

1) Family number: 71452153 (US2018292826A)

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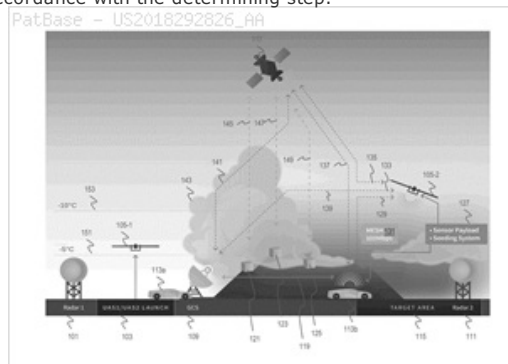
Title: INTELLIGENT SYSTEMS FOR WEATHER MODIFICATION PROGRAMS
Priority: US20170484043P 20170411 US20180944437 20180403
Family:

Publication number	Publication date	Application number	Application date
US2018292826 AA	20181011	US20180944437	20180403
WO18191134 A1	20181018	WO2018US26649	20180409

Probable Assignee: AXISA DUNCAN
Assignee(s):(std): AXISA DUNCAN ; DEFELICE THOMAS PETER
Inventor(s):(std): DEFELICE THOMAS ; AXISA DUNCAN ; DEFELICE THOMAS PETER
Agent(s): OTTERSTEDT PAUL J ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): A01G15/00 G01W1/08 G05D1/00 G06F17/30 G08G5/00 (Advanced/Invention)
CPC: A01G15/00 G05D1/0094 G05D1/0088 G08G5/0091
US class: 1/1 239/2.1
[Classification Explorer](#)
Cited documents: WO10071305 A2, US2016299254 AA, US2015359184 AA, US2010001089 AA, CA2962076 AA,
Forward Citations: US10434451,

Abstract:
Data including current locations of candidate clouds to be seeded is obtained; based on same, a vehicle is caused to move proximate at least one of the candidate clouds to be seeded. Weather and cloud system data are obtained from a sensor suite associated with the vehicle, while the vehicle and sensor suite are proximate the at least one of the candidate clouds to be seeded. Vehicle position parameters are obtained from the sensor suite associated with the vehicle. Based on the weather and cloud system data and the vehicle position parameters, it is determined, via a machine learning process, which of the candidate clouds should be seeded, and, within those of the candidate clouds which should be seeded, where to disperse an appropriate seeding material. The vehicle is controlled to carry out the seeding on the candidate clouds to be seeded, in accordance with the determining step.



2) Family number: 73427311 (US2019071177A)

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Title: DISTRIBUTION ASSEMBLY FOR AN AERIAL VEHICLE
Priority: US20170553839P 20170902 US20180120500 20180904
Family:

Publication number	Publication date	Application number	Application date
US2019071177 AA	20190307	US20180120500	20180904
WO19046837 A1	20190307	WO2018US49290	20180902

Probable Assignee: PREC DRONE SERVICES INTELLECTUAL PROPERTY LLC
Assignee(s):(std): PREC DRONE SERVICES INTELLECTUAL PROPERTY LLC
Assignee(s): PRECISION DRONE SERVICES INTELLECTUAL PROPERTY LLC
Inventor(s):(std): ZVARA STEPHEN
Agent(s): MASTERSON MARK J
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL

IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN
MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI
SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): A01C14/00 A01C21/00 A01C7/04 A01C7/20 B64C39/02 B64D1/08 B64D1/16 (Advanced/Invention);
A01C1/06 A01C7/04 (Advanced/Non-invention)

CPC: B64C39/024 A01C7/042 A01C7/205 B64C2201/128 A01C14/00 A01C21/005 A01C7/206 A01C1/06
A01C7/04 B64D1/08 B64D1/16 A01G9/006 A01G9/0291 A01G9/0293

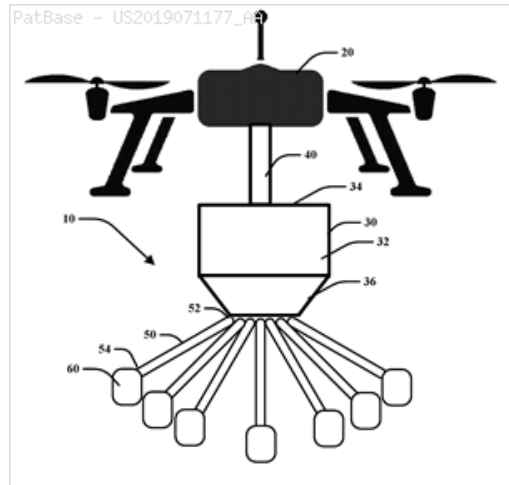
US class: 1/1

[Classification Explorer](#)

