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(54) **CONTROLLING PESTS BY COMBINING INSECTICIDES AND TRANSGENIC PLANTS BY APPLYING DIRECTLY TO LEAVES AND ROOTS**

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(57) **ABSTRACT**

The invention relates to a method for controlling pests using a combination of insecticides and transgenic plants and consequently improving the utilization of the production potential of transgenic plants which comprises treating the plant with active compound combinations comprising an active compound from the group of the anthranilamides and at least one further insecticide.

# CONTROLLING PESTS BY COMBINING INSECTICIDES AND TRANSGENIC PLANTS BY APPLYING DIRECTLY TO LEAVES AND ROOTS

## CROSS REFERENCE TO RELATED APPLICATIONS

**[0001]** This application is a Divisional application of U.S. application Ser. No. 12/596,184, filed Oct. 16, 2009, which is a §371 National Stage Application of PCT/EP2008/003104, filed Apr. 14, 2008, which claims priority to German Application No. 10 2007 018 452.4, filed Apr. 17, 2007, the content of all of which are incorporated herein by reference in their entireties.

## BACKGROUND

**[0002]** 1. Field of the Invention

**[0003]** The invention relates to a method for controlling pests using a combination of insecticides and transgenic plants and consequently improving the utilization of the production potential of transgenic plants.

**[0004]** 2. Description of Related Art

**[0005]** In recent years, there has been a marked increase in the proportion of transgenic plants in agriculture, even if regional differences are still noticeable to date. Thus, for example, the proportion of transgenic maize in the USA has doubled from 26% to 52% since 2001, while transgenic maize has hardly been of any practical importance in Germany. However, in other European countries, for example in Spain, the proportion of transgenic maize is already about 12%.

**[0006]** Transgenic plants are employed mainly to utilize the production potential of respective plant varieties in the most favourable manner, at the lowest possible input of production means. The aim of the genetic modification of the plants is in particular the generation of resistance in the plants to certain pests or harmful organisms or else herbicides and also to abiotic stress (for example drought, heat or elevated salt levels). It is also possible to modify a plant genetically to increase certain quality or product features, such as, for example, the content of selected vitamins or oils, or to improve certain fibre properties.

**[0007]** Herbicide resistance or tolerance can be achieved, for example, by incorporating genes into the useful plant for expressing enzymes to detoxify certain herbicides, so that a relatively unimpeded growth of these plants is possible even in the presence of these herbicides for controlling broad-leaved weeds and weed grasses. Examples which may be mentioned are cotton varieties or maize varieties which tolerate the herbicidally active compound glyphosate (Roundup®), (Roundup Ready®, Monsanto) or the herbicides glufosinate or oxynil.

**[0008]** More recently, there has also been the development of useful plants comprising two or more genetic modifications ("stacked transgenic plants" or multiply transgenic crops). Thus, for example, Monsanto has developed multiply transgenic maize varieties which are resistant to the European corn borer (*Ostrinia nubilalis*) and the Western corn rootworm (*Diabrotica virgifera*). Also known are maize and cotton crops which are both resistant to the Western corn rootworm and the cotton bollworm and tolerant to the herbicide Roundup®.

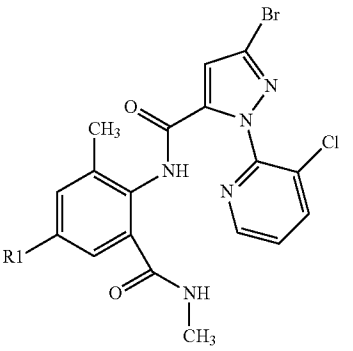
## SUMMARY

**[0009]** It has now been found that the utilization of the production potential of transgenic useful plants can be improved even more by treating the plants with a mixture of an active compound of the formula (I) and an active compound of group II. Here, the term "treatment" includes all measures resulting in a contact between these active compounds and at least one plant part. "Plant parts" are to be understood as meaning all above-ground and below-ground parts and organs of plants, such as shoot, leaf, flower and root, by way of example leaves, needles, stalks, stems, flowers, fruit bodies, fruits and seed, and also roots, tubers and rhizomes. The plant parts also include harvested material and also vegetative and generative propagation material, for example cuttings, tubers, rhizomes, slips and seed.

**[0010]** It is already known that compounds of the formula (I) have insecticidal action (for example from WO 03/015519 and WO 04/067528), and that they can be used in mixtures (for example from WO 05/048711, WO 05/107468, WO 06/007595, WO 06/068669). These documents are expressly incorporated herein by way of reference.

