

PATENT ASSIGNMENT COVER SHEET

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Stylesheet Version v1.2

EPAS ID: PAT5834648

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
SEQUENCE:	1

CONVEYING PARTY DATA

Name	Execution Date
BAYER AKTIENGESELLSCHAFT	08/01/2018
BAYER CROPSCIENCE LP	08/01/2018
BAYER CROPSCIENCE AKTIENGESELLSCHAFT	08/01/2018

RECEIVING PARTY DATA

Name:	BASF SE
Street Address:	CARL-BOSCH STR. 38
City:	LUDWIGSHAFEN AM RHEIN
State/Country:	GERMANY
Postal Code:	67056

PROPERTY NUMBERS Total: 21

Property Type	Number
Application Number:	15765787
Application Number:	16300198
Application Number:	16300193
Application Number:	16307967
Application Number:	16327065
Application Number:	16311191
Application Number:	16339418
Application Number:	16463020
Application Number:	16345778
Application Number:	16332842
Application Number:	16342341
Application Number:	16332833
Application Number:	16340393
Application Number:	16342363
Application Number:	14561557
Application Number:	14399771
Application Number:	15736055

PATENT

Property Type	Number
Application Number:	14111219
Application Number:	14573358
Application Number:	15874699
Application Number:	16276184

CORRESPONDENCE DATA

Fax Number: (919)547-2427

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: 919-547-2575

Email: felicia.young@basf.com

Correspondent Name: FELICIA R. YOUNG

Address Line 1: 26 DAVIS DRIVE

Address Line 4: RTP, NORTH CAROLINA 27709

ATTORNEY DOCKET NUMBER:	180441-180439/LP-SE
NAME OF SUBMITTER:	FELICIA R. YOUNG
SIGNATURE:	/felicia r. young/
DATE SIGNED:	11/22/2019

Total Attachments: 8

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PATENT RIGHTS ASSIGNMENT AGREEMENT

THIS PATENT RIGHTS ASSIGNMENT AGREEMENT (this "Agreement"), dated as of August 1, 2018 (the "Effective Date"), is made and entered into by and between BASF SE, a Societas Europea ("Assignee") on the one hand and Bayer Aktiengesellschaft, Bayer CropScience LP and Bayer CropScience Aktiengesellschaft (collectively, the "Assignors" and each an "Assignor") on the other hand (each, a "Party" and collectively the "Parties").

RECITALS

WHEREAS, the Assignors wish to sell, convey, assign, transfer, and deliver to Assignee, and Assignee wishes to purchase, acquire, and receive from the Assignors, all of the Assignors' rights, title, and interest in and to the Assigned Patent Rights (as defined in Schedule I hereto).

NOW, THEREFORE, in consideration of the foregoing recitals, the mutual representations, warranties and covenants set forth in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which the Parties acknowledge, the Parties agree as follows:

1. The Assignors hereby sell, assign, convey, transfer, and set over to Assignee, and Assignee purchases, acquires, and receives from the Assignors, all of the Assignors' rights, title and interest in and to the Assigned Patent Rights, all of them to be held and enjoyed by Assignee, its successors, heirs, and assigns on and as of the Effective Date.

2. The Parties agree that, as of the Effective Date, Assignee shall own and hold all of Assignors' rights, title and interest in and to the Assigned Patent Rights. To the extent permitted by the respective applicable mandatory law, this shall include, but shall not be limited to, the right to initiate any action, suit, litigation, arbitration, or other proceeding of any kind against any third party for infringement of such Assigned Patent Rights, whether such infringement occurred prior to, on, or after the Effective Date, and to continue prosecuting any patent application, and to maintain any patent, included in the Assigned Patent Rights.

