

1) Family number: 62569498 (US2017267344A)

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Title: METHOD FOR ENCAPSULATION AND RELEASE OF FRAGILE INSECTS

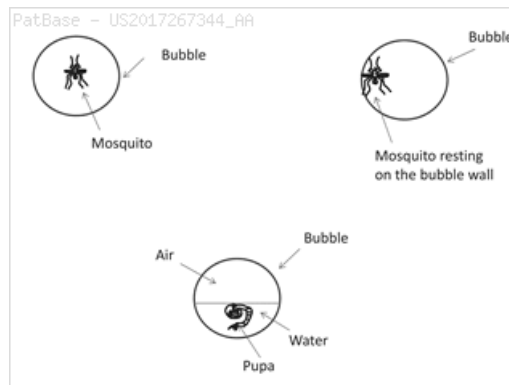
Abstract: A method of distributing fragile insects in a distribution involving a wind shear, comprises, encapsulating the insects into a bubble and then releasing the bubble into the wind shear so that the bubble protects the insect from the wind shear. The insect may be inserted before or after formation of the bubble at any stage of the insect life cycle and the bubble may be uniform or made of a slow dissolving and a quick dissolving part. The bubbles are useful for aerial distribution of sterile male mosquitoes.

Classifications:

International (IPC 8-9): A01K1/03 A01K1/08 A01K67/033 B64D B64D1/10 B64D1/12 B64D1/16 (Advanced/Invention); B64D (Subclass/Invention)

CPC: A01K67/033 B64D1/16 A01K1/03 B64D1/10 B64D1/12

US: 1/1 119/6.5 119/843 119/844

**Family:**

Publication number	Publication date	Application number	Application date
AU2015356564 AA	20170713	AU20150356564	20151203
AU2015356566 AA	20170713	AU20150356566	20151203
BR112017011424 A2	20180227	BR20171111424	20151203
BR112017011678 A2	20180227	BR20171111678	20151203
BR112017011785 A2	20180220	BR20171111785	20151203
CN107205369 A	20170926	CN201580075737	20151203
CN107207090 A	20170926	CN201580075437	20151203
CN107207090 B	20191011	CN201580075437	20151203
CO20170006705 A2	20170920	CO20170006705	20170704
CO20170006718 A2	20170920	CO20170006718	20170704
CR20170306 A	20180201	CR20170000306	20151203
EP3226683 A2	20171011	EP20150820296	20151203
EP3226684 A1	20171011	EP20150823393	20151203
IL252634 A0	20170731	IL20150252634	20151203
IL252635 A0	20170731	IL20150252635	20151203
IN201727022297 A	20171201	IN201727022297	20170626
IN201727022663 A	20171110	IN201727022663	20170628
MX2017007252 A1	20180410	MX20170007252	20151203
MX2017007267 A1	20180410	MX20170007267	20151203
SG11201704330W A1	20170629	SG20171104330	20151203
US2017267344 AA	20170921	US20150531750	20151203
US2017267346 AA	20170921	US20150531498	20151203
US2018332817 AA	20181122	US20150532124	20151203
WO16088127 A1	20160609	WO20151L51178	20151203
WO16088128 A1	20160609	WO20151L51180	20151203
WO16088129 A2	20160609	WO20151L51181	20151203
WO16088129 A3	20160728	WO20151L51181	20151203
WO16088129 A9	20160929	WO20151L51181	20151203

Priority:

US20140087576P 20141204	US20140087584P 20141204	US20140087590P 20141204
US20150531750 20151203	US20150531498 20151203	US20150532124 20151203
WO20151L51178 20151203	WO20151L51181 20151203	WO20151L51180 20151203

Probable Assignee: SENEIO LTD

Assignee(s): (std): ARIE ASAF LEVY ; DORON SHABANOV ; HANAN LEPEK ; OMER EINAV ; RIMON ARIELI ; ROM EISENBERG ; SENEIO LTD ; YORAM FLEISCHMANN

