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(54) Title: PEST CONTROLLING COMPOSITION AND METHOD FOR CONTROLLING PESTS

(57) Abstract: A pest controlling composition comprising clothianidin, and one or more fungicidal compounds selected from Group (A) : Group (A) : group consisting of mancozeb, mefenoxam and metalaxyl.

## DESCRIPTION

PEST CONTROLLING COMPOSITION AND METHOD FOR CONTROLLING  
PESTS

## TECHNICAL FIELD

The present invention relates to a pest controlling composition and a method for controlling pests.

## BACKGROUND ART

A lot of compounds have hitherto been known as active ingredients of a pest controlling compositions (for example, refer to Pamphlet of International Publications No. WO 95/27693 and WO 02/10101 as well as The Pesticide Manual - 15th edition (published by BCPC) ISBN 1901396188).

## SUMMARY OF THE INVENTION

An object of the present invention is to provide a pest controlling composition having an excellent control activity against pests.

The present inventors studied so as to find a pest controlling composition having an excellent control effect against pests, who found that a composition containing clothianidin and one or more fungicidal compounds selected from Group (A) shown below has an excellent control effect against pests, thus accomplishing the present invention.

That is, the present invention provides [1] to [11] shown below:

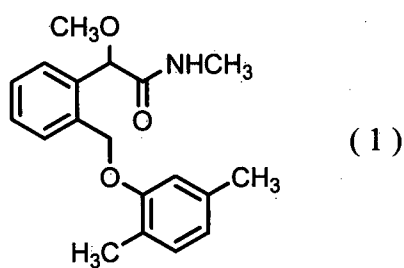
[1] A pest controlling composition comprising clothianidin, and one or more fungicidal compounds selected from Group (A):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl.

[2] A pest controlling composition comprising clothianidin, one or more fungicidal compounds selected from Group (A), and one or more fungicidal compounds selected from Group (B):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl, and

Group (B): group consisting of the compound represented by the formula (1), pyraclostrobin, azoxystrobin and trifloxystrobin.



[3] A pest controlling composition comprising clothianidin, one or more fungicidal compounds selected from Group (A), and one or more fungicidal compounds selected from Group (C):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl, and

Group (C): group consisting of metconazole, prothioconazole, triticonazole, tebuconazole, difenoconazole and ipconazole.

[4] A pest controlling composition comprising clothianidin, one or more fungicidal compounds selected from Group (A), and one or more fungicidal compounds selected from Group (D):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl, and

Group (D): group consisting of thiophanate-methyl, fludioxonil, tolclofos-methyl, thiram, captan, carboxin, boscalid and thiabendazole.

[5] The pest controlling composition according to any one of [1] to [4], wherein the total content of one or more fungicidal compounds selected from Group (A) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts by weight of clothianidin.

[6] The pest controlling composition according to claim 2, wherein the total content of one or more fungicidal compounds selected from Group (A) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts by weight of clothianidin and the total content of one or more fungicidal compounds selected from Group (B) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts

by weight of clothianidin.

[7] The pest controlling composition according to claim 3, wherein the total content of one or more fungicidal compounds selected from Group (A) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts by weight of clothianidin and the total content of one or more fungicidal compounds selected from Group (C) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts by weight of clothianidin.

[8] The pest controlling composition according to claim 4, wherein the total content of one or more fungicidal compounds selected from Group (A) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts by weight of clothianidin and the total content of one or more fungicidal compounds selected from Group (D) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts by weight of clothianidin.

[9] A method for controlling pests, which comprises a step of applying an effective amount of the pest controlling composition according to any one of [1] to [8] to pests or the place where pests inhabit.

[10] A method for controlling pests, which comprises a step of applying an effective amount of the pest controlling composition according to any one of [1] to [8] to plant seeds.

[11] The pest controlling composition according to [10], wherein the plant seeds are seeds of wheat, potato, corn, cotton, soybean, beet, rapeseed, barley or rice.

#### Effects of the Invention

Pests can be controlled by the present invention.

#### MODE FOR CARRYING OUT THE INVENTION

The pest controlling composition of the present invention (hereinafter referred to as a composition of the present invention) contains clothianidin and one or more fungicidal compounds selected from Group (A) (hereinafter may be sometimes referred to as a present fungicidal compound (A)):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl.

Any of clothianidin, mancozeb, mefenoxam (metalaxyl-M) and metalaxyl used in the present invention are known compounds and are described, for example, in "THE PESTICIDE MANUAL - 15th EDITION (published by BCPC) ISBN 1901396188", pages 229, 702, 739 and 737. These compounds are obtained from commercially available formulations, or obtained by producing using a known method.

Although there is no particular limitation on the contents of clothianidin and one or more fungicidal

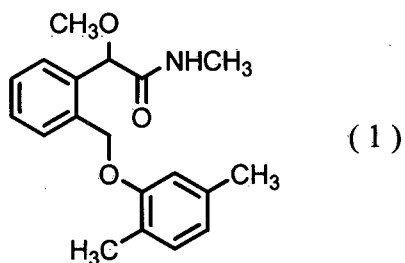
compounds selected from Group (A) in the composition of the present invention, the total content of one or more fungicidal compounds selected from Group (A) is usually within the range from 2 to 10,000,000 parts by weight, and preferably within the range from 5 to 50,000 parts by weight, per 1,000 parts by weight of clothianidin.

The composition of the present invention may be those obtained by simply mixing clothianidin with one or more fungicidal compounds selected from Group (A). Usually, those obtained by mixing these compounds with an inert carrier, optionally adding surfactants and other adjuvants for formulation, and formulating the obtained mixture into oil solutions, emulsifiable concentrates, flowable formulations, wettable powders, granular wettable powders, dusts, granules and the like are used. The composition of the present invention can be used as it is, or as a pest controlling agent obtained by adding other inert ingredients thereto.

The composition of the present invention may be obtained by optionally adding, in addition to clothianidin and one or more fungicidal compounds selected from Group (A), other insecticidal and fungicidal compounds. Examples of the fungicidal compound include one or more fungicidal compounds selected from the following Group (B), one or more fungicidal compounds selected from the following Group

(C) and one or more fungicidal compound selected from the following Group (D):

Group (B): group consisting of the compound represented by the formula (1), pyraclostrobin, azoxystrobin and trifloxystrobin;

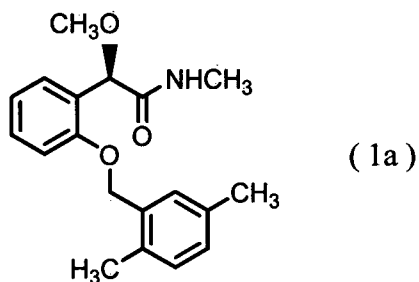


Group (C): group consisting of metconazole, prothioconazole, triticonazole, tebuconazole, difenoconazole and ipconazole; and

Group (D): group consisting of thiophanate-methyl, fludioxonil, tolclofos-methyl, thiram, captan, carboxin, boscalid and thiabendazole.

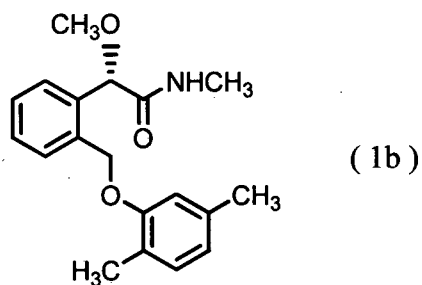
The compound represented by the formula (1) (hereinafter may be sometimes referred to as the present compound (1)) is, for example, a compound described in Pamphlet of International Publications No. WO 95/27693 and No. WO 02/10101 and can be synthesized, for example, by the method described in the relevant pamphlets.

In the present compound (1), one asymmetric carbon exists, and both enantiomers of an R-configuration (represented by the following formula (1a)):



(1a)

and an S-configuration (represented by the formula (1b)):



(1b)

based on the asymmetric carbon exist. In the present invention, a compound including enantiomers in any enantiomer ratio can be used as the present compound (1).

Any of pyraclostrobin, azoxystrobin, trifloxystrobin, metconazole, prothioconazole, triticonazole, tebuconazole, difenoconazole, ipconazole, thiophanate-methyl, fludioxonil, tolclofos-methyl, thiram, captan, carboxin, boscalid and thiabendazol described above are known compounds and are respectively described, for example, in pages 971, 62, 1167, 749, 965, 1182, 1072, 354, 663, 1128, 520, 1135, 1132, 154, 164, 121 and 1109 of "THE PESTICIDE MANUAL - 15th EDITION (published by BCPC) ISBN 1901396188". These compounds are obtained from commercially available formulations, or obtained by producing using a known method.

When the composition of the present invention contains one or more fungicidal compounds selected from Group (B), which may be optionally added together with clothianidin and one or more fungicidal compounds selected from Group (A), the content is not particularly limited and the total content of one or more fungicidal compounds selected from Group (B) is usually within the range from 2 to 10,000,000 parts by weight, and preferably within the range from 5 to 50,000 parts by weight, per 1,000 parts by weight of clothianidin.

When the composition of the present invention contains one or more fungicidal compounds selected from Group (C), which may be optionally added together with clothianidin and one or more fungicidal compounds selected from Group (A), the content is not particularly limited and the total content of one or more fungicidal compounds selected from Group (C) is usually within the range from 2 to 10,000,000 parts by weight, and preferably within the range from 5 to 50,000 parts by weight, per 1,000 parts by weight of clothianidin.

When the composition of the present invention contains one or more fungicidal compounds selected from Group (D), which may be optionally added together with clothianidin and one or more fungicidal compounds selected from Group (A), the content is not particularly limited and

the total content of one or more fungicidal compounds selected from Group (D) is usually within the range from 2 to 10,000,000 parts by weight, and preferably within the range from 5 to 50,000 parts by weight, per 1,000 parts by weight of clothianidin.