Cited documents: WO16209217 A1, WO16049217 A1, WO14088429 A1, US9382003 BB, US201762552564 P,
DE102014007995 A1

Abstract:

Provided is a seeder assembly for an aerial vehicle as shown and described. The distribution assembly includes a frame selectively attachable to an aerial vehicle and at least one distribution device attached to the frame. The distribution device having a body defining a cavity to receive a plurality of products and a barrel to discharge the plurality of products. A control device configured to communicate with the aerial vehicle and the distribution device to coordinate the timing that products are discharged and a spacing of a subsequent discharged product relative to the speed of the aerial vehicle. A system, method, and cartridge device associated with the distribution assembly are also contemplated by this disclosure.



3) Family number: 55719476 (US2014035752A)

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Title: METHODS, APPARATUS, AND SYSTEMS FOR DETERMINING IN-SEASON CROP STATUS IN AN AGRICULTURAL CROP AND ALERTING USERS

Priority: US20120568109 20120806 US20150794886 20150709

Family:	Publication number	Publication date	Application number	Application date
	US2014035752 AA	20140206	US20120568109	20120806
	US2015310721 AA	20151029	US20150794886	20150709
	US9113590 BB	20150825	US20120568109	20120806

Probable Assignee: SUPERIOR EDGE INC

Assignee(s):(std): JOHNSON JEROME DALE ; SUPERIOR EDGE INC

Inventor(s):(std): JOHNSON JEROME DALE

Agent(s): KINNEY AND LANGE PA

International class (IPC 8-9): A01B79/00 A01G1/00 G01W1/00 G06F17/30 G06F3/0484 G08B21/18 H04L29/06 (Advanced/Invention)

CPC: G08B21/18 H04L65/403 G06F3/0484 A01B79/005 A01G22/00 G06F16/22 G06F16/24578 G06F16/248
G06F16/285

US class: 1/1 340/540 340/601

[Classification Explorer](#)

Cited documents: USRE37574 E, US9113590 BB, US8527301 BB, US8510195 BB, US8346578 BA, US8335747 BA, US8250481 BB, US8249926 BB, US8244563 BB, US8243997 BB, US8229769 BA, US8229768 BA, US8208680 BB, US8196030 BA, US8195473 BB, US8189877 BB, US8160944 BB, US8135178 BB, US8121345 BB, US8046306 BB, US8046280 BB, US7991754 BB, US7930085 BB, US7916898 BB, US7904332 BA, US7844475 BA, US7801759 BA, US7725233 BB, US7693765 BB, US7657469 BA, US7657124 BB, US7555472 BB, US7542960 BB, US7542958 BA, US7533069 BB, US7440901 BA, US7412330 BB, US7389181 BB, US7349888 BA, US7260561 BA, US7203667 BB, US7184892 BA, US7184859 BB, US7167800 BB, US7123750 BB, US7103451 BB, US7068816 BA, US7050910 BB, US7047133 BA, US7039592 BA, US6999877 BA, US6990459 BB, US6957202 BB, US6928434 BA, US6813544 BB, US6754184 BB, US6750898 BA, US6745184 BA, US6721543 BA, US6683970 BA, US6606542 BB, US6597991 BA, US6596996 BA, US6549851 BB, US6529615 BB, US6466321 BA, US6401070 BA, US6366681 BA, US6338040 BA, US6336066 BA, US6336051 BA, US6236907 BA, US6212824 BA, US6199000 BA, US6178406 BA, US6178406 B1, US6178253 BA, US6178253 B1, US6160902 A, US6141614 A, US6108590 A, US6078901 A, US6078892 A, US6014451 A, US5999650 A, US5938709 A, US5927603 A, US5919242 A, US5913915 A, US5878371 A, US5857174 A, US5845229 A, US5841883 A, US5764819 A, US5751576 A, US5689418 A, US5467271 A, US5412219 A, US5389781 A, US5361201 A, US5334987 A, US4371081 A, US2013168327 AA, US2013162390 AA, US2013093592 AA, US2013018586 AA,