Inventor(s): (std): ARIE ASAF LEVY ; ARIELI RIMON ; DAREN STEVE ; DORON SHABANOV ; EINAV OMER ; EISENBERG ROM ; FLEISCHMANN YORAM ; FLEISCHMANN YORAM ; HANAN LEPEK ; LEPEK HANAN ; LEVY ARIE ; LEVY ARIE ASAF ; OMER EINAV ; RIMON ARIELI ; ROM EISENBERG ; SHABANOV DORON ; STEVE DAREN ; YORAM FLEISCHMANN

Agent(s): IP SENTINELS PATENT AND TRADEMARK ATTORNEYS; GOLJA HAINES AND FRIEND; CAROLINA MERCEDES DAZA MONTALVO; CABINET LAURENT AND CHARRAS; EHRLICH GAL 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 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

Title: APPARATUS FOR PRODUCING A STERILIZED ANIMAL POPULATION

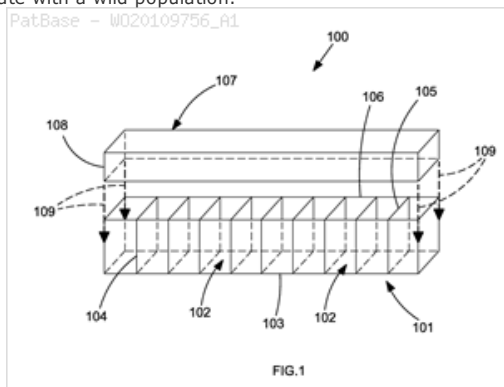
Abstract: Apparatus for shielding a non-human animal from a sterilizant. The apparatus (100, 200) defines a space (102, 202) for accommodating a non-human animal (111, 204) and a shield (107, 201) for shielding a part of the animal from a sterilizant such as radiation. Only exposing a specific part of the animal to sterilizant produces a sterile animal which is better adapted to mate with other animals. When the sterilized animals are released in a sterile insect technique, the technique is more efficient because the released animals are better adapted to mate with a wild population.

Classifications:

International (IPC 8-9): A01K67/02 A01K67/033

A01M1/22 (Advanced/Invention)

CPC: A01K67/033 A01K67/02 A01M1/226 A01M1/20 A01M23/00



Family:

Publication number	Publication date	Application number	Application date
GB201819190 A0	20190109	GB20180019190	20181126
GB2579224 A1	20200617	GB20180019190	20181126
GB2579224 A8	20200729	GB20180019190	20181126
WO20109756 A1	20200604	WO2019GB53308	20191122

Priority:

GB20180019190 20181126

Probable Assignee: ZYZZLE LTD

Assignee(s): (std): ZYZZLE LTD

Inventor(s): (std): SLADE GLEN ; GLEN JONATHAN SLADE

Agent(s): BENNETT NICHOLAS

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

Title: AIR ASSISTED INSECT DISPENSING APPARATUS AND DELIVERY PROCESS

Abstract: An apparatus for the metered delivery of beneficial insects such as but not limited to Trichogramma adaptable for mounting on a tractor, airplane, or a backpack blower carried by ground personnel. The apparatus employs a binder injection system for impact upon the metered beneficial insects in a moving airstream for delivery to specific targets. The process of delivery constitutes the controlled metering of a desired amount of a beneficial insect into an airstream for impact by a measured amount of a binder solution such that the insects become coated, after which the insects are then delivered to their target area by a high velocity airstream.

Classifications:

International (IPC 8-9): A01G13/06 A01M9/00 (Advanced/Invention);

A01G13/06 A01M9/00 (Core/Invention)

