such testimony is legal should our country of residence prohibit such testimony, to execute any additional papers which may be requested to confirm the right of the Assignee, its representatives, successors or assigns to secure patent or similar protection for said Inventions and to vest in the Assignee complete title to said Inventions and Letters Patent, without further compensation, but at the expense of said Assignee, its successors, assigns and other legal representatives.

The undersigned hereby grant an authorized representative of Assignee 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.

This assignment is deemed to be effective at least as early as of August 22, 2013.

#### Assigns to Ploneer Hi-Bred International, Inc.

Andrew Mark Cigan Name of Inventor

<u>Andw March 9:</u> <u>Aug 12, 2014</u> Signature of Inventor Date

Huirong Gao Name of Inventor

Signature of Inventor

` Date

Sergei Svitashev Name of Inventor

Signature of Inventor

Date

Joshua K. Young Name of Inventor

Signature of Inventor

Ang. 12,2014 Date

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#### Assigns to Pioneer Hi-Bred International, Inc.

Andrew Mark Cigan Name of Inventor

Signature of Inventor

Date 8/22/14

Date

Huirong Gao Name of Inventor

Signature of Inventor

Sergei Svitashev Name of Inventor

Signature of Inventor

Date

Joshua K. Young \_\_\_\_ Name of Inventor

,

Signature of Inventor

Date

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Andrew Mark Cigan Name of Inventor

Signature of Inventor

Huirong Gao Name of Inventor

Sergei Svitashev

Name of Inventor

Signature of Inventor

Date

Date

S. Sv; tashn

Signature of Inventor

08, 18, 2014 Date

Joshua K. Young Name of Inventor

Signature of Inventor

Date

PATENT REEL: 042978 FRAME: 0564

### Assigns to E. I. du Pont de Nemours and Company

Saverio Carl Falco Name of Inventor

Falco Signature of Inventor

2014 Auc 12 Date

Zhongsen Li Name of Inventor

Signature of Inventor

Date

Zhan-Bin Liu Name of Inventor

Signature of Inventor

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Date

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Assigns to E. I. du Pont de Nemours and Company

Saverio Carl Falco Name of Inventor

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<u>Zhongsen Li</u> Name of Inventor

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Zhan-Bin Liu Name of Inventor

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