3. Each of the Assignors hereby authorizes the applicable patent office to record Assignee as the owner of any patent application and any patent included in the respective Assignor's Assigned Patent Rights, and to issue any registration, certificate, document, or process for any such patent application and/or patent in the name of Assignee. Upon Assignee's request and at Assignee's cost, each Assignor shall provide any assistance, including, without limitation, providing any information and documents, executing any documents and affidavits, providing any testimony, and/or rendering any other assistance, as is necessary or useful for Assignee to secure and perfect sole and exclusive ownership of, and obtain registrations in the name of solely Assignee or a third party designated by Assignee, for the respective Assignor's Assigned Patent Rights and/or any part thereof, and to otherwise fully effect and implement the provisions in this Agreement.

4. This Agreement binds and benefits the Parties and their respective successors and assignees, except that the Assignee will not assign any of its rights under this Agreement prior to the Effective Date without the prior written discretionary consent of the respective Assignor. No Party may delegate any performance of its obligations under this Agreement, except that the Assignee may at any time assign, delegate or transfer in whole or in part the performance of its obligations to any other entity that directly or indirectly, through one or more intermediaries controls, or is controlled by, or is under common control with the Assignee ("Affiliate"), so long as the Assignee (a) remains fully responsible for

the performance of the delegated obligation by executing such documents or instruments as the respective Assignor may reasonably request, and (b) such Affiliate executes a written agreement of assumption of such obligations in a form reasonably acceptable to the respective Assignor.

5. If any provision of this Agreement is determined to be invalid, illegal or unenforceable, the remaining provisions of this Agreement remain in full force, if the essential terms and conditions of this Agreement for each Party remain valid, binding and enforceable. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the Parties hereto will negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in an acceptable manner in order that the transactions contemplated hereby are consummated as originally contemplated to the greatest extent possible.

6. Unless any exhibit or schedule specifies a different choice of Law, the internal Laws of the State of New York govern all matters arising out of or relating to this Agreement and its exhibits and schedules and all of the transactions it contemplates, including its validity, interpretation, construction, performance and enforcement and any disputes or controversies arising therefrom.

7. The Parties may execute this Agreement in multiple counterparts, each of which constitutes an original as against the Party that signed it, and all of which together constitute one agreement. This Agreement is effective upon delivery of one executed counterpart from each Party to the other Party. The signatures of all Parties need not appear on the same counterpart. The delivery of signed counterparts by email transmission which includes a copy of the sending Party's signature(s) is as effective as signing and delivering the counterpart in person.

8. The Parties may amend this Agreement only by a written agreement signed by the Parties to be bound by the amendment and that identifies itself as an amendment to this Agreement.

[signature page follows]

IN WITNESS WHEREOF, each Party has executed this Agreement as of the Effective Date.

Bayer Aktiengesellschaft

Bayer CropScience AG

By: [Signature]
Name: GEORGE WUERKAMP
Title: Abg. in-fact

By: [Signature]
Name: GEORGE WUERKAMP
Title: Abg. in-fact

Bayer CropScience LP

BASF SE

By: [Signature]
Name: GEORGE WUERKAMP
Title: Abg. in-fact

By: [Signature]
Name: Reichardt
Title: Vice President

By: [Signature]
Name: HUFF
Title: _____

[Signature Page to Patent Assignment Agreement]

Schedule 1
Assigned Patent Rights

The term "Assigned Patent Rights" means the following patent rights and patent application rights:

Patents and Patent Applications

#	Owner Legal Entity	Legal Entity Name	File Number	Internal Title	Country	Filing Number	Filing Date	Publication Number	Grant Number	Grant Date	Anticipated Expiry Date
1	1372	Bayer CropScience LP	BCS11-6005 PCT-BR	VISUAL INFORMATION SYSTEM AND COMPUTER MOBILITY APPLICATION FOR FIELD PERSONNEL	BR	BR 1120130232487-3	13.04.2012				13.04.2032
2	1372	Bayer CropScience LP	BCS11-6005 PCT-CA	VISUAL INFORMATION SYSTEM AND COMPUTER MOBILITY APPLICATION FOR FIELD PERSONNEL	CA	CA2833148	13.04.2012	CA2833148 (A1)	CA2833148 (C)	19.01.2017	13.04.2032
3	1372	Bayer CropScience LP	BCS11-6005 PCT-CN	VISUAL INFORMATION SYSTEM AND COMPUTER MOBILITY APPLICATION FOR FIELD PERSONNEL	CN	CN203430030	13.04.2012	JP5997255 (B2)			13.04.2032
4	1372	Bayer CropScience LP	BCS11-6005 PCT-EP	VISUAL INFORMATION SYSTEM AND COMPUTER MOBILITY APPLICATION FOR FIELD PERSONNEL	EP	EP12770731.8	13.04.2012	EP2697670			13.04.2032
5	1372	Bayer CropScience LP	BCS11-6005 PCT-JP	VISUAL INFORMATION SYSTEM AND COMPUTER MOBILITY APPLICATION FOR FIELD PERSONNEL	JP	JP2014-505332	13.04.2012				13.04.2032
6	1372	Bayer CropScience LP	BCS11-6005 PCT-US	VISUAL INFORMATION SYSTEM AND COMPUTER MOBILITY APPLICATION FOR FIELD PERSONNEL	US	US 14/11219	13.04.2012	US 2014-0136286 A1			13.04.2032
7	2413	Bayer CropScience AG	BCS13-1023 US	Method for Decision Support in Pest and/or Weed Control Management	US	US 14/561557	05.12.2014	US 2015-0161530 A1			05.12.2034
8	2413	Bayer CropScience AG	BCS151037 WO	System to provide localized application maps to sprayers and spreaders		PC7/EP2017072739	11.09.2017	WO2018056592			11.09.2037
9	2413	Bayer CropScience AG	BCS151037 PCT-AU	Method of automating grain harvester settings providing data from crop simulation models	AU	not filed yet	30.09.2016				30.09.2036
10	2413	Bayer CropScience AG	BCS151037 PCT-BR	Method of automating grain harvester settings providing data from crop simulation models	BR	not filed yet	30.09.2016				30.09.2036
11	2413	Bayer CropScience AG	BCS151037 PCT-CA	Method of automating grain harvester settings providing data from crop simulation models	CA	not filed yet	30.09.2016				30.09.2036
12	2413	Bayer CropScience AG	BCS151037 PCT-CN	Method of automating grain harvester settings providing data from crop simulation models	CN	not filed yet	30.09.2016				30.09.2036
13	2413	Bayer CropScience AG	BCS151037 PCT-EP	Method of automating grain harvester settings providing data from crop simulation models	EP	not filed yet	30.09.2016				30.09.2036
14	2413	Bayer CropScience AG	BCS151037 PCT-JP	Method of automating grain harvester settings providing data from crop simulation models	JP	not filed yet	30.09.2016				30.09.2036
15	2413	Bayer CropScience AG	BCS151037 PCT-RU	Method of automating grain harvester settings providing data from crop simulation models	RU	not filed yet	30.09.2016				30.09.2036
16	2413	Bayer CropScience AG	BCS151037 PCT-UA	Method of automating grain harvester settings providing data from crop simulation models	UA	not filed yet	30.09.2016				30.09.2036