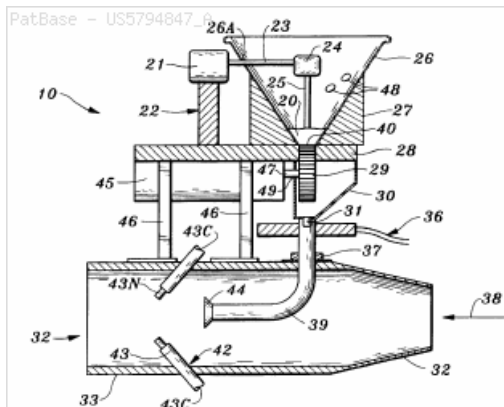
International (IPC 1-7): A62C5/02

CPC: A01G13/065 A01M9/0007 A01N63/00

European: A01G13/06 A01G13/06B A01M7/00B2 A01M7/00G1

A01M9/00B

US: 239/171 239/172 239/654 239/8



Family:

Publication number	Publication date	Application number	Application date
US5794847 A	19980818	US19960738415	19961025

Priority:

US19960738415 19961025

Probable Assignee:

STOCKER RUSSELL

Assignee(s): STOCKER RUSSELL
Inventor(s): (std) STOCKER RUSSELL

4) Family number: 11645142 (US5927004A)

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Title: BENEFICIAL INSECT COMPOSITIONS AND METHOD OF MAKING SAME

Abstract: The compositions of the invention are the in-situ prepared spray coated beneficial insects, which may be the beneficial insect alone, or within the confines of a host. The method of making the compositions of this invention relates to the mixing of a binder solution with a predetermined quantity of a beneficial pest for either direct delivery onto a plant or the collection thereof onto a substrate for strategic relocation in futuro. All of these activities can be carried out by introducing the beneficial insects into a hopper, metering the addition thereof into an airstream using a spur gear or other limiting device, introducing mucilage or some other non-lethal binder onto the moving insects and ejecting the binder coated insects into an airstream for delivery to a target, a specific plant, or to a piece of paper or other stratum.

Classifications:

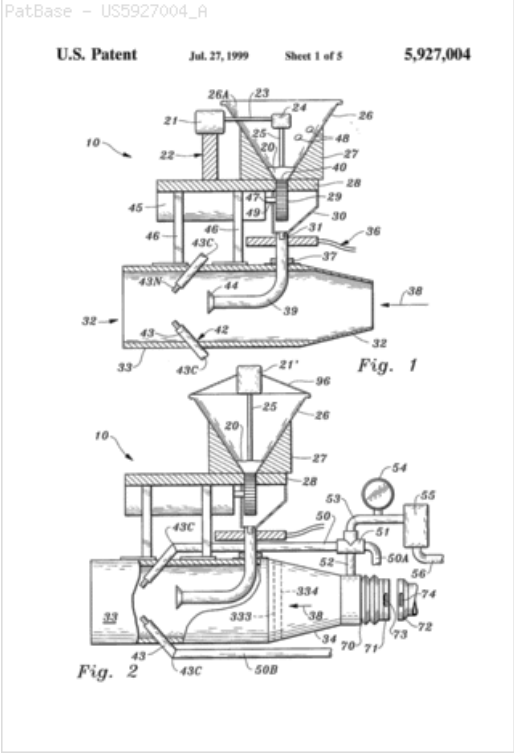
International (IPC 8-9): A01K67/033 A01N63/00 (Advanced/Invention); A01K67/00 A01N63/00 (Core/Invention)

International (IPC 1-7): A01B79/00 A01K29/00 A01N63/00 A61K35/12

CPC: A01K67/033 A01N63/00

European: A01K67/033 A01N63/00

US: 119/6.5 424/520 424/93.7 47/58.1 47/58.10R 47/58.1R



Family:

Publication number	Publication date	Application number	Application date
US5927004 A	19990727	US19960738414	19961025

Priority:

US19960738414 19961025

Probable Assignee: STOCKER RUSSELL

Assignee(s): STOCKER RUSSELL

Inventor(s): (std) STOCKER RUSSELL

5) Family number: 77083804 (CN209846006U)