**[0011]** The mixtures which can be used according to the invention comprise an active compound of the formula (I) as follows:

(I)




where

R1 represents Cl or cyano

and at least one of the following active compounds from group (II). The active compounds of group (II) are classified in various classes (1-21) and groups according to their mechanism of action:

Insecticides/Acaricides/Nematicides:

**[0012]** (1) Acetylcholinesterase (AChE) inhibitors, for example

carbamates, e.g. alanycarb, aldicarb, aldoxycarb, allyxycarb, aminocarb, bendiocarb, benfuracarb, bufencarb, butacarb, butocarboxim, butoxycarboxim, carbaryl, carbofuran, carbosulfan, cloethocarb, dimetilan, ethiofencarb, fenobucarb, fenothiocarb, formetanate, furathiocarb, isoprocarb, metamsodium, methiocarb, methomyl, metolcarb, oxamyl, pirimicarb, promecarb, propoxur, thiodicarb, thiofanox, trimethacarb, XMC, and xylylcarb; or

organophosphates, e.g. acephate, azamethiphos, azinphos (-methyl, -ethyl), bromophos-ethyl, bromfenvinfos (-methyl), butathiofos, cadusafos, carbophenothion, chlorethoxy-

fos, chlorfenvinphos, chlormephos, chlorpyrifos (-methyl/-ethyl), coumaphos, cyanofenphos, cyanophos, chlorfenvinphos, demeton-S-methyl, demeton-S-methylsulphon, dialifos, diazinon, dichlofenthion, dichlorvos/DDVP, dicrotophos, dimethoate, dimethylvinphos, dioxabenzofos, disulfoton, EPN, ethion, ethoprophos, etrimfos, famphur, fenamiphos, fenitrothion, fensulfothion, fenthion, flupyrazofos, fonofos, formothion, fosmethilan, fosthiazate, heptenophos, iodofenphos, iprobenfos, isazofos, isofenphos, isopropyl, O-salicylate, isoxathion, malathion, mecarbam, methacrifos, methamidophos, methidathion, mevinphos, monocrotophos, naled, omethoate, oxydemeton-methyl, parathion (-methyl/-ethyl), phenthoate, phorate, phosalone, phosmet, phosphamidon, phosphocarb, phoxim, pirimiphos (-methyl/-ethyl), profenofos, propaphos, propetamphos, prothiofos, prothoate, pyraclofos, pyridaphenthion, pyridathion, quinalphos, sebufos, sulfotep, sulprofos, tebupirimfos, temephos, terbufos, tetra-chlorvinphos, thiometon, triazophos, triclorfon, vamidothion, and imicyafos.

(2) GABA-gated chloride channel antagonists, for example

organochlorines, e.g. camphechlor, chlordane, endosulfan, gamma-HCH, HCH, heptachlor, lindane, and methoxychlor; or

fiproles (phenylpyrazoles), e.g. acetoprole, ethiprole, fipronil, pyrafluprole, pyriprole, and vaniliprole.

(3) Sodium channel modulators/voltage-dependent sodium channel blockers, for example

pyrethroids, e.g. acrinathrin, allethrin (d-cis-trans, d-trans), beta-cyfluthrin, bifenthrin, bioallethrin, bioallethrin S-cyclopentyl isomer, bioethanomethrin, biopermethrin, bioresmethrin, chlovaporthrin, cis-cypermethrin, cis-resmethrin, cis-permethrin, clocythrin, cycloprothrin, cyfluthrin, cyhalothrin, cypermethrin (alpha-, beta-, theta-, zeta-), cyphenothrin, deltamethrin, empenthrin (1R isomer), esfenvalerate, etofenprox, fenfluthrin, fenpropathrin, fenpyrithrin, fenvalerate, flubrocythrinate, flucythrinate, flufenprox, flumethrin, fluvalinate, fubfenprox, gamma-cyhalothrin, imiprothrin, kadethrin, lambda-cyhalothrin, metofluthrin, permethrin (cis-, trans-), phenothrin (1R trans isomer), prallethrin, profluthrin, protrifenbute, pyresmethrin, resmethrin. RU 15525, silafluofen, tau-fluvalinate, tefluthrin, terallethrin, tetramethrin (-1R-isomer), tralomethrin, transfluthrin, ZXI 8901, pyrethrin (pyrethrum), eflusilanat;

DDT; or methoxychlor.

(4) Nicotinergic acetylcholine receptor agonists/antagonists, for example

chloronicotinyls, e.g. acetamiprid, clothianidin, dinotefuran, imidacloprid, imidaclothiz, nitenpyram, nithiazine, thiacloprid, thiamethoxam, AKD-1022,

nicotine, bensultap, cartap, thiosultap-sodium, and thiocylam.

(5) Allosteric acetylcholine receptor modulators (agonists), for example

spinosyns, e.g. spinosad and spinetoram.

(6) Chloride channel activators, for example

mectins/macrolides, e.g. abamectin, emamectin, emamectin benzoate, ivermectin, lepimectin, and milbemectin; or

juvenile hormone analogues, e.g. hydroprene, kinoprene, methoprene, epofenonane, triprene, fenoxycarb, pyriproxifen, and diofenolan.

(7) Active compounds with unknown or non-specific mechanisms of action, for example

gassing agents, e.g. methyl bromide, chloropicrin and sulfuryl fluoride;

selective antifeedants, e.g. cryolite, pymetrozine, pyrifluquinazon and flonicamid; or

mite growth inhibitors, e.g. clofentezine, hexythiazox, etoxazole.

(8) Oxidative phosphorylation inhibitors, ATP disruptors, for example

diafenthiuron;

organotin compounds, e.g. azocyclotin, cyhexatin and fenbutatin oxide; or

propargite, tetradifon.

(9) Oxidative phoshorylation decouplers acting by interrupting the H proton gradient, for example chlorfenapyr, binapacryl, dinobuton, dinocap and DNOC.