17	2413	AG	BCS151037 PCT-US	Method of automating grain harvester settings providing data from crop simulation models	US	not filed yet	30.09.2016			30.09.2016
19	2413	Bayer CropScience AG	BCS151037 PCT-ZA	Method of automating grain harvester settings providing data from crop simulation models	ZA	not filed yet	30.09.2016			30.09.2016
19	2413	Bayer CropScience AG	BCS161005 WO	Method for augmenting algorithms of precision farming sensors providing data from crop simulation models	-	PCT/EP2017/063954	08.06.2017	WO2017/211948		08.06.2017
20	2413	Bayer CropScience AG	BCS163043 WO	RECOGNITION OF WEED IN A NATURAL ENVIRONMENT	-	PCT/EP2017/060750	05.05.2017	WO2017/194398		05.05.2017
21	2413	Bayer CropScience AG	BCS163044 WO	RECOGNITION OF WEED IN A NATURAL ENVIRONMENT	-	PCT/EP2017/060751	05.05.2017	WO2017/194399		05.05.2017
22	2413	Bayer CropScience AG	BCS163060 WO	Method for Pest Control	-	PCT/EP2017/065536	23.06.2017	WO2018/001893		23.06.2017
23	2413	Bayer CropScience AG	BCS163069 WO	Bekämpfung von Schadorganismen auf Basis der Vorhersage von Befallsrisiken	-	PCT/EP2017/070877	17.08.2017	WO2018/003699		17.08.2017
24	2413	Bayer CropScience AG	BCS163097 WO	Pflanzenschutzmittelkarte	-	PCT/EP2017/072691	11.09.2017	WO2018/005680		11.09.2017
25	2413	Bayer CropScience AG	BCS163102 WO	Augmentierung von Sensoren zur Erkennung von Insekten oder Pflanzenkrankheiten mittels Modellen für Pflanz- und Insektenwachstum und -verhalten	-	PCT/EP2017/074778	29.09.2017			29.09.2017
25	2413	Bayer CropScience AG	BCS163105 WO	Ertragsabschätzung - Einzelertragsanalyse	-	PCT/EP2017/076035	12.10.2017			12.10.2017
27	2413	Bayer CropScience AG	BCS163109 AR	Ertragsabschätzung - Einzelertragsanalyse	AR	AR2017/0102911	19.10.2017			19.10.2017
28	2413	Bayer CropScience AG	BCS163106 WO	Ertragsabschätzung - Abenddichte	-	PCT/EP2017/076320	16.10.2017			16.10.2017
29	2413	Bayer CropScience AG	BCS163108 AR	Ertragsabschätzung - Abenddichte	AR	AR2017/0102912	19.10.2017			19.10.2017
30	2413	Bayer CropScience AG	BCS163107 WO	Yellow Trap Counting	-	PCT/EP2017/073253	15.09.2017	WO2018/054767		15.09.2017
31	2413	Bayer CropScience AG	BCS163117 WO	Kombination von Fernerkundungsdaten und lokalen Felddaten	-	PCT/EP2017/075894	11.10.2017			11.10.2017
32	2413	Bayer CropScience AG	BCS163122 WO	Pflanzenschutzspritze mit Direktkeimspesung	-	PCT/EP2017/079437	16.11.2017			16.11.2017
33	2413	Bayer CropScience AG	BCS163122 AR	Pflanzenschutzspritze mit Direktkeimspesung	AR	AR2017/0103262	23.11.2017			23.11.2017
34	2000	Bayer AG	BCS173021 WO	Drone IP	-	PCT/EP2018/056827	19.03.2018			19.03.2018
35	2000	Bayer AG	BCS173021 AR	Drone IP	AR	not filed yet				
36	2000	Bayer AG	BCS173032 EP	Kontinuierliche Aktualisierung einer Ertragsabschätzung	EP	EP17197157.7	22.08.2017			22.08.2017
37	2000	Bayer AG	BCS173062 EP	Nutzung von Daten aus Feldversuchen für die Optimierung von Vorhersagemodellen	EP	EP17186801.5	18.08.2017			18.08.2017