The total amount of clothianidin, fungicidal compounds selected from Group (A), and other insecticidal and fungicidal compounds in the composition of the present invention is usually within the range from 0.1 to 99% by weight, preferably from 0.2 to 90% by weight, and more preferably within the range from 1 to 80% by weight.

Examples of the solid carrier used in the formulation include fine powers and granules of minerals such as kaolin clay, attapulgite clay, bentonite, montmorillonite, acid clay, pyrophyllite, talc, diatomite, and calcite; natural organic substances such as corncob powder, and walnut shell powder; synthetic organic substances such as urea; salts such as calcium carbonate and ammonium sulfate; and synthetic inorganic substances such as synthetic hydrous silicon oxide. Examples of the liquid carrier include aromatic hydrocarbons such as xylene, alkylbenzene, and methylnaphthalene; alcohols such as 2-propanol, ethylene glycol, propylene glycol, and ethylene glycol monoethyl ether; ketones such as acetone, cyclohexanone, and isophorone; vegetable oils such as soybean oil and

cottonseed oil; petroleum-based aliphatic hydrocarbons; esters; dimethylsulfoxide; acetonitrile; and water.

Examples of the surfactant include anionic surfactants such as alkylsulfuric acid ester salt, alkylarylsulfonic acid salt, dialkylsulfosuccinic acid salt, polyoxyethylene alkylaryl ether phosphoric acid ester salt, lignin sulfonic acid salt, and naphthalenesulfonate polycondensed with formaldehyde; nonionic surfactants such as polyoxyethylene alkyl aryl ether, a polyoxyethylene-alkylpolyoxypropylene block copolymer, and sorbitan fatty acid ester; and cationic surfactants such as alkyltrimethyl ammonium salt.

Examples of the other adjuvant for formulation include water-soluble polymers such as polyvinyl alcohol and polyvinyl pyrrolidone; Arabian gum; alginic acid and a salt thereof; polysaccharides such as carboxymethyl cellulose (CMC) and xanthan gum; inorganic substances such as aluminum magnesium silicate and alumina sol; preservatives; colorants; and stabilizing agents such as isopropyl acidic phosphate (PAP) and BHT.

The composition of the present invention can be used so as to protect plants from infestation due to pests (for example, noxious arthropods such as noxious insects and noxious mites, and plant diseases) which cause infestation such as feeding and sapping to plants.

Examples of noxious arthropods on which the composition of the present invention exert a control activity include the followings:

Hemiptera: Delphacidae such as *Laodelphax striatellus*, *Nilaparvata lugens*, and *Sogatella furcifera*, Deltocephalidae such as *Nephotettix cincticeps*, and *Nephotettix virescens*, Aphididae such as *Aphis gossypii*, *Myzus persicae*, *Brevicoryne brassicae*, *Macrosiphum euphorbiae*, *Aulacorthum solani*, *Rhopalosiphum padi*, and Toxoptera *citricidus*, Pentatomidae such as *Nezara antennata*, *Riptortus clavetus*, *Leptocorisa chinensis*, *Eysarcoris parvus*, *Halyomorpha mista*, and *Lygus lineolaris*, Aleyrodidae such as *Trialeurodes vaporariorum*, *Bemisia tabaci*, *Bemisia argentifolii*, scales such as *Aonidiella aurantii*, *Comstockaspis perniciosus*, *Unaspis citri*, *Ceroplastes rubens*, *Icerya purchasi*, and *Pseudaulacapsis pentagona*, Tingidae, and Psyllidae, and the like;

Lepidoptera: Pyralidae such as *Chilo suppressalis*, *Tryporyza incertulas*, *Cnaphalocrocis medinalis*, *Notarcha derogata*, *Plodia interpunctella*, *Ostrinia furnacalis*, *Ostrinia nubilalis*, *Hellula undalis*, and *Pediasia teterrellus*, Noctuidae such as *Spodoptera litura*, *Spodoptera exigua*, *Pseudaletia separata*, *Mamestra brassicae*, *Agrotis ipsilon*, *Plusia nigrisigna*, *Trichoplusia* spp., *Heliothis* spp., and *Helicoverpa* spp., Pieridae such as

*Pieris rapae*, Tortricidae such as *Adoxophyes* spp.,  
*Grapholita molesta*, *Leguminivora glycinivorella*,  
*Matsumuraeses azukivora*, *Adoxophyes orana fasciata*,  
*Adoxophyes* sp., *Homona magnanima*, *Archips fuscocupreanus*,  
and *Cydia pomonella*, Gracillariidae such as *Caloptilia*  
*theivora*, and *Phyllonorycter ringoneella*, Carposinidae such  
as *Carposina niponensis*, Lyonetiidae such as *Lyonetia* spp.,  
Lymantriidae such as *Lymantria* spp., and *Euproctis* spp.,  
Yponomeutidae such as *Plutella xylostella*, Gelechiidae such  
as *Pectinophora gossypiella*, and *Phthorimaea operculella*,  
Arctiidae such as *Hyphantria cunea*, and Tineidae such as  
*Tinea translucens*, and the like;

Thysanoptera: Thripidae such as *Frankliniella*  
*occidentalis*, *Thrips palmi*, *Scirtothrips dorsalis*, *Thrips*  
*tabaci*, *Frankliniella intonsa*, and *Frankliniella fusca*, and  
the like;

Diptera: *Hylemya antiqua*, *Hylemya platura*,  
Agromyzidae such as *Agromyza oryzae*, *Hydrellia griseola*,  
*Chlorops oryzae*, and *Liriomyza trifolii*, *Dacus cucurbitae*,  
and *Ceratitis capitata*, and the like;

Coleoptera: *Epilachna vigintioctopunctata*,  
*Aulacophora femoralis*, *Phyllotreta striolata*, *Oulema oryzae*,  
*Echinocnemus squameus*, *Lissorhoptrus oryzophilus*,  
*Anthonomus grandis*, *Callosobruchus chinensis*, *Sphenophorus*  
*venatus*, *Popillia japonica*, *Anomala cuprea*, *Diabrotica* spp.,

*Leptinotarsa decemlineata*, *Agriotes* spp., *Lasioderma serricorne*;

Orthoptera: *Gryllotalpa africana*, *Oxya yezoensis*, and *Oxya japonica*, and the like;

Hymenoptera: *Athalia rosae*, *Acromyrmex* spp., and *Solenopsis* spp., and the like;

Among the above noxious arthropods, aphids, thrips, serpentine leaf miners, hairworm, Colorado potato beetle, Japanese beetle, *Anomala cuprea*, boll weevil, rice water weevil, tobacco thrips, family of corn rootworm, diamondback moth, cabbageworm, soybean pod borer and the like can be exemplified as preferred examples.

Examples of plant diseases on which the pest controlling composition of the present invention exerts a control activity include the followings:

Diseases of rice: *Magnaporthe grisea*, *Cochliobolus miyabeanus*, *Rhizoctonia solani*, *Gibberella fujikuroi*.

Diseases of wheat: *Erysiphe graminis*, *Fusarium graminearum*, *F. avenacerum*, *F. culmorum*, *Microdochium nivale*, *Puccinia striiformis*, *P. graminis*, *P. recondita*, *Micronectriella nivale*, *Typhula* sp., *Ustilago tritici*, *Tilletia caries*, *Pseudocercospora herpotrichoides*, *Mycosphaerella graminicola*, *Stagonospora nodorum*, *Pyrenophora tritici-repentis*.

Diseases of barley: *Erysiphe graminis*, *Fusarium*

graminearum, *F. avenacerum*, *F. culmorum*, *Microdochium nivale*, *Puccinia striiformis*, *P. graminis*, *P. hordei*, *Ustilago nuda*, *Rhynchosporium secalis*, *Pyrenophora teres*, *Cochliobolus sativus*, *Pyrenophora graminea*, *Rhizoctonia solani*.

Diseases of corn: *Ustilago maydis*, *Cochliobolus heterostrophus*, *Gloeocercospora sorghi*, *Puccinia polysora*, *Cercospora zeae-maydis*, *Rhizoctonia solani*.

Diseases of citrus fruits: *Diaporthe citri*, *Elsinoe fawcetti*, (*Penicillium digitatum*, *P. italicum*, *Phytophthora parasitica*, *Phytophthora citrophthora*).

Diseases of apple: *Monilinia mali*, *Valsa ceratosperma*, *Podosphaera leucotricha*, *Alternaria alternata* apple pathotype, *Venturia inaequalis*, *Colletotrichum acutatum*, *Phytophthora cactorum*, *Diplocarpon mali*, *Botryosphaeria berengeriana*.

Diseases of pear: *Venturia nashicola*, *V. pirina*, *Alternaria alternata* Japanese pear pathotype, *Gymnosporangium haraeaeum*, *Phytophthora cactorum*;

Diseases of peach: *Monilinia fructicola*, *Cladosporium carpophilum*, *Phomopsis* sp..

Diseases of grape: *Elsinoe ampelina*, *Glomerella cingulata*, *Uncinula necator*, *Phakopsora ampelopsidis*, *Guignardia bidwellii*, *Plasmopara viticola*.

Diseases of persimmon: *Gloeosporium kaki*, *Cercospora*

kaki, *Mycosphaerella nawae*.

Diseases of cucurbits: *Colletotrichum lagenarium*,  
*Sphaerotheca fuliginea*, *Mycosphaerella melonis*, *Fusarium*  
*oxysporum*, *Pseudoperonospora cubensis*, *Phytophthora* sp.,  
*Pythium* sp.;

Diseases of tomato: *Alternaria solani*, *Cladosporium*  
*fulvum*, *Phytophthora infestans*.

Diseases of eggplant: *Phomopsis vexans*, *Erysiphe*  
*cichoracearum*.