(10) Microbial disruptors of the insect gut membrane, for example *Bacillus thuringiensis* strains.

(11) Chitin biosynthesis inhibitors, for example benzoylureas, e.g. bistrifluoron, chlorfluazuron, diflubenzuron, fluazuron, flucycloxuron, flufenoxuron, hexaflumuron, lufenuron, novaluron, novi-flumuron, penfluoron, teflubenzuron or triflumuron.

(12) Buprofezin.

**[0013]** (13) Moulting disruptors, for example cyromazine.

(14) Ecdysone agonists/disruptors, for example

diacylhydrazines, e.g. chromafenozide, halofenozide, methoxyfenozide, tebufenozide, and flufenozide; or

azadirachtin.

(15) Octopaminergic agonists, for example amitraz.

(16) Site III electron transport inhibitors/site II electron transport inhibitors, for example hydramethylnon; acequinocyl; fluacrypyrim; or cyflumetofen and cyenopyrafen.

(17) Electron transport inhibitors, for example

site I electron transport inhibitors, from the group of the METI acaricides, e.g. fenazaquin, fenpyroximate, pyrimidifen, pyridaben, tebufenpyrad, tolfenpyrad, and rotenone; or

voltage-dependent sodium channel blockers, e.g. indoxacarb and metaflumizone.

(18) Fatty acid biosynthesis inhibitors, for example tetronic acid derivatives, e.g. spirodiclofen and spiromesifen; or

tetramic acid derivatives, e.g. spirotetramat.

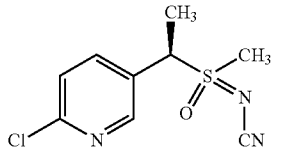
(19) Neuronal inhibitors with unknown mechanism of action, e.g. bifenazate.

(20) Ryanodine receptor effectors, for example diamides, e.g. flubendiamide or (R),(S)-3-chloro-$N^1$-{2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl}-$N^2$-(1-methyl-2-methylsulphonylethyl)phthalamide.

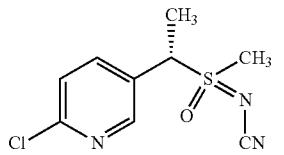
(21) Further active compounds with unknown mechanism of action, for example amidoflumet, benclothiaz, benzoximate, bromopropylate, buprofezin, chinomethionat, chlordimeform, chlorobenzilate, clothiazoben, cycloprene, dicofol, dicyclanil, fenoxacrim, fentrifanil, flubenzimine, flufenerim, flutenzin, gossyplure, japonilure, metoxadiazone, petroleum, potassium oleate, pyridalyl, sulfluramid, tetrasul, triarathene or verbutin; or the following known active compounds:

4-{[(6-bromopyrid-3-yl)methyl](2-fluoroethyl) amino}furan-2(5H)-one (known from WO 2007/115644), 4-{[(6-fluoropyrid-3-yl)methyl](2,2-difluoroethyl) amino}furan-2(5H)-one (known from WO 2007/115644), 4-{[(2-chloro-1,3-thiazol-5-yl)methyl](2-fluoroethyl) amino}furan-2(5H)-one (known from WO 2007/115644), 4-{[(6-chloropyrid-3-yl)methyl](2-fluoroethyl) amino}furan-2(5H)-one (known from WO 2007/115644), 4-{[(6-chloropyrid-3-yl)methyl](2,2-difluoroethyl) amino}furan-2(5H)-one (known from WO 2007/115644), 4-{[(6-chloro-5-fluoropyrid-3-yl)methyl](methyl) amino}furan-2(5H)-one (known from WO 2007/115643), 4-{[(5,6-dichloropyrid-3-yl)methyl](2-fluoroethyl) amino}furan-2(5H)-one (known from WO 2007/115646), 4-{[(6-chloro-5-fluoropyrid-3-yl)methyl](cyclopropyl) amino}furan-2(5H)-one (known from WO 2007/115643), 4-{[(6-chloropyrid-3-yl)methyl](cyclopropyl)amino}furan-2(5H)-one (known from EP-A-0 539 588), 4-{[(6-chloropyrid-3-yl)methyl](methyl)amino)}furan-2(5H)-one (known from EP-A-0 539 588), [(6-chloropyridin-3-yl)methyl](methyl)oxido-$\lambda^4$-sulfanylidenecyanamide (known from WO 2007/149134), [1-(6-chloropyridin-3-yl)ethyl](methyl) oxido-$\lambda^4$-sulfanylidenecyanamide (known from WO 2007/149134) and its diastereomers (A) and (B)

(A)

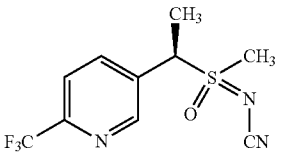


(B)

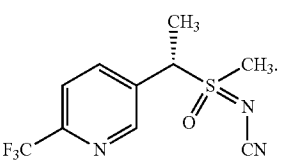


(likewise known from WO 2007/149134), [(6-trifluoromethylpyridin-3-yl)methyl](methyl)oxido-$\lambda^4$-sulfanylidenecyanamide (known from WO 2007/095229), or [1-(6-trifluoromethylpyridin-3-yl)ethyl](methyl)oxido-$\lambda^4$-sulfanylidenecyanamide (known from WO 2007/149134) and its diastereomers (C) and (D)

(C)



(D)



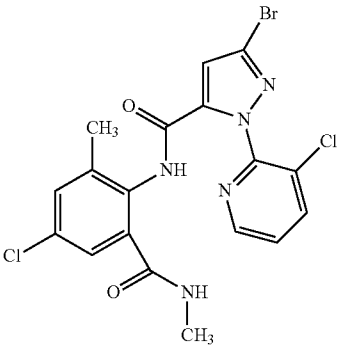
(likewise known from WO 2007/149134).

## DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

**[0014]** The active compounds mentioned in this description by their common name are known for example from "The Pesticide Manual" 13th Ed., British Crop Protection Council 2003, and the website http://www.alanwood.net/pesticides.

**[0015]** Preference is given to mixtures comprising the active compound of the formula (I-1)

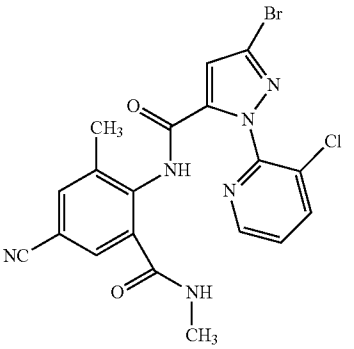
(I-1)



and at least one active compound of group II.

**[0016]** Preference is likewise given to mixtures comprising the active compound of the formula (I-2)

(I-2)



and at least one active compound of group II.

**[0017]** Particular preference is given to the mixtures below comprising

the active compound of the formula I-1 and at least one active compound of group (II) selected from

acetylcholinesterase (AChE) inhibitors, for example methiocarb and thiodicarb;

nicotinergenic acetylcholine receptor agonists/antagonists, for example imidacloprid, thiacloprid, clothianidin, acetamiprid and thiamethoxam;

GABA-gated chloride channel antagonists, for example ethiprole and fipronil;

sodium channel modulators, for example deltamethrin, beta-cyfluthrin, lambda-cyhalothrin and tefluthrin;

allosteric acetylcholine receptor modulators (agonists), for example spinosad and spinetoram;

chloride channel activators, for example abamectin and emamectin benzoate;

inhibitors of fatty acid biosynthesis, for example spirodiclofen, spiromesifen and spirotetramate;
further active compounds, for example

**[0018]** 4-{[(6-chloropyrid-3-yl)methyl](2-fluoroethyl)amino}furan-2(5H)-one,

**[0019]** 4-{[(6-chloropyrid-3-yl)methyl](2,2-difluoroethyl)amino}furan-2(5H)-one,

**[0020]** 4-{[(6-chloro-5-fluoropyrid-3-yl)methyl](methyl)amino}furan-2(5H)-one, and 4-{[(6-chloropyrid-3-yl)methyl](methyl)amino}furan-2(5H)-one.

**[0021]** Particular preference is similarly given to the mixtures below comprising
the active compound of the formula I-2 and at least one active compound of group (II) selected from acetylcholinesterase (AChE) inhibitors, for example methiocarb and thiodicarb;
nicotinergenic acetylcholine receptor agonists/antagonists, for example imidacloprid, thiacloprid, clothianidin, acetamiprid and thiamethoxam;
GABA-gated chloride channel antagonists, for example ethiprole and fipronil;
sodium channel modulators, for example deltamethrin, beta-cyfluthrin, lambda-cyhalothrin and tefluthrin;
allosteric acetylcholine receptor modulators (agonists), for example spinosad and spinetoram;
chloride channel activators, for example abamectin and emamectin benzoate;
inhibitors of fatty acid biosynthesis, for example spirodiclofen, spiromesifen and spirotetramate;
further active compounds, for example

**[0022]** 4-{[(6-chloropyrid-3-yl)methyl](2-fluoroethyl)amino}furan-2(5H)-one,

**[0023]** 4-{[(6-chloropyrid-3-yl)methyl](2,2-difluoroethyl)amino}furan-2(5H)-one.

**[0024]** 4-{[(6-chloro-5-fluoropyrid-3-yl)methyl](methyl)amino}furan-2(5H)-one, and 4-{[(6-chloropyrid-3-yl)methyl](methyl)amino}furan-2(5H)-one.

**[0025]** Very particular preference is given to mixtures comprising the active compound of the formula (I-1) or the formula (I-2) and at least one of the following active compounds of group II, selected from spriodiclofen, spiromesifen, spirotetramate, deltamethrin, lambda-cyhalothrin, ethiprole, emamectin benzoate, acetamiprid, spinetoram,

**[0026]** 4-{[(6-chloropyrid-3-yl)methyl](2-fluoroethyl)amino}furan-2(5H)-one,

**[0027]** 4-{[(6-chloropyrid-3-yl)methyl](2,2-difluoroethyl)amino}furan-2(5H)-one, and

**[0028]** 4-{[(6-chloro-5-fluoropyrid-3-yl)methyl](methyl)amino}furan-2(5H)-one, and 4-{[(6-chloropyrid-3-yl)methyl](methyl)amino}furan-2(5H)-one

**[0029]** Very particular preference is similarly given to mixtures comprising the active compound of the formula (I-1) or of the formula (I-2) and at least one of the following active compounds of group II selected from imidacloprid, thiodicarb, clothianidin, methiocarb, thiacloprid, thiamethoxam, fipronil, tefluthrin, beta-cyfluthrin, abamectin or spinosad.