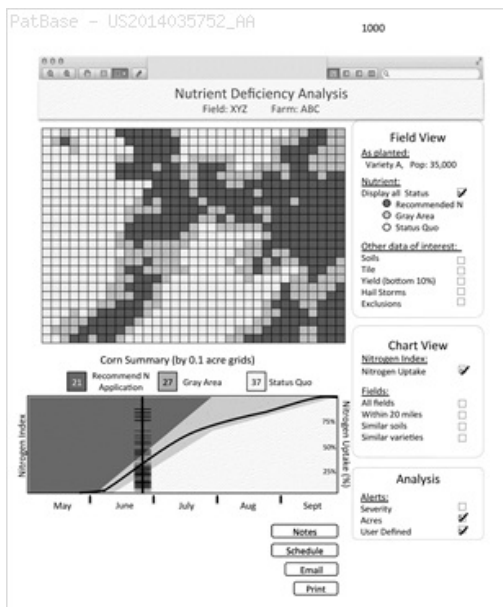
US2013013525 AA, US2012143633 AA, US2012123817 AA, US2012109387 AA, US2012101634 AA, US2011276336 AA, US2011196710 AA, US2011160994 AA, US2011137456 AA, US2011113030 AA, US2011066337 AA, US2011035059 AA, US2010306012 AA, US2010268390 AA, US2010042234 AA, US2009322357 AA, US2009240516 AA, US2009216594 AA, US2009192956 AA, US2009150323 AA, US2009043714 AA, US2009024555 AA, US2008291455 AA, US2008250330 AA, US2008215203 AA, US2008195270 AA, US2008162556 AA, US2008140431 AA, US2008022773 AA, US2007239337 AA, US2007208511 AA, US2007089390 AA, US2007050382 AA, US2006287896 AA, US2006282467 AA, US2006282295 AA, US2006025927 AA, US2006015374 AA, US2006015360 AA, US2005273253 AA, US2005149464 AA, US2005108343 AA, US2005075784 AA, US2005027572 AA, US2004167877 AA, US2004088330 AA, US2004087317 AA, US2004021862 AA, US2004006736 AA, US2003220805 AA, US2003139983 AA, US2003061075 AA, US2003018481 AA, US2002193928 AA, US2002178229 AA, US2002170229 AA, US2002138201 AA, US2001016053 AA, CN101398317 A,

Forward Citations:

WO19217152, WO19152525, WO19055112, WO18048741, WO18009257, WO16183000, WO16049217, US9880559, US9880140, US9745060, US9740208, US9734400, US9719973, US9696162, US9652840, US9638678, US9563848, US9471064, US9439342, US9098553, US2018042174, US2018011460, US2017231151, US2017131254, US2017112057, US2017075354, US2017064507, US2016223506, US2016019560, US2015373902, US2015356482, US2015310721, US2015286929, US2014350980, US2014280208, US2014026474, US10438302, US10426106, US10423850, US10402835, US10398096, US10390472, US10368481, US10346958, US10345826, US10321663, US10303677, US10295703, US10238028, US10231441, US10212876, US10192182, US10189568, US10188037, US10188036, US10143148, US10139279, US10095243, US10095235, US10078784, US10028451, US10028426, US10019018, NL2014166, JP2017530706, GB2568002, EP3494767, EP3295370, EP3197258, EP3183697, EP3141108, EP3000305, EP3000305, EP2980669, EP2980669, EP2980669, CN108182784, CN107711454, CN107249296, CN105823735, CN105823735, CN104597522, CN103885454, CN103885454, AU2018226484, AU2016337264, AU2015320681,

Abstract:

A crop's status may be determined from analysis of information regarding the crop received from, for example, a user, an in-season data gathering source, a database, a data feed, an aerial sensor, a UAV, and/or a remote sensor via a communication network. The received data may be compared to, for example, a benchmark, a parameter, a previously determined crop status, and/or a baseline associated with the crop and the comparison may be scored. When the score exceeds a predetermined threshold, an alert may be generated and provided to a user via the communication network.



4) Family number: 62006516 (US2019116719A)

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Title: TECHNIQUES FOR AUTOMATED PLANTING

Priority: AU20140054280P 20140923 US20150209227P 20150824 AU20150320681 20150923
CA20152962076 20150923 JP20170516950T 20150923 EP20150844818 20150923
US20150513126 20150923 WO2015US51768 20150923 CA20182962076 20180619
JP20180126775 20180703 AU20180226484 20180907

Family:

Publication number	Publication date	Application number	Application date
AU2015320681 AA	20170518	AU20150320681	20150923
AU2015320681 BB	20190214	AU20150320681	20150923
AU2018226484 AA	20180927	AU20180226484	20180907
AU2018226484 BB	20191010	AU20180226484	20180907
CA2962076 AA	20170321	CA20152962076	20150923
CA3008101 AA	20160331	CA20153008101	20150923
CL2017000680 A1	20180615	CL20170000680	20170322
CN107249296 A	20171013	CN201580063409	20150923
CO20170003923 A2	20170831	CO20170003923	20170421
EA201790694 A1	20170929	EA20170090694	20150923
EP3197258 A1	20170802	EP20150844818	20150923
EP3197258 A4	20180620	EP20150844818	20150923
EP3494767 A1	20190612	EP20180215641	20150923
ID201800271 A	20180112	ID2017P0004050	20150923