Diseases of cruciferous vegetable: *Alternaria*  
*japonica*, *Cercospora brassicae*, *Plasmodiophora brassicae*,  
*Peronospora parasitica*.

Diseases of welsh onion: *Puccinia allii*, *Peronospora*  
*destructor*.

Diseases of soybean: *Cercospora kikuchii*, *Elsinoe*  
*glycines*, *Diaporthe phaseolorum* var. *sojae*, *Septoria*  
*glycines*, *Cercospora sojae*, *Phakopsora pachyrhizi*,  
*Phytophthora sojae*, *Rhizoctonia solani*.

Diseases of kidneybean: *Colletotrichum lindemthianum*

Diseases of peanut: *Cercospora personata*, *Cercospora*  
*arachidicola*), *Sclerotium rolfsii*.

Diseases of pea: *Erysiphe pisi*, *Fusarium solani* f. sp.  
*Pisi*.

Diseases of potato: *Alternaria solani*, *Phytophthora*  
*infestans*, *Phytophthora erythroseptica*, *Spongospora*

subterranean f. sp. Subterranea.

Diseases of strawberry: *Sphaerotheca humuli*,  
*Glomerella cingulata*.

Diseases of tea plant: *Exobasidium reticulatum*,  
*Elsinoe leucospila*, *Pestalotiopsis* sp., *Colletotrichum*  
*theae-sinensis*.

Diseases of tobacco: *Alternaria longipes*, *Erysiphe*  
*cichoracearum*, *Colletotrichum tabacum*, *Peronospora tabacina*,  
*Phytophthora nicotianae*.

Diseases of rapeseed: *Sclerotinia sclerotiorum*,  
*Rhizoctonia solani*.

Diseases of cotton: *Rhizoctonia solani*, *Fusarium*  
*oxysporum*.

Diseases of beet: *Cercospora beticola*, *Thanatephorus*  
*cucumeris*, *Thanatephorus cucumeris*, *Aphanomyces cochlioides*.

Diseases of rose: *Diplocarpon rosae*, *Sphaerotheca*  
*pannosa*, *Peronospora sparsa*.

Diseases of chrysanthemi and compositae vegetable:  
*Bremia lactucae*, *Septoria chrysanthemi-indici*, *Puccinia*  
*horiana*.

Diseases of various plants: *Pythium aphanidermatum*,  
*Pythium debarianum*, *Pythium graminicola*, *Pythium irregulare*,  
*Pythium ultimum*), *Botrytis cinerea*, *Sclerotinia*  
*sclerotiorum*.

Diseases of Japanese radish: *Alternaria brassicicola*.

Diseases of lawn: *Sclerotinia homeocarpa*, *Rhizoctonia solani*.

Diseases of banana: *Mycosphaerella fijiensis*,  
*Mycosphaerella musicola*.

Diseases of sunflower: *Plasmopara halstedii*.

Seed diseases or diseases at early growth phase of various plants caused by *Aspergillus* spp., *Penicillium* spp., *Fusarium* spp., *Gibberella* spp., *Tricoderma* spp., *Thielaviopsis* spp., *Rhizopus* spp., *Mucor* spp., *Corticium* spp., *Phoma* spp., *Rhizoctonia* spp., and *Diplodia* spp.

The composition of the present invention is used to control pests by applying to pests or the place where pests inhabit or the place where pests might inhabit.

Examples of a place where pests inhabit or a place where pests might inhabit include foliage of plants, seeds of plants, bulbs of plants. Herein, bulbs specifically include scaly bulb, solid bulb, root stock, stem tuber, and root tuber.

The pest control method of the present invention is carried out by treating with the composition of the present invention, and specific examples thereof include a treatment to foliage of plants, such as foliage spraying; a treatment to seeds, such as seed disinfection or seed coating; a treatment to bulbs, such as seed tuber.

Specific examples of the treating method to foliage

of plants in pest control method of the present invention include a treating method of applying to surfaces of plants, such as foliage spraying.

The method for a treatment to the seeds and the method for a treatment to bulbs in the control method of the present invention is, for example, a method of treating seeds and bulbs of plants to be protected from pests with the composition of the present invention. Specific examples of the method include a spray treatment in which a suspension of the composition of the present invention is sprayed over seed surfaces or bulb surfaces in a mist form; a smearing treatment in which a wettable powder, an emulsifiable concentrate or a flowable formulation of the composition of the present invention is applied on seeds or bulbs after adding a small amount of water or as it is; an immersion treatment in which seeds are immersed in a solution of the composition of the present invention for a given time; a film coating treatment; and pellet coating treatment.

When plants are treated with the composition of the present invention, the amount varies depending upon the kind of plants to be treated, kind of pests to be controlled, degree of incidence of pests to be controlled, formulation, treatment period, meteorological conditions and the like. The total content of clothianidin,

fungicidal compounds selected from Group (A), and other insecticidal and fungicidal compounds is usually within the range from 1 to 5,000 g, and preferably within the range from 2 to 400 g, per 10,000 m<sup>2</sup> of the place where the relevant plants are cultivated.

In the case of an emulsifiable concentrate, a wettable powder and a flowable formulation, the treatment is usually conducted by spraying after diluting with water. In this case, the total concentration of clothianidin, fungicidal compounds selected from Group (A), and other insecticidal and fungicidal compounds is usually within the range from 0.0001 to 3% by weight, and preferably within the range from 0.0005 to 1% by weight. In the case of a dust and a granule, the treatment is usually conducted as it is without dilution.

In the treatment to seeds, the application is usually conducted in the total amount of clothianidin, fungicidal compounds selected from Group (A), and other insecticidal and fungicidal compounds usually within the range from 0.001 to 20 g, and preferably within the range from 0.01 to 5 g, per 1 kg of seeds.

In the treatment to bulbs, the application is usually conducted in the total amount of clothianidin, fungicidal compounds selected from Group (A), and other insecticidal and fungicidal compounds usually within the range from

0.001 to 20 g, and preferably within the range from 0.01 to 5 g, per 1 kg of bulbs.

The pest control method of the present invention can be used in crop lands such as upland field, paddy field, and orchard.

The composition of the present invention can be used to control pests of crop lands where the following "plants" are cultivated:

Agricultural crops: corn, rice, wheat, barley, rye, oat, sorghum, cotton, soybean, bean, peanut, sarrazin, sugar beet, rapeseed, sunflower, sugar cane, tobacco etc.;

Vegetables: Solanaceae vegetables (eggplant, tomato, bell pepper, hot pepper, potato, etc.), Cucurbitaceae vegetables (cucumber, pumpkin, zucchini, watermelon, melon, squash, etc.), Cruciferae vegetables (Japanese radish, turnip, horseradish, kohlrabi, Chinese cabbage, cabbage, brown mustard, broccoli, cauliflower etc.), Compositae vegetables (burdock, garland chrysanthemum, artichoke, lettuce, etc.), Liliaceae vegetables (Welsh onion, onion, garlic, asparagus, etc.), Umbelliferae vegetables (carrot, parsley, celery, parsnip, etc.), Chenopodiaceae vegetables (spinach, Swiss chard, etc.), Labiatae vegetables (Japanese basil, mint, basil etc.), strawberry, sweet potato, yam, aroid etc.;

Lawns;

Fruit trees: pomaceous fruits (apple, common pear, Japanese pear, Chinese quince, quince etc.), stone fleshy fruits (peach, plum, nectarine, Japanese plum, yellow peach, apricot, prune etc.), citrus plants (Satsuma mandarin, orange, lemon, lime, grapefruit etc.), nuts (chestnut, walnut, hazel nut, almond, pistachio, cashew nut, macadamia nut etc.), berry fruits (blueberry, cranberry, blackberry, raspberry etc.); grape, persimmon, olive, loquat, banana, coffee, date, coconut etc.

Trees other than fruit trees: tea, mulberry, flowering trees and shrubs, street trees (ash tree, birch, dogwood, eucalyptus, ginkgo, lilac, maple tree, oak, poplar, cercis, Chinese sweet gum, plane tree, zelkova, Japanese arborvitae, fir tree, Japanese hemlock, needle juniper, pine, spruce, yew) etc.

Among the above plants, corn, wheat, soybean, cotton, rapeseed, beet and the like are preferred examples.

The above "plants" also include those provided with resistance to herbicides, including HPPD inhibitors such as isoxaflutole; ALS inhibitors such as imazethapyr and thifen sulfuronmethyl; EPSP inhibitors such as glyphosate; glutamine synthesis enzyme inhibitors such as glufosinate; acetyl CoA carboxylase inhibitors such as sethoxydim; and herbicides such as bromoxynil, dicamba, and 2,4-D, by way of a classical breeding method or a genetic engineering

technology.

Examples of the "plants" having herbicidal resistance given by a classic breeding method include rapeseed, wheat, sunflower and rice which are resistant to imidazolinone-based ALS inhibitor-type herbicides such as imazethapyr, and which have been already on the market under the trade name of Clearfield®. Likewise, there is soybean which has resistance to a sulfonyl urea-based ALS inhibitor-type herbicide such as thiofen sulfuronmethyl, and which has been already on the market under the trade name of STS soybean®. Likewise, there is SR corn as an example of a plant which is provided with resistance to an acetyl CoA carboxylase inhibitor, such as trioxime-based and aryloxy phenoxypropionic acid-based herbicides, by a classical breeding method. Examples of the plant provided with resistance to the acetyl CoA carboxylase inhibitor are described in Proc. Natl. Acad. Sci. USA), Vol. 87, pp.7175-7179 (1990) or the like. Also, mutated acetyl CoA carboxylase, which is resistant to the acetyl CoA carboxylase inhibitor, is reported in the Weed Science, Vol. 53, pp.728-746 (2005). The plants with resistance to the acetyl CoA inhibitor is fabricated by introducing such a mutated acetyl CoA carboxylase gene into a plant by means of a genetic engineering technology, or by introducing resistance-providing mutation into acetyl CoA carboxylase

of the plant. Further, by introducing base substitute mutagenesis nucleic acid into a plant cell to introduce site-specific amino acid substitute mutation into the plant acetyl CoA carboxylase gene and ALS gene using the technology represented by chimeroplasty technology (Gura T., Repairing the Genome's Spelling Mistakes, Science 285: 316-318 (1999)), plants resistant to acetyl CoA carboxylase inhibitors and ALS inhibitors are fabricated.