**[0030]** Particular preference is given to the mixtures below comprising
the active compound of the formula I-1 and imidacloprid;
the active compound of the formula I-1 and clothianidin;
the active compound of the formula I-2 and imidacloprid;
the active compound of the formula I-2 and clothianidin.

**[0031]** In addition, the active compound combinations may also comprise further fungicidally, acaricidally or insecticidally active co-components.

**[0032]** In general, the mixtures according to the invention comprise an active compound of the formula (I) and an active compound of group (II) in the stated preferred and particularly preferred mixing ratios:

**[0033]** The preferred mixing ratio is from 250:1 to 1:50.

**[0034]** The particularly preferred mixing ratio is from 125:1 to 1:50.

**[0035]** The most particularly preferred mixing ratio is from 25:1 to 1:25.

**[0036]** The especially preferred mixing ratio is from 5:1 to 5:1

**[0037]** The mixing ratios are based on weight ratios. The ratio is to be understood as active compound of the formula (I):co-component of group (II) to active compound of the formula (I):co-component of group (II).

| | Mixing partner | Particularly preferred mixing ratio | Very particularly preferred mixing ratio | Especially preferred mixing ratio |
|---|---|---|---|---|
| 1. | Acrinathrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 2. | Alpha-Cypermethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 3. | Betacyfluthrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 4. | Cyhalothrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 5. | Cypermethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 6. | Deltamethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 7. | Esfenvalerate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 8. | Etofenprox | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 9. | Fenpropathrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 10. | Fenvalerate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 11. | Flucythrinate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 12.a | Lambda-Cyhalothrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 12.b | Gamma-Cyhalothrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 13. | Permethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 14. | Tau-fluvalinate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 15. | Tralomethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 16. | Zeta-Cypermethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 17. | Cyfluthrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 18. | Bifenthrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 19. | Cycloprothrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 20. | Eflusilanate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 21. | Fubfenprox | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 22. | Pyrethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |

-continued

| | Mixing partner | Particularly preferred mixing ratio | Very particularly preferred mixing ratio | Especially preferred mixing ratio |
|---|---|---|---|---|
| 23. | Resmethrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 24. | Imidacloprid | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 25. | Acetamiprid | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 26. | Thiamethoxam | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 27. | Nitenpyram | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 28. | Thiacloprid | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 29. | Dinotefuran | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 30. | Clothianidin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 31. | Imidaclothiz | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 32. | Chlorfluazuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 33. | Diflubenzuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 34. | Lufenuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 35. | Teflubenzuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 36. | Triflumuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 37. | Novaluron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 38. | Flufenoxuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 39. | Hexaflumuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 40. | Noviflumuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 41. | Buprofezin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 42. | Cyromazine | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 43. | Methoxyfenozide | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 44. | Tebufenozide | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 45. | Halofenozide | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 46. | Fufenozide | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 47. | Chromafenozide | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 48. | Endosulfan | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 49. | Fipronil | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 50. | Ethiprole | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 51. | Pyrafluprole | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 52. | Pyriprole | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 53. | Flubendiamide | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 54. | (R)-,(S)-3-Chloro-$N^1$-{2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl}-$N^2$-(1-methyl-2-methylsulfonylethyl)phthalamide | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 55. | Emamectin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 56. | Emamectin benzoate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 57. | Abamectin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 58. | Ivermectin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 59. | Milbemectin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 60. | Lepimectin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 61. | Tebufenpyrad | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 62. | Fenpyroximate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 63. | Pyridaben | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 64. | Fenazaquin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 65. | Pyrimidifen | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 66. | Tolfenpyrad | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 67. | Dicofol | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 68. | Cyenopyrafen | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 69. | Cyflumetofen | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 70. | Acequinocyl | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 71. | Fluacrypyrin | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 72. | Bifenazate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 73. | Diafenthiuron | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 74. | Etoxazole | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 75. | Clofentezine | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 76. | Spinosad | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 77. | Triarathen | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 78. | Tetradifon | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 79. | Propargit | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 80. | Hexythiazox | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 81. | Bromopropylate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 82. | Chinomethionate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 83. | Amitraz | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 84. | Pymetrozine | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 85. | Flonicamid | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 86. | Pyriproxyfen | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 87. | Diofenolan | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 88. | Chlorfenapyr | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 89. | Metaflumizone | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 90. | Indoxacarb | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 91. | Chlorpyrifos | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |

-continued

| | Mixing partner | Particularly preferred mixing ratio | Very particularly preferred mixing ratio | Especially preferred mixing ratio |
|---|---|---|---|---|
| 92. | Spirodiclofen | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 93. | Spiromesifen | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 94. | Spirotetramate | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 95. | Pyridalyl | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 96. | 4-{[(6-Chloropyrid-3-yl)methyl](2-fluoroethyl)-amino}furan-2(5H)-one | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 97. | 4-{[(6-Chloropyrid-3-yl)methyl](2,2-difluoroethyl)-amino}furan-2(5H)-one | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 98. | 4-{[(6-Chloro-5-fluoropyrid-3-yl)methyl](methyl)amino}-furan-2(5H)-one | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 99. | 4-{[(6-Chloropyrid-3-yl)methyl](methyl)amino}-furan-2(5H)-one | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |
| 100. | Spinetoram | 125:1 to 1:50 | 25:1 to 1:25 | 5:1 to 1:5 |

**[0038]** According to the method proposed according to the invention, transgenic plants, in particular useful plants, are treated with the mixtures according to the invention to increase agricultural productivity. For the purpose of the invention, transgenic plants are plants which contain at least one "foreign gene". The term "foreign gene" in this connection means a gene or gene fragment which may originate or be derived from another plant of the same species, from plants of a different species, but also from organisms from the animal kingdom or microorganisms (including viruses) ("foreign gene") and/or, if appropriate, already has mutations compared to a naturally occurring gene or gene fragment. According to the invention, it is also possible to use synthetic genes or gene fragments, which is also included in the term "foreign gene" here. It is also possible for a transgenic plant to code for two or more foreign genes of different origin.

**[0039]** For the purpose of the invention, the "foreign gene" is further characterized in that it comprises a nucleic acid sequence which has a certain biological or chemical function or activity in the transgenic plant. In general, these genes code for biocatalysts, such as, for example, enzymes or ribozymes, or else they comprise regulatory sequences, such as, for example, promoters or terminators, for controlling the expression of endogenous proteins. However, to this end, they may also code for regulatory proteins, such as, for example, repressors or inductors. Furthermore, the foreign gene may also serve the targeted localization of a gene product of the transgenic plant, coding, for example, for a signal peptide. The foreign gene may also code for inhibitors, such as, for example, antisense RNA.

**[0040]** The person skilled in the art is readily familiar with numerous different methods for producing transgenic plants and methods for the targeted mutagenesis, for gene transformation and cloning, for example from: Willmitzer, 1993. Transgenic plants, in: Biotechnology, A Multivolume Comprehensive Treatise, Rehm et al. (eds.), Vol. 2, 627-659, VCH Weinheim, Germany; McCormick et al., 1986, Plant Cell Reports 5: 81-84; EP-A 0221044; EP-A 0131624, or Sambrook et al. 1989, "Molecular Cloning: A Laboratory Manual", 3rd Ed., Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.; Winnacker, 1996, "Gene und Klone" [Genes and Clones], 2nd Ed., VCH Weinheim or Christou, 1996, Trends in Plant Science 1: 423-431. Examples of transit or signal peptides or time- or site-specific promoters are disclosed, for example, in Braun et al., 1992, EMBO J. 11: 3219-3227; Wolter et al., 1988, Proc. Natl. Acad. Sci. USA 85: 846-850; Sonnewald et al., 1991, Plant J. 1: 95-106.

**[0041]** A good example of a complex genetic manipulation of a useful plant is the so-called GURT technology ("Genetic Use Restriction Technologies") which allows the technical control of the propagation of the transgenic plant variety in question. To this end, in general two or three foreign genes are cloned into the useful plant which, in a complex interaction after administration of an external stimulus, trigger a cascade resulting in the death of the embryo which would otherwise develop. To this end, the external stimulus (for example an active compound or another chemical or abiotic stimulus) may interact, for example, with a repressor which then no longer suppresses the expression of a recombinase, so that the recombinase is able to cleave an inhibitor thus allowing expression of a toxin causing the embryo to die. Examples of this type of transgenic plants are disclosed in U.S. Pat. No. 5,723,765 or U.S. Pat. No. 5,808,034.

**[0042]** Accordingly, the person skilled in the art is familiar with processes for generating transgenic plants which, by virtue of the integration of regulatory foreign genes and the overexpression, suppression or inhibition of endogenous genes or gene sequences mediated in this manner, if appropriate, or by virtue of the existence or expression of foreign genes or fragments thereof, have modified properties.

**[0043]** As already discussed above, the method according to the invention allows better utilization of the production potential of transgenic plants. On the one hand, this may, if appropriate, be based on the fact that the application rate of the active compound which can be employed according to the invention can be reduced, for example by lowering the dose employed or else by reducing the number of applications. On the other hand, if appropriate, the yield of the useful plants may be increased quantitatively and/or qualitatively. This is true in particular in the case of a transgenically generated resistance to biotic or abiotic stress.

**[0044]** Depending on the plant species or plant varieties, their location and the growth conditions (soils, climate, vegetation period, nutrients), these synergistic actions may vary and may be multifarious. Thus possible are, for example,

reduced application rates and/or a widening of the activity spectrum and/or an increase of the activity of the compounds and compositions used according to the invention, better plant growth, increased tolerance to high or low temperatures, increased tolerance to drought or to water or soil salt content, increased flowering, easier harvesting, accelerated maturation, higher harvest yields, higher quality and/or higher nutrient value of the harvested products, increased storability and/or processibility of the harvested products, which exceed the effects normally to be expected.