IN201717014247 A	20170908	IN201717014247	20170421
JP2017530706 T2	20171019	JP20170516950T	20150923
JP2019004882 A2	20190117	JP20180126775	20180703
MX2017003844 A1	20180706	MX20170003844	20150923
NZ731232 A	20181026	NZ20150731232	20150923
PE14572017 A1	20171011	PE20170000502	20150923
PE20171457 A1	20171011	PE20170000502	20150923
US2019116719 AA	20190425	US20150513126	20150923
WO16049217 A1	20160331	WO2015US51768	20150923
WO16049217 A4	20160512	WO2015US51768	20150923

Probable Assignee: BIOCARBON ENG LTD

Assignee(s):(std): BIOCARBON ENG LTD ; BIOCARBON ENGINEERING LTD ; FLETCHER LAUREN ; FLETCHER LAUREN E ; GRAHAM SUSAN ; GRAHAM SUSAN M ; RITCHIE MATTHEW S ; RITCHIE MATTHEW ; LAUREN E FLETCHER ; MATTHEW S RITCHIE ; SUSAN M GRAHAM

Assignee(s): BIAN SHUNNING

Inventor(s):(std): GRAHAM SUSAN M ; BIAN SHUNNING ; FLETCHER LAUREN E ; RITCHIE MATTHEW S ; LAUREN E FLETCHER ; MATTHEW S RITCHIE ; SUSAN M GRAHAM ; SHUNNING BIAN

Agent(s): COLLISON AND CO; SMART AND BIGGAR; SMART AND BIGGAR LLP; VENTURELLI SANTA MARIA VALENTINA; HASBLEYDI LIZBETH CALVO ROJAS; J A KEMP; JUANITASARI WINAGA SPD MM; FELD NATHAN L

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): A01B49/06 A01B69/00 A01B69/04 A01B79/00 A01B79/02 A01C11/00 A01C11/02 A01C14/00 A01C21/00 A01C7/08 A01G9/029 B64C27/08 B64C39/02 B64D1/02 B64D1/08 B64D1/16 G05D1/10 (Advanced/Invention)

CPC: A01B79/005 A01C21/005 A01G9/0293 B64C39/024 B64C2201/027 B64C2201/12 B64C2201/128 B64C2201/141 B64D1/08 B64D1/16

US class: 1/1

JP class F-Term: 2B043 2B043/AA03 2B043/BA07 2B043/BA10 2B043/BB04 2B043/EB30 2B043/EC20 2B060 2B060/AA10 2B060/AC01 2B060/AD05 2B060/CA09 2B060/CA19 2B060/CB30 2B060/CC02 2B060/CC20 3D140 2B043/AA04 2B043/AB15 2B043/AB20 2B043/EA08 2B043/EA32 2B043/EB05 2B043/EB10 2B043/EB17 2B043/EC12 2B043/EC13 2B043/EC14 2B043/EC19 2B043/ED01 2B043/ED30 2B060/AA06 2B060/AC07

JP class F-Index: A01B69/00/303/Q A01C11/00/301 A01C11/02/302/B B64C27/08 B64C39/02 B64D1/02

[Classification Explorer](#)

Cited documents: WO14026183 A2, US7779770 BB, US6671582 BA, US6070539 A, US4333265, US2014165890 AA, US2014035752 AA, US2013068892 AA, US2006230999 AA, US2006213167 AA, JP50099820, JP4335830, JP3100525 U, JP2014103932 A2, JP2012147756, JP2011254711 A2, JP2004213239 A2, JP2001251906 A2, JP2001209427 A2, JP2001204260, JP2001120151 A2, JP2000157008 A2, JP11042003, CN203446263 U, CN203446251 U, CN202489007 U, CN201888083,

Forward Citations: WO19046837, WO18191134, WO18033812, US10524409, US10322803, CN109244937, CN108569401, CN107053178,

Abstract:

Embodiments of the present invention provide techniques, including systems and methods, for planting using planting pods. A planting system can be configured to deliver pods including a payload (e.g., seeds, cuttings, or other planting materials) into or onto the ground at a predetermined location. In some embodiments, the automated planting system can include a mapping system that receives various sensor inputs and generates a map of a planting area. A pod planting system may use the map of the planting area to deliver pods to the planting area. The pod planting system may be executed automatically using the maps generated by the mapping system and/or manually by a remote operator. Each pod can include a payload to be planted on or in the ground by the pod planting system. Pods may be customized depending on the types of plants being planted, the terrain, prior planting results, etc.