Examples of the plants having resistance given by a genetic engineering technology include corn, soybean, cotton, rapeseed and beet having resistance to glyphosate, which have been already on the market under the product names of Roundup Ready<sup>®</sup>, Agrisure GT<sup>®</sup> and the like. Likewise, corn, soybean, cotton, rapeseed having resistance to glufosinate given by a genetic engineering technology has been already on the market under the product names of LibertyLink<sup>®</sup>, and the like. Likewise, cotton having resistance to bromoxynil given by a genetic engineering technology has been already on the market under the product name of BXN.

The above "plants" also include plants which made it possible to synthesize insecticidal proteins known as genus Bacillus, using a genetic engineering technology.

Examples of the toxins expressed in such genetically modified plants include insecticidal proteins derived from

Bacillus cereus and Bacillus popilliae;  $\delta$ -endotoxins derived from Bacillus thuringiensis, e.g. Cry1Ab, Cry1Ac, Cry1F, Cry1Fa2, Cry2Ab, Cry3A, Cry3Bb1, Cry9C, Cry34Ab, Cry35Ab, and insecticidal proteins such as VIP1, VIP2, VIP3 and VIP3A; insecticidal toxins derived from nematodes; insecticidal toxins produced by animals, such as scorpion toxin, spider toxin, bee toxin and insect-specific neurotoxins; filamentous fungi toxins; plant lectins; agglutinin; protease inhibitors such as trypsin inhibitors, serine protease inhibitor, patatin, cystatin and papain inhibitors; ribosome-inactivating proteins (RIP) such as ricin, corn-RIP, abrin, rufin, sapolin and priodin; steroid metabolic enzymes such as 3-hydroxysteroid oxidase, ecdysteroid-UDP-glucosyltransferase and cholesterol oxidase; ecdysone inhibitors; HMG-COA reductase; ion channel inhibitors such as a sodium channel inhibitors and calcium channel inhibitors; juvenile hormone esterase; diuretic hormone acceptors; stilbene synthetase; bibenzyl synthetase; chitinase; glucanase; and the like.

Examples of the toxins expressed in such genetically modified plants include  $\delta$ -endotoxin proteins such as Cry1Ab, Cry1Ac, Cry1F, Cry1Fa2, Cry2Ab, Cry3A, Cry3Bb1 and Cry9C, hybrid toxins of insecticidal proteins such as VIP1, VIP2, VIP3 and VIP3A, partially deficient toxins, and modified toxins. The hybrid toxins are fabricated by a novel

combination of the different domains of such proteins, using a genetic engineering technology. The known partially deficient toxin is Cry1Ab, in which a part of amino acid sequence is deficient. In modified toxins, one or more amino acids of a natural toxin are replaced.

Examples of such toxins and genetically modified plants capable of synthesizing such toxins are described in EP-A-0 374 753, WO 93/07278, WO 95/34656, EP-A-0 427 529, EP-A-451 878, WO 03/052073 and the like.

The toxins contained in such genetically modified plants impart resistance to insect pests of Coleoptera, insect pests of Hemiptera, insect pests of Diptera, insect pests of Lepidoptera, and Nematoda to the plants.

It has already been known that there are genetically modified plants containing one or more insecticidal pest-resistant genes and capable of expressing one or more toxins. Some of them are commercially available. Examples of such genetically modified plants include YieldGard<sup>®</sup> (corn cultivar expressing a Cry1Ab toxin), YieldGard Rootworm<sup>®</sup> (corn cultivar expressing a Cry3Bb1 toxin), YieldGard Plus<sup>®</sup> (corn cultivar expressing Cry1Ab and Cry3Bb1 toxins), Herculex<sup>®</sup> I (corn cultivar expressing phosphinotrysin N-acetyltransferase (PAT) for imparting resistance to a Cry1Fa2 toxin and Glufosinate), NuCOTN33B<sup>®</sup> (cotton cultivar expressing a Cry1Ac toxin), Bollgard<sup>®</sup> I

(cotton cultivar expressing a Cry1Ac toxin), Bollgard® II (cotton cultivar expressing Cry1Ac and Cry2Ab toxins), VIPCOT® (cotton cultivar expressing a VIP toxin), NewLeaf® (potato cultivar expressing a Cry3A toxin), NatureGard® Agrisure GT Advantage (GA21 Glyphosate resistant property), Agrisure® CB Advantage (Bt11 corn borer (CB) property), Protecta® and the like.

The above "plants" include those provided with a capacity of producing an anti-pathogenic substance having selective activity, using a genetic engineering technology.

As the anti-pathogenic substance, for example, PR proteins are known (PRPs, described in EP-A-0 392 225). These anti-pathogenic substances and genetically modified plants producing thereof are described in EP-A-0 392 225, WO 95/33818, EP-A-0 353 191 and the like.

Examples of anti-pathogen substances expressed in such genetically modified plants include ion channel inhibitors such as sodium channel inhibitors and calcium channel inhibitors (KP1, KP4 and KP6 toxins produced by virus are known); stilbene synthase; bibenzyl synthase; chitinase; glucanase; PR proteins; microorganism-producing anti-pathogen substances such as peptide antibiotics, antibiotics having a heterocycle, protein factors relating to resistance against plant pathogens (described in WO 03/000,906); and the like. These anti-pathogenic

substances and genetically modified plants producing thereof are described in EP-A-0 392 225, WO 95/33818, EP-A-0 353 191 and the like.

The above "plants" include those provided with useful traits, such as reformed oil component and enhanced amino acid content, using a genetic engineering technology. The crops are exemplified by VISTIVE® (low linolenic soybean with reduced linolenic acid content), high-lysine (high-oil) corn (corn with increased lysine or oil content) and the like.

The above "plants" further include stacked varieties, which are fabricated by combining useful traits such as the above classical herbicidal traits or herbicide resistant genes, insecticidal pest resistant genes, anti-pathogenic substance-producing genes, reformed oil component and enhanced amino acid content.

#### EXAMPLES

The present invention will be described in detail below by way of Formulation Examples, Application Examples and Test Examples, but the present invention is not limited only to the following Examples. In the following Examples, parts express parts by weight unless otherwise specified.

##### Formulation Example 1

A flowable formulation is obtained by mixing 5.0

parts of clothianidin, 10 parts of mancozeb, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 2

A flowable formulation is obtained by mixing 5.0 parts of clothianidin, 10 parts of mancozeb, 1.0 parts of thiophanate-methyl, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 3

A flowable formulation is obtained by mixing 5.0 parts of clothianidin, 10 parts of mancozeb, 4.0 parts of fludioxonil, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet

grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 4

A flowable formulation is obtained by mixing 5.0 parts of clothianidin, 10 parts of mefenoxam, 10 parts of metconazole, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Examples 5 to 18

Flowable formulations are obtained by conducting the same operation as in Formulation Example 4, except that compounds described in [Table 1] are used in each amount described in [Table 1] in place of 10 parts of metconazole.

Table 1

Formulation Examples	Compounds	Use amount [Parts]
5	Tolclofos-Methyl	10
6	Thiram	10
7	Captan	10
8	Carboxin	10
9	Thiabendazole	10

10	Fludioxonil	10
11	Prothioconazole	10
12	Triticonazole	10
13	Tebuconazole	10
14	Difenoconazole	10
15	Pyraclostrobin	10
16	Azoxystrobin	10
17	Trifloxystrobin	10
18	Ipconazole	10

#### Formulation Example 19

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of ethaboxam, 5 parts of metconazole, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 20

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of ethaboxam, 5 parts of a racemic configuration of the present compound (1), 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding

thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and stirring and then mixing the obtained mixture.

#### Formulation Example 21

A flowable formulation is obtained by conducting the same operation as in Formulation Example 20, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 22

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 10 parts of ethaboxam, 5 parts of tolclofos-methyl, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 23

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of

pyraclostrobin, 5 parts of metalaxyl, 5 parts of metconazole, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 24

A flowable formulation is obtained by conducting the same operation as in Formulation Example 23, except that 2 parts of mefenoxam is used in place of 5 parts of metalaxyl.

#### Formulation Example 25

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of metalaxyl, 5 parts of a racemic configuration of the present compound (1), 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

## Formulation Example 26

A flowable formulation is obtained by conducting the same operation as in Formulation Example 25, except that 2 parts of mefenoxam is used in place of 5 parts of metalaxyl.

## Formulation Example 27

A flowable formulation is obtained by conducting the same operation as in Formulation Example 25, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

## Formulation Example 28

A flowable formulation is obtained by conducting the same operation as in Formulation Example 26, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

## Formulation Example 29

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of metalaxyl, 10 parts of tolclofos-methyl, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and

0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 30

A flowable formulation is obtained by conducting the same operation as in Formulation Example 29, except that 2 parts of mefenoxam is used in place of 5 parts of metalaxyl.

#### Formulation Example 31

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of metalaxyl, 5 parts of metconazole, 5 parts of ethaboxam, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 32

A flowable formulation is obtained by conducting the same operation as in Formulation Example 31, except that 2 parts of mefenoxam is used in place of 5 parts of metalaxyl.