**[0045]** These advantages are the result of a synergistic action, achieved according to the invention, between the mixtures according to the invention which can be employed and the respective principle of action of the genetic modification of the transgenic plant. This reduction of production means as a result of the synergism, with simultaneous yield or quality increase, is associated with considerable economical and ecological advantages.

**[0046]** A list of examples known to the person skilled in the art of transgenic plants, with the respective affected structure in the plant or the protein expressed by the genetic modification in the plant being mentioned, is compiled in Table 1. Here, the structure in question or the principle expressed is in each case grouped with a certain feature in the sense of a tolerance to a certain stress factor. A similar list (Table 3) compiles—in a slightly different arrangement—likewise examples of principles of action, tolerances induced thereby and possible useful plants. Further examples of transgenic plants suitable for the treatment according to the invention are compiled in Table 4.

**[0047]** In an advantageous embodiment, the mixtures according to the invention are used for treating transgenic plants comprising at least one foreign gene coding for a Bt toxin. A Bt toxin is a protein originating from or derived from the soil bacterium *Bacillus thuringiensis* which either belongs to the group of the crystal toxins (Cry) or the cytolytic toxins (Cyt). In the bacterium, they are originally formed as protoxins and are only metabolized in alkaline medium—for example in the digestive tract of certain feed insects—to their active form. There, the active toxin then binds to certain hydrocarbon structures at cell surfaces causing pores to be formed which destroy the osmotic potential of the cell, which may effect cell lysis. The result is the death of the insects. Bt toxins are active in particular against certain harmful species from the orders of the Lepidoptera (butterflies), Homoptera, Diptera and Coleoptera (beetles) in all their development stages; i.e. from the egg larva via their juvenile forms to their adult forms.

**[0048]** It has been known for a long time that gene sequences coding for Bt toxins, parts thereof or else peptides or proteins derived from Bt toxins can be cloned with the aid of genetic engineering into agriculturally useful plants to generate transgenic plants having endogenous resistance to pests sensitive to Bt toxins. For the purpose of the invention, the transgenic plants coding for at least one Bt toxin or proteins derived therefrom are defined as "Bt plants".

**[0049]** The "first generation" of such Bt plants generally only comprise the genes enabling the formation of a certain toxin, thus only providing resistance to one group of pathogens. An example of a commercially available maize variety comprising the gene for forming the Cry1Ab toxin is "YieldGard®" from Monsanto which is resistant to the European corn borer. In contrast, in the Bt cotton variety (Bollgard®), resistance to other pathogens from the family of the Lepidoptera is generated by introduction by cloning of the genes for forming the Cry1Ac toxin. Other transgenic crop plants, in turn, express genes for forming Bt toxins with activity against pathogens from the order of the Coleoptera. Examples that may be mentioned are the Bt potato variety "NewLeaf" (Monsanto) capable of forming the Cry3A toxin, which is thus resistant to the Colorado potato beetle, and the transgenic maize variety "YieldGard®" (Monsanto) which is capable of forming the Cry 3Bb1 toxin and is thus protected against various species of the Western corn rootworm.

**[0050]** In a "second generation", the multiply transgenic plants, already described above, expressing or comprising at least two foreign genes were generated.

**[0051]** Preference according to the invention is given to transgenic plants with Bt toxins from the group of the Cry family (see, for example, Crickmore et al. 1998, Microbiol. Mol. Biol. Rev. 62: 807-812), which are particularly effective against Lepidoptera, Coleoptera and Diptera. Examples of genes coding for the proteins are (Table A-1 to A-197):