38	2000	Bayer AG	BCS173079	Field Assessment Drone	EP	EP17166816.3	17.10.2017			17.10.2037
39	2000	Bayer AG	BCS173080	Refugee on a Spot	EP	EP17198814.0	27.10.2017			27.10.2037
40	2000	Bayer AG	BCS173086	Correlating satellite imagery spectral data (bathymetry of atmosphere) using spectral data from machine sensors mounted in an agricultural field and forecasting for different places and times	EP	EP17209557.2	21.12.2017			21.12.2037
41	2000	Bayer AG	BCS173097	Field Assessment Drone - fixed camera	EP	EP17196819.1	17.10.2017			17.10.2037
42	2000	Bayer AG	BCS173098	Unmanned Aerial Vehicle	EP	EP17292769.0	21.11.2017			21.11.2037
43	2000	Bayer AG	BCS173101	Automatic recognition of vehicle lanes	EP	EP17198036.0	24.10.2017			24.10.2037
44	2000	Bayer AG	BCS173104	Insect Management System	EP	EP17198812.4	27.10.2017			27.10.2037
51	2000	Bayer AG	BCS173117	Smart Sprayer and sensing success of treatment controlling a treatment strategy	EP	EP18166672.7	02.03.2018			02.03.2038
53	2000	Bayer AG	BCS173103	Linking to Field Weather Station to Weather forecast	-	filed	new filing			
54	2000	Bayer AG	BCS173094	Hypothetical weather forecasting using environmental influence factors	-	filed	new filing			
57	2000	Bayer AG	BCS173089	Decision Support Tool for Optimal HER Application Timing	EP	EP17198553.3	26.10.2017			26.10.2037
58	2000	Bayer AG	BCS173089	Decision Support Tool for Optimal HER Application Timing	EP	EP17206272.7	07.11.2017			07.11.2037
59	1372	Bayer CropScience LLC	BCS12-9001 PCT	A Device and Method for Selecting Seed Varieties and Determining/Coordinating an Optimum Planting Time Window for the Planting of Seed Seed	BR	BR12014027463-0	13.03.2013		BR12014027463-0	13.03.2033
60	1372	Bayer CropScience LLC	BCS12-9001 PCT	A Device and Method for Selecting Seed Varieties and Determining/Coordinating an Optimum Planting Time Window for the Planting of Seed Seed	CA	CA2872636	13.03.2013		CA2872636	13.03.2033
61	1372	Bayer CropScience LLC	BCS12-9001 PCT	A Device and Method for Selecting Seed Varieties and Determining/Coordinating an Optimum Planting Time Window for the Planting of Seed Seed	EP	EP13714078.6	13.03.2013		EP2846620	13.03.2033
62	1372	Bayer CropScience LLC	BCS12-9001 PCT	A Device and Method for Selecting Seed Varieties and Determining/Coordinating an Optimum Planting Time Window for the Planting of Seed Seed	UA	UA201413003	13.03.2013			13.03.2033
63	1372	Bayer CropScience LLC	BCS12-9001 PCT	A Device and Method for Selecting Seed Varieties and Determining/Coordinating an Optimum Planting Time Window for the Planting of Seed Seed	US	US1429971	07.11.2014		US2015011295 A1	13.03.2033
64	1372	Bayer CropScience LLC	BCS10-9022 PCT	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	CA	CA2776517	04.10.2011		CA2776517	04.10.2031
65	1372	Bayer CropScience LLC	BCS10-9022 PCT	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	US	US15874699	18.01.2018			04.10.2031
66	1372	Bayer CropScience LLC	BCS10-9022 PCT	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	US	US13500237	04.10.2011		US2013018510 A1	04.10.2031