#### Formulation Example 33

A flowable formulation is obtained by mixing 5 parts

of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of metalaxyl, 5 parts of a racemic configuration of the present compound (1), 5 parts of ethaboxam, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 34

A flowable formulation is obtained by conducting the same operation as in Formulation Example 33, except that 2 parts of mefenoxam is used in place of 5 parts of metalaxyl.

#### Formulation Example 35

A flowable formulation is obtained by conducting the same operation as in Formulation Example 33, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 36

A flowable formulation is obtained by conducting the same operation as in Formulation Example 34, except that an R-configuration of the present compound (1) is used in

place of the racemic configuration of the present compound (1).

#### Formulation Example 37

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of metalaxyl, 10 parts of tolclofos-methyl, 5 parts of ethaboxam, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 38

A flowable formulation is obtained by conducting the same operation as in Formulation Example 37, except that 2 parts of mefenoxam is used in place of 5 parts of metalaxyl.

#### Formulation Example 39

A flowable formulation is obtained by mixing 5 parts of clothianidin, 5 parts of metalaxyl, 10 parts of thiram, 3 parts of ipconazole, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an

aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 40

A flowable formulation is obtained by conducting the same operation as in Formulation Example 39, except that 10 parts of trifloxystrobin is used in place of 3 parts of ipconazole.

#### Formulation Example 41

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 10 parts of trifloxystrobin, 10 parts of thiram, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 42

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 10 parts of trifloxystrobin, 1 part of metconazole, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution

containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 43

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 10 parts of trifloxystrobin, 1 part of a racemic configuration of the present compound (1), 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 44

A flowable formulation is obtained by conducting the same operation as in Formulation Example 43, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 45

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 1 part of a racemic configuration of the present compound (1), 10 parts of azoxystrobin, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 46

A flowable formulation is obtained by conducting the same operation as in Formulation Example 45, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 47

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 1 part of a racemic configuration of the present compound (1), 10 parts of thiabendazole, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous

solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 48

A flowable formulation is obtained by conducting the same operation as in Formulation Example 47, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 49

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 5 parts of tolclofos-methyl, 10 parts of trifloxystrobin, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 50

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 5 parts of tolclofos-methyl, 10 parts of azoxystrobin, 1.5 parts of

sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 51

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 5 parts of tolclofos-methyl, 10 parts of thiabendazole, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 52

A flowable formulation is obtained by mixing 5 parts of clothianidin, 5 parts of metalaxyl, 5 parts of ethaboxam, 10 parts of a racemic configuration of the present compound (1), 1 part of trifloxystrobin, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained

mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 53

A flowable formulation is obtained by conducting the same operation as in Formulation Example 52, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 54

A flowable formulation is obtained by mixing 5 parts of clothianidin, 5 parts of metalaxyl, 5 parts of ethaboxam, 10 parts of a racemic configuration of the present compound (1), 1 part of azoxystrobin, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 55

A flowable formulation is obtained by conducting the

same operation as in Formulation Example 54, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 56

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 3 parts of ipconazole, 10 parts of thiram, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 57

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 3 parts of ipconazole, 1 part of a racemic configuration of the present compound (1), 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10

parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 58

A flowable formulation is obtained by conducting the same operation as in Formulation Example 57, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 59

A flowable formulation is obtained by mixing 5 parts of clothianidin, 2 parts of mefenoxam, 3 parts of ipconazole, 5 parts of tolclofos-methyl, 1.5 parts of sorbitan trioleate and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 60

A flowable formulation is obtained by mixing 5 parts of clothianidin, 1 part of the present compound (1), 1 part of metconazole, 5 parts of metalaxyl and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding

method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 61

A flowable formulation is obtained by conducting the same operation as in Formulation Example 60, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 62

A flowable formulation is obtained by mixing 5 parts of clothianidin, 1 part of the present compound (1), 1 part of metconazole, 5 parts of metalaxyl, 5 parts of ethaboxam and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 63

A flowable formulation is obtained by conducting the same operation as in Formulation Example 62, except that an

R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 64

A flowable formulation is obtained by mixing 5 parts of clothianidin, 1 part of the present compound (1), 1 part of metconazole, 5 parts of ethaboxam and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 65

A flowable formulation is obtained by conducting the same operation as in Formulation Example 64, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 66

A flowable formulation is obtained by mixing 5 parts of clothianidin, 5 parts of ethaboxam, 10 parts of difenoconazole, 10 parts of metconazole and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol,

finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 67

A flowable formulation is obtained by conducting the same operation as in Formulation Example 66, except that 5 parts of metalaxyl is used in place of ethaboxam.

#### Formulation Example 68

A flowable formulation is obtained by conducting the same operation as in Formulation Example 66, except that 10 parts of mefenoxam is used in place of ethaboxam.

#### Formulation Examples 69 to 74

Flowable formulations are obtained by conducting the same operation as in Formulation Example 66, except that compounds described in [Table 2] are used in each amount described in [Table 2] in place of 10 parts of metconazole.

Table 2

Formulation Examples	Compounds	Use amount [Parts]
69	Ipconazole	10
70	Triticonazole	10
71	Tebuconazole	10
72	Thiabendazole	10
73	Carboxin	10
74	Thiram	10

## Formulation Example 75

A flowable formulation is obtained by mixing 5 parts of clothianidin, 5 parts of ethaboxam, 10 parts of difenoconazole, 5 parts of metalaxyl, 10 parts of metconazole and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

## Formulation Examples 76 to 81

Flowable formulations are obtained by conducting the same operation as in Formulation Example 75, except that compounds described in [Table 3] are used in each amount described in [Table 3] in place of 10 parts of metconazole.

Table 3

Formulation Examples	Compounds	Use amount [Parts]
76	Ipconazole	10
77	Triticonazole	10
78	Tebuconazole	10
79	Thiabendazole	10
80	Carboxin	10
81	Thiram	10

## Formulation Example 82

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of

boscalid, 5 parts of pyraclostrobin and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 83

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of metalaxyl and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 84

A flowable formulation is obtained by conducting the same operation as in Formulation Example 83, except that 10 parts of mefenoxam is added in place of metalaxyl.

#### Formulation Example 85

A flowable formulation is obtained by conducting the

same operation as in Formulation Example 83, except that 5 parts of ethaboxam is added in place of metalaxyl.

#### Formulation Example 86

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of boscalid, 5 parts of pyraclostrobin, 5 parts of metalaxyl, 5 parts of ethaboxam and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 87

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of trifloxystrobin and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 88

A flowable formulation is obtained by mixing 5 parts

of clothianidin, 10 parts of ipconazole, 10 parts of trifloxystrobin, 5 parts of metalaxyl and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 89

A flowable formulation is obtained by conducting the same operation as in Formulation Example 88, except that 10 parts of mefenoxam is added in place of metalaxyl.

#### Formulation Example 90

A flowable formulation is obtained by conducting the same operation as in Formulation Example 88, except that 5 parts of ethaboxam is added in place of metalaxyl.

#### Formulation Example 91

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of trifloxystrobin, 5 parts of metalaxyl, 5 parts of ethaboxam and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and

0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 92

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of azoxystrobin and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 93

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of azoxystrobin, 5 parts of metalaxyl and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

#### Formulation Example 94

A flowable formulation is obtained by conducting the same operation as in Formulation Example 93, except that 10 parts of mefenoxam is added in place of metalaxyl.

Formulation Example 95

A flowable formulation is obtained by conducting the same operation as in Formulation Example 93, except that 5 parts of ethaboxam is added in place of metalaxyl.

Formulation Example 96

A flowable formulation is obtained by mixing 5 parts of clothianidin, 10 parts of ipconazole, 10 parts of azoxystrobin, 5 parts of metalaxyl, 5 parts of ethaboxam and 28 parts of an aqueous solution containing 2 parts of polyvinyl alcohol, finely grinding the obtained mixture by a wet grinding method, adding thereto 90 parts of an aqueous solution containing 0.05 part of xanthan gum and 0.1 part of aluminum magnesium silicate, and further 10 parts of propylene glycol, and then stirring and mixing the obtained mixture.

Formulation Example 97

A flowable formulation is obtained by mixing 10 parts of clothianidin, 2.0 parts of mancozeb, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

## Formulation Example 98

A flowable formulation is obtained by mixing 10 parts of clothianidin, 2.0 parts of mancozeb, 0.8 part of thiophanate-methyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

## Formulation Example 99

A flowable formulation is obtained by mixing 10 parts of clothianidin, 2.0 parts of mancozeb, 0.8 part of fludioxonil, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

## Formulation Example 100

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.16 part of mefenoxam, 0.4 part of metconazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

## Formulation Examples 101 to 114

Flowable formulations are obtained by conducting the same operation as in Formulation Example 100, except that compounds described in [Table 4] are used in each amount

described in [Table 4] in place of 0.4 part of metconazole.

Table 4

Formulation Examples	Compounds	Use amount [Parts]
101	Tolclofos-Methyl	0.4
102	Thiram	0.8
103	Captan	0.8
104	Carboxin	4.0
105	Thiabendazole	1.6
106	Fludioxonil	0.8
107	Prothioconazole	0.4
108	Triticonazole	0.8
109	Tebuconazole	0.8
110	Difenoconazole	0.8
111	Pyraclostrobin	0.8
112	Azoxystrobin	0.4
113	Trifloxystrobin	0.4
114	Ipconazole	0.6

#### Formulation Example 115

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of ethaboxam, 0.2 part of metconazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 116

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of ethaboxam, 0.2 part of a racemic configuration of the present compound (1), 35 parts of a mixture (weight ratio: 1:1) of white carbon and a

polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 117

A flowable formulation is obtained by conducting the same operation as in Formulation Example 116, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 118

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of ethaboxam, 0.4 part of tolclofos-methyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 119

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 0.2 part of metconazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

## Formulation Example 120

A flowable formulation is obtained by conducting the same operation as in Formulation Example 119, except that 0.16 part of mefenoxam is used in place of 0.4 part of metalaxyl.