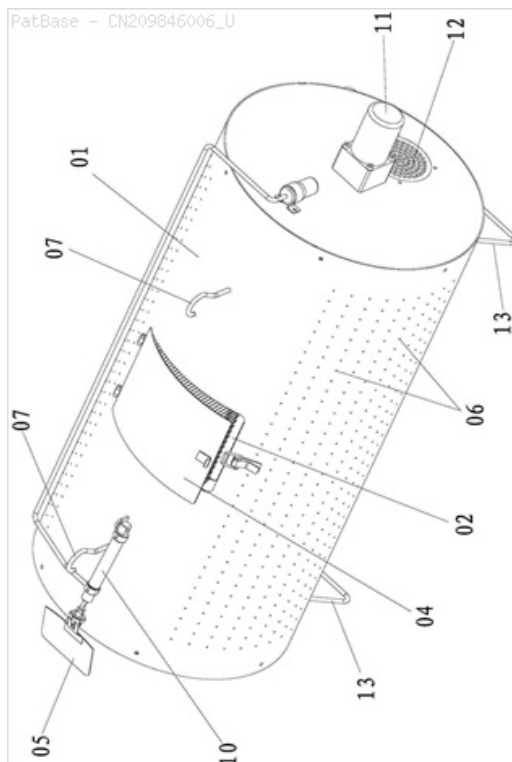
© PatBase

Title: STERILE INSECT RELEASER

Abstract: The utility model discloses a sterile insect releaser. Box body, wherein a mounting part is arranged on the box body; an insect inlet and an insect outlet are formed in the box body; a first cover body corresponding to the insect inlet is arranged on the box body; a second cover body is arranged corresponding to the insect outlet; the box body is provided with a through hole convenient for air circulation; an insect repeller is arranged in the box body, the insect repeller is provided with a rotating shaft, the box body is further provided with a push rod used for driving the second cover body to be automatically opened and closed and a driving device used for driving the insect repeller to rotate, a telescopic rod of the push rod is connected with the first cover body, and the output end of the driving device is connected with the rotating shaft. When the device is used, sterile male pupae are put into the box body through the insect inlet, after the sterile male pupae are eclosion completely, the box body is installed on an external automatic moving device through the installation part, and during putting, the second cover body is opened, the insect expelling device rotates, and sterile male insects fly out of the insect outlet. Compared with the prior art, the utility model can realize automatic operation, and is simple and convenient.

Classifications:

International (IPC 8-9): A01K67/033 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN209846006 U	20191227	CN201920365868U	20190321

Priority:

CN201920365868U 20190321

Probable Assignee: QUANZHOU LVPUSEN BIOTECH CO LTD

Assignee(s): (std): QUANZHOU LVPUSEN BIOTECH CO LTD

Assignee(s): SIMPSON QUANZHOU GREEN BIOTECHNOLOGY CO LTD ; QUANZHOU LVPUSEN BIOTECH CO

Inventor(s): (std): HU ZHONG ; MA CHANGJIE ; YANG HUOLIN

6) Family number: 47904017 (WO10148498A1)

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Title: METHOD AND SYSTEM FOR DISTRIBUTING MIXTURE OF INSECTS AND CARRIER MATERIAL ON FIELD

Abstract: A plurality of batches of insects and carrier material are provided in corresponding independently openable containers and carried by a vehicle on a field. The batches are dropped at distinct locations by selectively opening the containers.

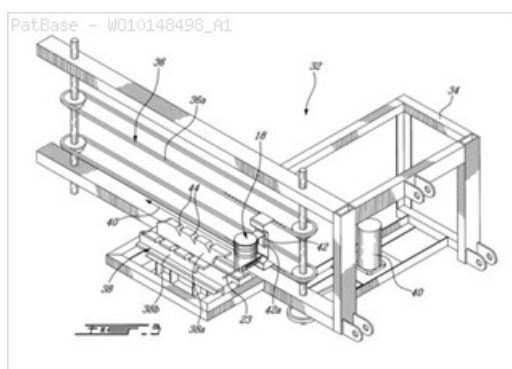
Classifications:

International (IPC 8-9): A01M3/00 A01M5/00

A01M99/00 (Advanced/Invention)

CPC: A01M3/00

European: A01M3/00



Family:

Publication number	Publication date	Application number	Application date
WO10148498 A1	20101229	WO2010CA00964	20100621