#	1372	Bayer CropScience LP	BCS10-6022 PCT-US D	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	US	US/4673458	17-12-2014	US-2015-010358	-	-	04-10-2031
67	1372	Bayer CropScience LP	BCS10-6022 PCT-US D	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	US	US/4673458	17-12-2014	US-2015-010358	-	-	04-10-2031
68	1372	Bayer CropScience LP	BCS10-6022 PCT-US D	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	US	US/4673456	05-01-2015	US-2015-0106280	-	-	04-10-2031
69	1372	Bayer CropScience LP	BCS10-6022 PCT-US D	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	US	US/4673451	17-12-2014	US-2015-0108281	-	-	04-10-2031
70	1372	Bayer CropScience LP	BCS10-6022 PCT-US D	A SYSTEM AND METHOD OF COORDINATING INFORMATION RELATING TO FOOD PRODUCTION AND DISTRIBUTION	US	US/46733611	17-02-2014	US-2015-0106141	-	-	04-10-2031
71	1372	Bayer CropScience LP	BCS156008 PCT-AU	Method for Applying an Agrochemical to an Agricultural Area of Interest	AU	AU2016283019	24-06-2016	AU2016283019 (A1)	-	-	24-06-2036
72	1372	Bayer CropScience LP	BCS156008 PCT-CA	Method for Applying an Agrochemical to an Agricultural Area of Interest	CA	CA2990629	24-06-2016	CA2990629	-	-	24-06-2036
73	1372	Bayer CropScience LP	BCS156008 PCT-EP	Method for Applying an Agrochemical to an Agricultural Area of Interest	EP	EP16734161.9	24-06-2016	EP313191	-	-	24-06-2036
74	1372	Bayer CropScience LP	BCS156008 PCT-IN	Method for Applying an Agrochemical to an Agricultural Area of Interest	IN	IN23171044432	24-06-2016	-	-	-	24-06-2036
75	1372	Bayer CropScience LP	BCS156008 PCT-INZ	Method for Applying an Agrochemical to an Agricultural Area of Interest	NZ	NZ739252	24-06-2016	-	-	-	24-06-2036
76	1372	Bayer CropScience LP	BCS156008 PCT-US	Method for Applying an Agrochemical to an Agricultural Area of Interest	US	US/5736055	24-06-2016	-	-	-	24-06-2036
79	1372	Bayer CropScience LP	BCS166010 PCT-US	METHOD FOR MAPPING CROP FIELDS	-	PCT/US1759146	2017-10-31	WO 2018/081759	-	-	2037-10-31
80	1372	Bayer CropScience LP	BCS166010 PCT-AR	METHOD FOR MAPPING CROP FIELDS	AR	P170109013	2017-10-31	-	-	-	2037-10-31

Invention Disclosures

#	Owner Legal Entity	Legal Entity Name	File Number	Internal Title	Country	Filing Number	Filing Date	Publication Number	Grant Number	Grant Date	Anticipated Expiry Date
46	2000	Bayer AG	BCS173081 PIF	Camera Based Pest Mgmt Sprayer	-	not filed yet					
47	2000	Bayer AG	BCS173121 PIF	radio - spray demand forecast	-	not filed yet					
48	2000	Bayer AG	BCS173120 PIF	Smart Sprayer automatically setting and controlling required crop protection doses based on rtms field information	-	not filed yet					
49	2000	Bayer AG	BCS173119 PIF	Smart Sprayer automatically deriving and controlling pathogen treatment thresholds based on field information	-	not filed yet					
50	2000	Bayer AG	BCS173118 PIF	Smart Sprayer with second Tier image recognition on a sensor	-	not filed yet					
52	2000	Bayer AG	BCS173114 PIF	radio - AI-STICK	-	not filed yet					

55	2000	Bayer AG	BCS173014 PIF	Zielgenetische Unkrautbekämpfung mit chemischen und mechanischen Mitteln.	-	not filed yet							
56	2000	Bayer AG	BCS183039 PIF	Decision System for Crop Efficiency Product Application using Remote Sensing Based Soil Parameters	-	not filed yet							
77	2000	Bayer AG	BCS183066 PIF	analyse - Spray demand forecast	-	not filed yet							
78	2000	Bayer AG	BCS183063 PIF	Verfahren zur Bestimmung von Hochaufbländern Niederschlagsdaten mittels Kombination von gewöhnlichen Wetterdaten und fernerkundungsbasierter Berechnung von Bodenfeuchte.	-	not filed yet							