## Formulation Example 121

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 0.2 part of a racemic configuration of the present compound (1), 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

## Formulation Example 122

A flowable formulation is obtained by conducting the same operation as in Formulation Example 121, except that 0.16 part of mefenoxam is used in place of 0.4 part of metalaxyl.

## Formulation Example 123

A flowable formulation is obtained by conducting the same operation as in Formulation Example 121, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

## Formulation Example 124

A flowable formulation is obtained by conducting the same operation as in Formulation Example 122, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

## Formulation Example 125

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 0.4 part of tolclofos-methyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

## Formulation Example 126

A flowable formulation is obtained by conducting the same operation as in Formulation Example 125, except that 0.16 part of mefenoxam is used in place of 0.4 part of metalaxyl.

## Formulation Example 127

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 0.2 part of metconazole, 0.4 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene

alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 128

A flowable formulation is obtained by conducting the same operation as in Formulation Example 127, except that 0.16 part of mefenoxam is used in place of 0.4 part of metalaxyl.

#### Formulation Example 129

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 0.2 part of a racemic configuration of the present compound (1), 0.4 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 130

A flowable formulation is obtained by conducting the same operation as in Formulation Example 129, except that 0.16 part of mefenoxam is used in place of 0.4 part of metalaxyl.

#### Formulation Example 131

A flowable formulation is obtained by conducting the same operation as in Formulation Example 129, except that

an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 132

A flowable formulation is obtained by conducting the same operation as in Formulation Example 130, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 133

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 0.4 part of tolclofos-methyl, 0.4 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 134

A flowable formulation is obtained by conducting the same operation as in Formulation Example 133, except that 0.16 part of mefenoxam is used in place of 0.4 part of metalaxyl.

#### Formulation Example 135

A flowable formulation is obtained by mixing 10 parts

of clothianidin, 0.5 parts of metalaxyl, 0.4 part of thiram, 0.6 part of ipconazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 136

A flowable formulation is obtained by conducting the same operation as in Formulation Example 135, except that 0.2 part of trifloxystrobin is used in place of 0.6 part of ipconazole.

#### Formulation Example 137

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of mefenoxam, 0.2 part of trifloxystrobin, 0.4 part of thiram, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 138

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of mefenoxam, 0.2 part of trifloxystrobin, 0.4 part of metconazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained

mixture by a wet grinding method.

#### Formulation Example 139

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of mefenoxam, 0.2 part of trifloxystrobin, 0.4 part of a racemic configuration of the present compound (1), 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 140

A flowable formulation is obtained by conducting the same operation as in Formulation Example 139, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 141

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of mefenoxam, 0.4 part of a racemic configuration of the present compound (1), 0.2 part of azoxystrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 142

A flowable formulation is obtained by conducting the

same operation as in Formulation Example 141, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 143

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.2 part of mefenoxam, 0.4 part of a racemic configuration of the present compound (1), 1.0 parts of thiabendazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 144

A flowable formulation is obtained by conducting the same operation as in Formulation Example 143, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 145

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of mefenoxam, 0.4 part of tolclofos-methyl, 0.2 part of trifloxystrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained

mixture by a wet grinding method.

#### Formulation Example 146

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of mefenoxam, 0.4 part of tolclofos-methyl, 0.2 part of azoxystrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 147

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of mefenoxam, 0.4 part of tolclofos-methyl, 1.0 parts of thiabendazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 148

A flowable formulation is obtained by mixing 10 parts of clothianidin, 1.0 parts of metalaxyl, 1.0 parts of ethaboxam, 2.0 parts of a racemic configuration of the present compound (1), 1.0 parts of trifloxystrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained

mixture by a wet grinding method.

#### Formulation Example 149

A flowable formulation is obtained by conducting the same operation as in Formulation Example 148, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 150

A flowable formulation is obtained by mixing 10 parts of clothianidin, 1.0 parts of metalaxyl, 1.0 parts of ethaboxam, 2.0 parts of a racemic configuration of the present compound (1), 1.0 parts of azoxystrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 151

A flowable formulation is obtained by conducting the same operation as in Formulation Example 150, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 152

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.5 part of mefenoxam, 1.5 parts of

ipconazole, 1.0 parts of thiram, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 153

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.5 part of mefenoxam, 1.5 parts of ipconazole, 2.0 parts of a racemic configuration of the present compound (1), 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 154

A flowable formulation is obtained by conducting the same operation as in Formulation Example 153, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 155

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.5 part of mefenoxam, 1.5 parts of ipconazole, 1.0 parts of tolclofos-methyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and

water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 156

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of the present compound (1), 0.1 part of metconazole, 0.2 part of metalaxyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 157

A flowable formulation is obtained by conducting the same operation as in Formulation Example 156, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 158

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of the present compound (1), 0.1 part of metconazole, 0.2 part of metalaxyl, 0.2 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 159

A flowable formulation is obtained by conducting the same operation as in Formulation Example 158, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 160

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of the present compound (1), 0.2 part of metconazole, 0.4 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 161

A flowable formulation is obtained by conducting the same operation as in Formulation Example 106, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 162

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of ethaboxam, 0.8 part of difenoconazole, 0.4 part of metconazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and

water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 163

A flowable formulation is obtained by conducting the same operation as in Formulation Example 162, except that 0.4 part of metalaxyl is used in place of ethaboxam.

#### Formulation Example 164

A flowable formulation is obtained by conducting the same operation as in Formulation Example 162, except that 0.16 part of mefenoxam is used in place of ethaboxam.

#### Formulation Examples 165 to 170

Flowable formulations are obtained by conducting the same operation as in Formulation Example 162, except that compounds described in [Table 5] are used in each amount described in [Table 5] in place of 0.4 part of metconazole.

Table 5

Formulation Examples	Compounds	Use amount [Parts]
165	Ipconazole	0.6
166	Triticonazole	0.8
167	Tebuconazole	0.8
168	Thiabendazole	1
169	Carboxin	4
170	Thiram	0.8

#### Formulation Example 171

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.4 part of ethaboxam, 0.8 part of difenoconazole, 0.4 part of metalaxyl, 0.4 part of

metconazole, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Examples 172 to 177

Flowable formulations are obtained by conducting the same operation as in Formulation Example 171, except that compounds described in [Table 6] are used in each amount described in [Table 6] in place of 0.4 part of metconazole.

Table 6

Formulation Examples	Compounds	Use amount [Parts]
172	Ipconazole	0.6
173	Triticonazole	0.8
174	Tebuconazole	0.8
175	Thiabendazole	1
176	Carboxin	4
177	Thiram	0.8

#### Formulation Example 178

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 179

A flowable formulation is obtained by mixing 10 parts

of clothianidin, 0.6 part of ipconazole, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 180

A flowable formulation is obtained by conducting the same operation as in Formulation Example 179, except that 0.16 part of mefenoxam is added in place of metalaxyl.

#### Formulation Example 181

A flowable formulation is obtained by conducting the same operation as in Formulation Example 179, except that 0.4 part of ethaboxam is added in place of metalaxyl.

#### Formulation Example 182

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.2 part of boscalid, 0.4 part of pyraclostrobin, 0.4 part of metalaxyl, 0.4 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 183

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.2 part of

trifloxystrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 184

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.2 part of trifloxystrobin, 0.4 part of metalaxyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

#### Formulation Example 185

A flowable formulation is obtained by conducting the same operation as in Formulation Example 184, except that 0.16 part of mefenoxam is added in place of metalaxyl.

#### Formulation Example 186

A flowable formulation is obtained by conducting the same operation as in Formulation Example 184, except that 0.4 part of ethaboxam is added in place of metalaxyl.

#### Formulation Example 187

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.2 part of trifloxystrobin, 0.4 part of metalaxyl, 0.4 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of

white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

Formulation Example 188

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.4 part of azoxystrobin, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

Formulation Example 189

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.4 part of azoxystrobin, 0.4 part of metalaxyl, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

Formulation Example 190

A flowable formulation is obtained by conducting the same operation as in Formulation Example 189, except that 0.16 part of mefenoxam is added in place of metalaxyl.

Formulation Example 191

A flowable formulation is obtained by conducting the same operation as in Formulation Example 189, except that

0.4 part of ethaboxam is added in place of metalaxyl.

Formulation Example 192

A flowable formulation is obtained by mixing 10 parts of clothianidin, 0.6 part of ipconazole, 0.4 part of azoxystrobin, 0.4 part of metalaxyl, 0.4 part of ethaboxam, 35 parts of a mixture (weight ratio: 1:1) of white carbon and a polyoxyethylene alkyl ether sulfate ammonium salt, and water, and finely grinding 100 parts of the obtained mixture by a wet grinding method.

Formulation Example 193

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 8.0 parts of mancozeb, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 194

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 8.0 parts of mancozeb, 4.0 parts of thiophanate-methyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 195

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin,

8.0 parts of mancozeb, 4.0 parts of fludioxonil, 3 parts of calcium ligninsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 196

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of mefenoxam, 1.6 parts of metconazole, 3 parts of calcium ligninsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Examples 197 to 210

Wettable powders are obtained by conducting the same operation as in Formulation Example 196, except that compounds described in [Table 7] are used in each amount described in [Table 7] in place of 1.6 parts of metconazole.