Priority:

US20090219013P 20090622

Probable Assignee: UNIV LAVAL

Assignee(s): (std): DE LADURANTAYE YANNICK ; KHELIFI MOHAMED ; PARE FRANCOIS ; UNIV LAVAL

Assignee(s): UNIVERSITE LAVAL ; LAVAL UNIV

Inventor(s): (std): DE LADURANTAYE YANNICK ; PARE FRANCOIS ; KHELIFI MOHAMED

Agent(s): OGILVY RENAULT LLP S E N C R L S R L

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ 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 IS IT JP KE KG KM KN KP KR KZ LA LC LR LK LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW

7) Family number: 49044270 (US2011132278A)

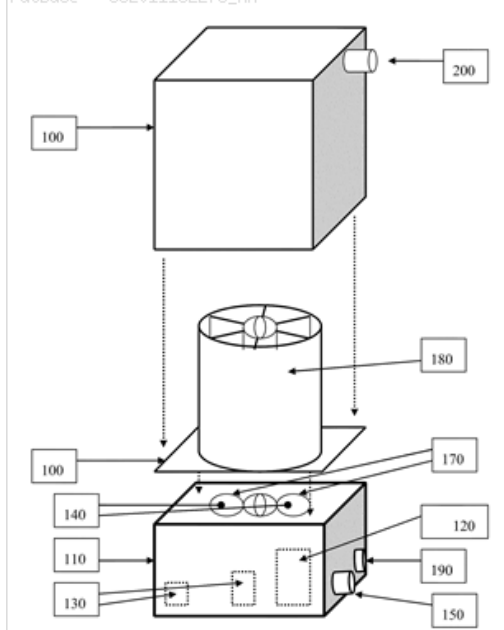
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Title: SYSTEM AND METHOD FOR RELEASE AND DISPERSION OF FLIES OR OTHER BIOLOGICAL CONTROL

Abstract: A system and method of release and dispersion of genetically altered flies or other insects to control insect population. Disclosed is an apparatus designed to be carried by an aircraft which implements a method of insect population control. The apparatus features one or more removable fly chambers that contain fly containment cylinders. The fly chambers are seated upon one or more nesting chutes. A refrigeration system operates to physically retard the fruit flies. Once the flies have been successfully immobilized by the refrigerated air, they are released from the fly containment cylinders and fall to the bottom of the fly chamber. Gates on the bottom of the fly chamber are opened manually or remotely to allow the refrigerated flies to fall through the nesting chute into the spiral release controllers. The spiral release controllers dispense the genetically altered flies into the exit chute. The genetically altered flies travel through the exit chute, fall to the earth below and mate with the population thus serving to decrease population by capitalizing on a weakness in the reproductive cycle of the fruit fly or other insect.

Classifications:**International (IPC 8-9):** A01K29/00 A01K67/00 (Advanced/Invention)**CPC:** A01K67/033**European:** A01K67/033**US:** 119/174 119/6.5 119/843

PatBase - US2011132278_AA

**Family:**

Publication number	Publication date	Application number	Application date
US2011132278 AA	20110609	US20100876895	20100907
US8408164 BB	20130402	US20100876895	20100907

Priority:

US20090240069P 20090904 US20100876895 20100907

Probable Assignee: INTERNAT FLYMASTERS INC**Assignee(s):** (std): ROBINSON JR RICHARD DAVID ; INTERNAT FLYMASTERS INC**Assignee(s):** INT FLYMASTERS INC ; INTERNATIONAL FLYMASTERS INC**Inventor(s):** (std): ROBINSON JR RICHARD DAVID**Agent(s):** GREENBERG TRAURIG LLP**8) Family number: 5149922 (US5148989A)**

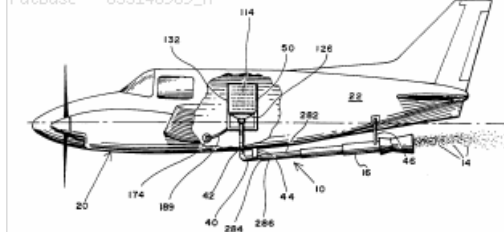
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Title: Insect dispensing apparatus and method