Table 7

Formulation Examples	Compounds	Use amount [Parts]
197	Tolclofos-Methyl	10
198	Thiram	8.0
199	Captan	8.0
200	Carboxin	8.0
201	Thiabendazole	16
202	Fludioxonil	4.0
203	Prothioconazole	0.8
204	Triticonazole	4.0
205	Tebuconazole	4.0
206	Difenoconazole	3.2
207	Pyraclostrobin	0.8
208	Azoxystrobin	0.8
209	Trifloxystrobin	0.8
210	Ipconazole	0.6

#### Formulation Example 211

A wettable powder (100 parts) is obtained by

thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of ethaboxam, 1.6 parts of metconazole, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 212

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of ethaboxam, 1.6 parts of a racemic configuration of the present compound (1), 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 213

A wettable powder is obtained by conducting the same operation as in Formulation Example 212, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 214

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of ethaboxam, 4.0 parts of tolclofos-methyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

## Formulation Example 215

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of metalaxyl, 1.6 parts of metconazole, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

## Formulation Example 216

A wettable powder is obtained by conducting the same operation as in Formulation Example 215, except that 0.4 part of mefenoxam is used in place of 0.8 part of metalaxyl.

## Formulation Example 217

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of metalaxyl, 1.6 parts of a racemic configuration of the present compound (1), 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

## Formulation Example 218

A wettable powder is obtained by conducting the same operation as in Formulation Example 217, except that 0.4 part of mefenoxam is used in place of 0.8 part of metalaxyl.

## Formulation Example 219

A wettable powder is obtained by conducting the same

operation as in Formulation Example 217, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

Formulation Example 220

A wettable powder is obtained by conducting the same operation as in Formulation Example 218, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

Formulation Example 221

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of metalaxyl, 4.0 parts of tolclofos-methyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 222

A wettable powder is obtained by conducting the same operation as in Formulation Example 221, except that 0.4 part of mefenoxam is used in place of 0.8 part of metalaxyl.

Formulation Example 223

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of metalaxyl, 1.6 parts of metconazole, 0.8 part of ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of

sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 224

A wettable powder is obtained by conducting the same operation as in Formulation Example 223, except that 0.4 part of mefenoxam is used in place of 0.8 part of metalaxyl.

Formulation Example 225

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of metalaxyl, 0.8 part of a racemic configuration of the present compound (1), 0.8 part of ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 226

A wettable powder is obtained by conducting the same operation as in Formulation Example 225, except that 0.4 part of mefenoxam is used in place of 0.8 part of metalaxyl.

Formulation Example 227

A flowable formulation is obtained by conducting the same operation as in Formulation Example 225, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

Formulation Example 228

A flowable formulation is obtained by conducting the same operation as in Formulation Example 226, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 229

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 1.6 parts of boscalid, 0.8 part of pyraclostrobin, 0.8 part of metalaxyl, 4.0 parts of tolclofos-methyl, 0.8 part of ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 230

A wettable powder is obtained by conducting the same operation as in Formulation Example 229, except that 0.4 part of mefenoxam is used in place of 0.8 part of metalaxyl.

#### Formulation Example 231

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.8 part of metalaxyl, 8.0 parts of thiram, 2.4 parts of ipconazole, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 232

A flowable formulation is obtained by conducting the same operation as in Formulation Example 231, except that 1.6 parts of trifloxystrobin is used in place of 2.4 parts of ipconazole.

Formulation Example 233

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 8.0 parts of thiram, 1.6 parts of trifloxystrobin, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 234

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 1.6 parts of trifloxystrobin, 0.8 part of metconazole, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 235

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 1.6 parts of trifloxystrobin, 0.8 part of a racemic configuration of the present compound (1), 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon

hydroxide.

#### Formulation Example 236

A wettable powder is obtained by conducting the same operation as in Formulation Example 235, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 237

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 0.8 part of a racemic configuration of the present compound (1), 1.6 parts of azoxystrobin, 3 parts of calcium ligninsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 238

A flowable formulation is obtained by conducting the same operation as in Formulation Example 237, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 239

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 0.8 part of a racemic configuration of the present compound (1), 4.0 parts of thiabendazole, 3

parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 240

A flowable formulation is obtained by conducting the same operation as in Formulation Example 239, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 241

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 4.0 parts of tolclofos-methyl, 1.6 parts of trifloxystrobin, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 242

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 4.0 parts of tolclofos-methyl, 1.6 parts of azoxystrobin, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 243

A wettable powder (100 parts) is obtained by

thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 4.0 parts of tolclofos-methyl, 4.0 parts of thiabendazole, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 244

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.8 part of metalaxyl, 0.4 part of ethaboxam, 0.8 part of a racemic configuration of the present compound (1), 1.6 parts of trifloxystrobin, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 245

A flowable formulation is obtained by conducting the same operation as in Formulation Example 244, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 246

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.8 part of metalaxyl, 0.4 part of ethaboxam, 0.8 part of a racemic configuration of the present compound (1), 1.6 parts of azoxystrobin, 3 parts of calcium liginsulfonate, 2

parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 247

A flowable formulation is obtained by conducting the same operation as in Formulation Example 246, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 248

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 1.6 parts of ipconazole, 4.0 parts of thiram, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 249

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 1.6 parts of ipconazole, 0.8 part of a racemic configuration of the present compound (1), 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 250

A flowable formulation is obtained by conducting the

same operation as in Formulation Example 249, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 251

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of mefenoxam, 1.6 parts of ipconazole, 4.0 parts of tolclofos-methyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 252

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.8 part of the present compound (1), 0.8 part of metconazole, 0.8 part of metalaxyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 253

A flowable formulation is obtained by conducting the same operation as in Formulation Example 252, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 254

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.8 part of the present compound (1), 0.8 part of metconazole, 0.8 part of metalaxyl, 0.4 part of ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 255

A flowable formulation is obtained by conducting the same operation as in Formulation Example 254, except that an R-configuration of the present compound (1) is used in place of the racemic configuration of the present compound (1).

#### Formulation Example 256

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.8 part of the present compound (1), 0.8 part of metconazole, 0.8 part of metalaxyl, 0.4 part of ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 257

A flowable formulation is obtained by conducting the same operation as in Formulation Example 256, except that an R-configuration of the present compound (1) is used in

place of the racemic configuration of the present compound (1).

#### Formulation Example 258

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of ethaboxam, 1.6 parts of difenoconazole, 1.6 parts of metconazole, 3 parts of calcium lignosulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 259

A flowable formulation is obtained by conducting the same operation as in Formulation Example 258, except that 0.2 part of metalaxyl is used in place of ethaboxam.

#### Formulation Example 260

A flowable formulation is obtained by conducting the same operation as in Formulation Example 258, except that 1.6 parts of mefenoxam is used in place of ethaboxam.

#### Formulation Examples 261 to 266

Flowable formulations are obtained by conducting the same operation as in Formulation Example 258, except that compounds described in [Table 8] are used in each amount described in [Table 8] in place of 1.6 parts of metconazole.

Table 8

Formulation Examples	Compounds	Use amount [Parts]
261	Ipconazole	0.6
262	Triticonazole	4
263	Tebuconazole	4
264	Thiabendazole	8
265	Carboxin	4
266	Thiram	8

## Formulation Example 267

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.4 part of ethaboxam, 1.6 parts of difenoconazole, 0.2 part of metalaxyl, 1.6 parts of metconazole, 3 parts of calcium ligninsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

## Formulation Examples 268 to 273

Flowable formulations are obtained by conducting the same operation as in Formulation Example 267, except that compounds described in [Table 9] are used in each amount described in [Table 9] in place of 1.6 parts of metconazole.

Table 9

Formulation Examples	Compound	Use amount [Parts]
268	Ipconazole	0.6
269	Triticonazole	4
270	Tebuconazole	4
271	Thiabendazole	8
272	Carboxin	4
273	Thiram	8

## Formulation Example 274

A wettable powder (100 parts) is obtained by

thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 0.8 part of boscalid, 0.4 part of pyraclostrobin, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 275

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 0.8 part of boscalid, 0.4 part of pyraclostrobin, 0.2 part of metalaxyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Formulation Example 276

A flowable formulation is obtained by conducting the same operation as in Formulation Example 275, except that 0.16 part of mefenoxam is added in place of metalaxyl.

#### Formulation Example 277

A flowable formulation is obtained by conducting the same operation as in Formulation Example 275, except that 0.4 part of ethaboxam is added in place of metalaxyl.

#### Formulation Example 278

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 0.8 part of boscalid, 0.4 part of pyraclostrobin, 0.2 part of metalaxyl, 0.4 part of

ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 279

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 8 parts of trifloxystrobin, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 280

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 8 parts of trifloxystrobin, 0.2 part of metalaxyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 281

A flowable formulation is obtained by conducting the same operation as in Formulation Example 280, except that 1.6 parts of mefenoxam is added in place of metalaxyl.

Formulation Example 282

A flowable formulation is obtained by conducting the same operation as in Formulation Example 280, except that 0.4 part of ethaboxam is added in place of metalaxyl.

Formulation Example 283

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 8 parts of trifloxystrobin, 0.2 part of metalaxyl, 0.4 part of ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 284

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 0.4 part of azoxystrobin, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 285

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 0.4 part of azoxystrobin, 0.2 part of metalaxyl, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

Formulation Example 286

A flowable formulation is obtained by conducting the same operation as in Formulation Example 285, except that 1.6 parts of mefenoxam is added in place of metalaxyl.

Formulation Example 287

A flowable formulation is obtained by conducting the

same operation as in Formulation Example 285, except that 0.4 part of ethaboxam is added in place of metalaxyl.

#### Formulation Example 288

A wettable powder (100 parts) is obtained by thoroughly grinding and mixing 20 parts of clothianidin, 0.6 part of ipconazole, 0.4 part of azoxystrobin, 0.2 part of metalaxyl, 0.4 part of ethaboxam, 3 parts of calcium liginsulfonate, 2 parts of sodium lauryl sulfate and a balance of synthetic hydrous silicon hydroxide.

#### Application Example 1

Treated seeds are obtained by smearing 100 kg of Sorghum dry seeds with 500 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

#### Application Example 2

Treated seeds are obtained by smearing 100 kg of Sorghum dry seeds with 1,000 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich

Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

#### Application Example 3

Treated seeds are obtained by smearing 10 kg of Sorghum dry seeds with 40 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

#### Application Example 4

Treated seeds are obtained by smearing 10 kg of corn dry seeds with 100 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that

respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

#### Application Example 5

Treated seeds are obtained by dust-coating 10 kg of corn dry seeds with 50 g of the wettable powder produced in Formulation Example 193.

Respective treated seeds are obtained by conducting the same operation as described above, except that respective wettable powders produced in Formulation Examples 194 to 288 are used in place of the wettable powder produced in Formulation Example 193.

#### Application Example 6

Treated seeds are obtained by smearing 10 kg of corn dry seeds with 50 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

#### Application Example 7

Treated seeds are obtained by smearing 10 kg of corn

dry seeds with 100 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

#### Application Example 8

Treated seeds are obtained by smearing 10 kg of cotton dry seeds with 50 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

#### Application Example 9

Treated seeds are obtained by smearing 10 kg of rapeseed dry seeds with 50 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich

Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

Application Example 10

Treated seeds are obtained by smearing 10 kg of rapeseed dry seeds with 100 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective treated seeds are obtained by conducting the same operation as described above, except that respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

Application Example 11

Treated seed tubers are obtained by smearing 10 kg of seed tubers of potato with 25 ml of the flowable formulation produced in Formulation Example 1 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH).

Respective seeds tubers are obtained by conducting the same operation as described above, except that

respective flowable formulations produced in Formulation Examples 2 to 192 are used in place of the flowable formulation produced in Formulation Example 1.

The effects of the present invention are illustrated by Test Examples.

#### Test Example 1

Treated seeds are obtained by smearing corn seeds with the flowable formulation described in Formulation Example 19 using a rotary seed treating machine (seed dresser, manufactured by Hans-Ulrich Hege GmbH). The treated seeds are allowed to stand overnight and sown on the soil filled into each of plastic pots and then covered with the soil mixed with *Rhizoctonia solani* cultured separately in a bran culture medium. While sprinkling, culture was conducted in a greenhouse (hereinafter referred to as the chemical treated district). Ten days after seeding, the number of seeds that did not show epicotyl emergence is examined and severity is calculated by Equation 1 shown below. Using non-treated corn seeds, seeding, soil covering and culture are conducted in the same manner as in the case of the chemical treated district (hereinafter referred to as the chemical non-treated district). Ten days after seeding, the number of seeds that did not show epicotyl emergence is examined and

severity is calculated by "Equation 1" shown below. By calculating the control value of the chemical treated district by "Equation 2" shown below based on the severity of the chemical treated district and that of the chemical non-treated district, it can be confirmed that the chemical treated district exhibits a satisfactory pest control effect.

Equation 1: Severity (%) = [(the number of seeds that did not show epicotyl emergence)/(the total number of inoculated seeds)] × 100

Equation 2: Control value (%) = [(A - B)/(A)] × 100

where

A: Severity (%) of plants of the chemical non-treated district

B: Severity (%) of plants of the chemical treated district

#### Test Example 2

In a 15 ml centrifuge tube, corn seeds are smeared with the flowable formulation described in Formulation Example 116 in the amount of 5 µl per one corn seed and corn seeds were sown in a 1/10,000 are Wagner pot in which the soil is spread. After growing in a greenhouse for 12 days, five imagoes of oat bird-cherry aphid (*Rhopalosiphum*

padi) are released (hereinafter referred to as the test district). Using corn seeds which are not treated with the flowable formulation described in Formulation Example 116, sowing, growing and release are conducted in the same manner as in the case of the test district (hereinafter referred to as the control district).

Seven days after release of insects, the number of insects of oat bird-cherry aphid is examined with respect to the test district and the control district. As a result, since the number of insects in the test district becomes smaller than the number of insects in the control district, it is possible to confirm that the test district exerts a satisfactory pest control effect.

#### INDUSTRIAL APPLICABILITY

According to the present invention, it is possible to provide a pest controlling composition having a high activity, and a method capable of effectively controlling pests.

## CLAIMS

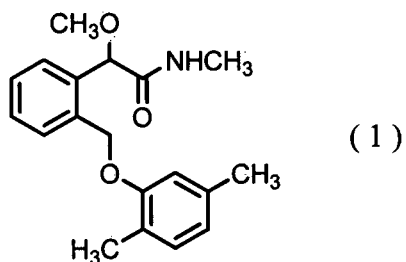
1. A pest controlling composition comprising clothianidin, and one or more fungicidal compounds selected from Group (A):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl.

2. A pest controlling composition comprising clothianidin, one or more fungicidal compounds selected from Group (A), and one or more fungicidal compounds selected from Group (B):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl, and

Group (B): group consisting of the compound represented by the formula (1), pyraclostrobin, azoxystrobin and trifloxystrobin.



3. A pest controlling composition comprising clothianidin, one or more fungicidal compounds selected from Group (A), and one or more fungicidal compounds

selected from Group (C):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl, and

Group (C): group consisting of metconazole, prothioconazole, triticonazole, tebuconazole, difenoconazole and ipconazole.

4. A pest controlling composition comprising clothianidin, one or more fungicidal compounds selected from Group (A), and one or more fungicidal compounds selected from Group (D):

Group (A): group consisting of mancozeb, mefenoxam and metalaxyl, and

Group (D): group consisting of thiophanate-methyl, fludioxonil, tolclufos-methyl, thiram, captan, carboxin, boscalid and thiabendazole.

5. The pest controlling composition according to any one of claims 1 to 4, wherein the total content of one or more fungicidal compounds selected from Group (A) is in the range from 2 to 10,000,000 parts by weight per 1,000 parts by weight of clothianidin.

6. The pest controlling composition according to claim 2, wherein the total content of one or more fungicidal compounds selected from Group (A) is in the

range from 2 to 10,000,000 parts by weight and the total content of one or more fungicidal compounds selected from Group (B) is in the range from 2 to 10,000,000 parts by weight, per 1,000 parts by weight of clothianidin.

7. The pest controlling composition according to claim 3, wherein the total content of one or more fungicidal compounds selected from Group (A) is in the range from 2 to 10,000,000 parts by weight and the total content of one or more fungicidal compounds selected from Group (C) is in the range from 2 to 10,000,000 parts by weight, per 1,000 parts by weight of clothianidin.

8. The pest controlling composition according to claim 4, wherein the total content of one or more fungicidal compounds selected from Group (A) is in the range from 2 to 10,000,000 parts by weight and the total content of one or more fungicidal compounds selected from Group (D) is in the range from 2 to 10,000,000 parts by weight, per 1,000 parts by weight of clothianidin.

9. A method for controlling pests, which comprises a step of applying an effective amount of the pest controlling composition according to any one of claims 1 to 8 to pests or the place where pests inhabit.

10. A method for controlling pests, which comprises a step of applying an effective amount of the pest controlling composition according to any one of claims 1 to 8 to plant seeds.

11. The pest controlling composition according to claim 10, wherein the plant seeds are seeds of wheat, potato, corn, cotton, soybean, beet, rapeseed, barley or rice.

INTERNATIONAL SEARCH REPORT

International application No  
PCT/JP2011/057926

A. CLASSIFICATION OF SUBJECT MATTER  
INV. A01N51/00 A01N47/14 A01N37/46 A01P7/04 A01P3/00  
ADD.  
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
A01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EPO-Internal, BIOSIS, EMBASE, WPI Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 03/059067 A1 (BASF AG [DE]) 24 July 2003 (2003-07-24) examples; compounds I-4 and II claims	1-11
Y	WO 2006/023899 A1 (BAYER CROPSCIENCE LP [US]; ROYALTY REED NATHAN [US]; STEWARD VICTOR B) 2 March 2006 (2006-03-02) example 2 claims	1-11
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Further documents are listed in the continuation of Box C.  See patent family annex.

\* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>
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Date of the actual completion of the international search  30 April 2012	Date of mailing of the international search report  23/07/2012
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Galley, Carl
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/JP2011/057926

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	W ANDERSCH ET AL: "Clothianidin seed treatment (Poncho ) - the new technology for control of corn rootworms and secondary pests in US-corn production", PFLANZENSCHUTZ-NACHRICHTEN BAYER, vol. 2003, no. 1, 1 January 2003 (2003-01-01), pages 147-172, XP055025942, the whole document	1-11
A	----- WO 2006/069654 A2 (BAYER CROPSCIENCE AG [DE]; KROHN PETER-WILHELM [DE]; BECKER ROLF CHRIS) 6 July 2006 (2006-07-06) the whole document	1-11
A	----- WO 2008/077926 A2 (BAYER CROPSCIENCE AG [DE]; VAN DEN EYNDE KOEN [BE]; THIELERT WOLFGANG) 3 July 2008 (2008-07-03) the whole document	1-11
A	----- WO 2010/099965 A2 (GAT MICROENCAPSULATION AG [AT]; CASANA GINER VICTOR [AT]; GIMENO SIERR) 10 September 2010 (2010-09-10) the whole document	1-11
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP2011/057926

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11(partially)

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11(partially)

A pest controlling composition comprising clothianidin and one or more fungicidal compounds selected from Group (A), consisting of mancozeb.

A method for controlling pests, which comprises a step of applying an effective amount of the above pest controlling composition to pests or the place where pests inhabit.

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2. claims: 1-11(partially)

A pest controlling composition comprising clothianidin and one or more fungicidal compounds selected from Group (A), consisting of mefenoxam and metalaxyl.

A method for controlling pests, which comprises a step of applying an effective amount of the above pest controlling composition to pests or the place where pests inhabit.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/JP2011/057926

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Information on patent family members

International application No

PCT/JP2011/057926

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