Abstract: A dispenser for discharging insects from a moving vehicle includes an insect retaining assembly and an insect acceleration chute. The chute receives air at several locations for accelerating the insects to the speed of the air passing the vehicle. The retaining assembly includes at least one surface for retaining the insects formed from a series of louvers which can be individually rotated on axles to discharge the insects. A metering valve is provided for delivering insects from the retaining assembly to the chute at a constant rate. A refrigeration apparatus is preferably provided for supplying cooled air to the retaining assembly to cool the insects. A method for discharging insects from such a dispenser includes the steps of depositing insects on each retaining surface and rotating the louvers individually at a constant rate to drop the insects from each surface at a constant rate.

Classifications:**International (IPC 8-9):** B64D1/18 (Advanced/Invention); B64D1/00 (Core/Invention)**International (IPC 1-7):** B64D1/18**CPC:** B64D1/18**European:** B64D1/18**US:** 239/128 239/171 239/8 244/136

PatBase - US5148989_A



Family:

Publication number	Publication date	Application number	Application date
US5148989 A	19920922	US19900625147	19901210

Priority:

US19900625147 19901210

Probable Assignee:

SKINNER BURR W

Assignee(s): (std):

SKINNER BURR W

Inventor(s): (std):

SKINNER BURR W

9) Family number: 66945125 (US2019092471A)

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Title: CONTINUAL AERIAL RELEASE FROM DRONES

Abstract: A storage and release mechanism for aerial distribution and release of insects from an unmanned aerial vehicle, the release being aimed at controlling a wild insect population, the wild population having fluctuating local densities, the mechanism comprising a switch for switching between two or more different sustainable insect delivery rates for release of the insects. The method is particularly suitable for sterile male mosquitoes in programs to control wild mosquito populations.

Classifications:**International (ipc 8-9):** A01K67/033 B64C39/02 B64D1/00

B64D1/12 (Advanced/Invention);

B64D1/12 (Advanced/Non-invention)

International (ipc 1-7): A01K67/033 B64C39/02 B64D1/00

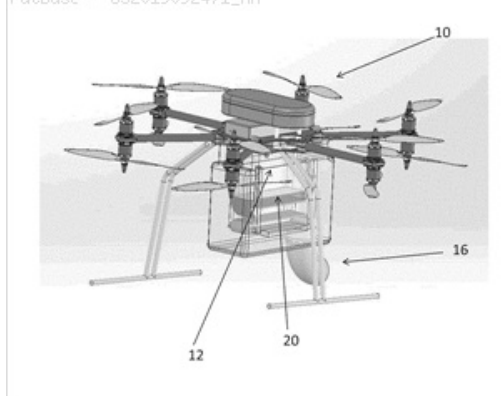
B64D1/12

CPC: B64C2201/021 B64D1/12 A01K67/033 B64C39/024

B64C2201/027 B64C2201/128 B64D1/00

US: 1/1

PatBase - US2019092471_AA

**Family:**

Publication number	Publication date	Application number	Application date
AU2017231049 AA	20181004	AU20170231049	20170309
BR112018068233 A2	20190129	BR20181168233	20170309
CN109071010 A	20181221	CN201780016421	20170309
IN201817036932 A	20190125	IN201817036932	20180929
SG11201810004S A1	20181228	SG20181110004	20170309
US2019092471 AA	20190328	US20170082546	20170309
WO17154004 A1	20170914	WO20171L50304	20170309

Priority:

US20160306732P 20160311

US20160307471P 20160312

WO20171L50304 20170309

US20170082546 20170309

Probable Assignee: SENCIO LTD**Assignee(s):** (std): SENCIO LTD**Inventor(s):** (std): LEPEK HANAN ; EISENBERG ROM ; FLEISCHMANN YORAM ; ILAN AMIR ; HANAN LEPEK ; ROM EISENBERG ; YORAM FLEISCHMANN ; AMIR ILAN**Agent(s):** SPRUSON AND FERGUSON; EHRLICH GAL 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 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**10) Family number: 8161147 (US4260108A)**

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Title: METHOD AND APPARATUS FOR AIRBORNE RELEASE OF INSECT EGGS

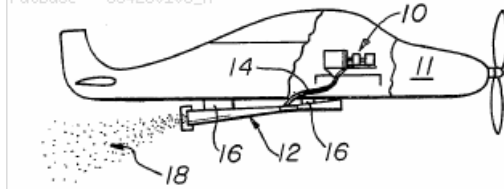
Abstract: In one exemplar embodiment, method and apparatus are provided for the airborne dispensing of loose, dry insect eggs from a container by gravity flow through a metering device to control the loose egg flow to a spreader for spreading the loose eggs in a desired broadcast pattern entrained in a flow of air. A slight vacuum is applied to the container dispenser device stimulating and enhancing the steady flow of the loose eggs from the container dispenser to the spreader device.

Classifications:**International (ipc 8-9):** B64D1/18 (Advanced/Invention);

B64D1/00 (Core/Invention)

International (ipc 1-7): B64D1/18**CPC:** B64D1/18 A01N63/00**European:** B64D1/18**US:** 222/161 239/171 244/136

PatBase - US4260108_A

**Family:**

Publication number	Publication date	Application number	Application date
US4260108 A	19810407	US19780935923	19780823

Priority:

US19780935923 19780823

Probable Assignee:

BIOGENESIS INC

Assignee(s): (std):

BIOGENESIS INC

Inventor(s): (std):

MAEDGEN JR MALCOLM A

11) Family number: 70561830 (US2018206464A)

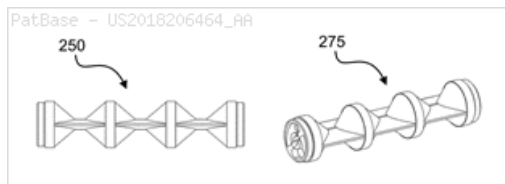
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Title: SYSTEMS AND METHODS FOR MOBILE AUTOMATED MASS RELEASE OF INSECTS

Abstract: Systems and methods for automated release of insects are disclosed. In one embodiment, a system includes: an insect storage device defining one or more internal compartments to store a population of insects; a loading mechanism for loading the insect storage device with a population of insects; and an insect release device coupled to the loading mechanism and configured to release into an environment one or more insects from the population of insects in the insect storage device.

Classifications:

International (IPC 8-9): A01K29/00 A01K67/033 A01M99/00 B64D1/00 B64D1/02 B64D1/08 B64D1/12 B64D1/16 G05D7/06 (Advanced/Invention); G01F1/66 G01S19/14 G01S19/42 G05D7/06 (Advanced/Non-invention)
CPC: A01K67/033 A01K29/005 A01M99/00 A01M2200/012 G05D7/0605
US: 1/1 119/6.5



Family:

Publication number	Publication date	Application number	Application date
CN108883830 A	20181123	CN201880001567	20180118
SG11201807864Q A1	20181030	SG20181107864	20180118
US2018206464 AA	20180726	US20170413564	20170124
US2018206465 AA	20180726	US20170701933	20170912
US10568308 BB	20200225	US20170413564	20170124
US10568309 BB	20200225	US20170701933	20170912
WO18140273 A1	20180802	WO2018US14154	20180118

Priority:

US20170413564 20170124 US20170701933 20170912 WO2018US14154 20180118

Probable Assignee: VERILY LIFE SCIENCES LLC

Assignee(s): (std): VERILY LIFE SCIENCES LLC

Inventor(s): (std): LEVINE GABRIELLA ; BEHLING CHARLES ; WASSON BRIAN ; SOBECKI ROBERT ; MASSARO PETER

Agent(s): KILPATRICK TOWNSEND AND STOCKTON LLP; MORLOCK MICHAEL 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