(A-1) cry1Aa1; (A-2) cry1Aa2, (A-3) cry1Aa3; (A-4) cry1Aa4; (A-5) cry1Aa5; (A-6) cry1Aa6; (A-7) cry1Aa7; (A-8) cry1Aa8; (A-9) cry1Aa9; (A-10) cry1Aa10; (A-11) cry1Aa11, (A-12) cry1Ab1; (A-13) cry1Ab2; (A-14) cry1Ab3; (A-15) cry1Ab4; (A-16) cry1Ab5; (A-17) cry1Ab6; (A-18) cry1Ab7; (A-19) cry1Ab8; (A-20) cry1Ab9; (A-21) cry1Ab10; (A-22) cry1Ab11; (A-23) cry1Ab12; (A-24) cry1Ab13; (A-25) cry1Ab14; (A-26) cry1Ac1; (A-27) cry1Ac2; (A-28) cry1Ac3; (A-29) cry1Ac4; (A-30) cry1Ac5; (A-31) cry1Ac6; (A-32) cry1Ac7; (A-33) cry1Ac8; (A-34) cry1Ac9; (A-35) cry1Ac10; (A-36) cry11Ac11; (A-37) cry1Ac12; (A-38) cry1Ac13; (A-39) cry1Ad1; (A-40) cry1Ad2; (A-41) cry1Ae1; (A-42) cry1Af1; (A-43) cry1Ag1; (A-44) cry1Ba1; (A-45) cry1Ba2; (A-46) cry1Bb1; (A-47) cry1Bc1; (A-48) cry1Bd1; (A-49) cry1Be1; (A-50) cry1Ca1; (A-51) cry1Ca2; (A-52) cry1Ca3; (A-53) cry1Ca4; (A-54) cry1Ca5; (A-55) cry1Ca6; (A-56) cry1Ca7; (A-57) cry1Cb1; (A-58) cry1Cb2; (A-59) cry1Da1; (A-60) cry1Da2; (A-61) cry1Db1; (A-62) cry1Ea1; (A-63) cry1Ea2; (A-64) cry1Ea3; (A-65) cry1Ea4; (A-66) cry1Ea5; (A-67) cry1Ea6; (A-68) cry1Eb1; (A-69) cry1Fa1; (A-70) cry1Fa2; (A-71) cry1Fb1; (A-72) cry1Fb2; (A-73) cry1Fb3; (A-74) cry1Fb4; (A-75) cry1Ga1; (A-76) cry1Ga2; (A-77) cry1Gb1; (A-78) cry1Gb2; (A-79) cry1Ha1; (A-80) cry1Hb1; (A-81) cry1Ia1; (A-82) cry1Ia2; (A-83) cry1Ia3; (A-84) cry1Ia4; (A-85) cry1Ia5; (A-86) cry1Ia6; (A-87) cry1Ib1; (A-88) cry1Ic1; (A-89) cry1Id1; (A-90) cry1Ie1; (A-91) cry1I-like; (A-92) cry1Ja1; (A-93) cry1Jb1; (A-94) cry1Jc1; (A-95) cry1Ka1; (A-96) cry1-like; (A-97) cry2Aa1; (A-98) cry2Aa2; (A-99) cry2Aa3; (A-100) cry2Aa4; (A-101) cry2Aa5; (A-102) cry2Aa6; (A-103) cry2Aa7; (A-104) cry2Aa8; (A-105) cry2Aa9; (A-106) cry2Ab1; (A-107) cry2Ab2; (A-108) cry2Ab3; (A-109) cry2Ac1; (A-110) cry2Ac2; (A-111) cry2Ad1; (A-112) cry3Aa1; (A-113) cry3Aa2; (A-114) cry3Aa3; (A-115) cry3Aa4; (A-116) cry3Aa5; (A-117) cry3Aa6; (A-118) cry3Aa7; (A-119) cry3Ba1; (A-120) cry3Ba2; (A-121) cry3Bb1; (A-122) cry3Bb2; (A-123) cry3Bb3; (A-124) cry3Ca1; (A-125) cry4Aa1; (A-126) cry4Aa2; (A-127) cry4Ba1; (A-128) cry4Ba2; (A-129) cry4Ba3; (A-130) cry4Ba4; (A-131) cry5Aa1; (A-132) cry 5Ab1; (A-133) cry 5Ac1; (A-134) cry5Ba1; (A-135) cry6Aa1; (A-136) cry6Ba1; (A-137) cry7Aa1; (A-138) cry7Ab1; (A-139) cry7Ab2; (A-140) cry8Aa1; (A-141) cry8Ba1; (A-142) cry8Ca1; (A-143) cry9Aa1; (A-144) cry9Aa2; (A-145) cry9Ba1; (A-146)

cry9Ca1; (A-147) cry9Da1; (A-148) cry9Da2; (A-149) cry9Ea1; (A-150) cry9 like; (A-151) cry10Aa1; (A-152) cry10Aa2; (A-153) cry11Aa1; (A-154) cry11Aa2; (A-155) cry11Ba1; (A-156) cry11Bb1; (A-157) cry12Aa1; (A-158) cry13Aa1; (A-159) cry14Aa1; (A-160) cry15Aa1; (A-161) cry 16Aa1; (A-162) cry17Aa1; (A-163) cry 18Aa1; (A-164) cry18Ba1; (A-165) cry18Ca1; (A-166) cry19Aa1; (A-167) cry19Ba1; (A-168) cry20Aa1; (A-169) cry21Aa1; (A-170) cry21Aa2; (A-171) cry22Aa1; (A-172) cry23Aa1; (A-173) cry24Aa1; (A-174) cry25Aa1; (A-175) cry26Aa1; (A-176) cry27Aa1; (A-177) cry28Aa1; (A-178) cry28Aa2; (A-179) cry29Aa1; (A-180) cry30Aa1; (A-181) cry31Aa1; (A-182) cyt1Aa1; (A-183) cyt1Aa2; (A-184) cyt1Aa3; (A-185) cyt1Aa4; (A-186) cyt1Ab1; (A-187) cyt1Ba1; (A-188) cyt2Aa1; (A-189) cyt2Ba1; (A-190) cyt2Ba2; (A-191) cyt2Ba3; (A-192) cyt2Ba4; (A-193) cyt2Ba5; (A-194) cyt2Ba6; (A-195) cyt2Ba7; (A-196) cyt2Ba8; (A-197) cyt2Bb1.

**[0052]** Particular preference is given to the genes or gene sections of the subfamilies cry1, cry2, cry3, cry5 and cry9: especially preferred are cry1Ab, cry1Ac, cry3A, cry3B and cry9C.

**[0053]** Furthermore, it is preferred to use plants which, in addition to the genes for one or more Bt toxins, express or contain, if appropriate, also genes for expressing, for example, a protease or peptidase inhibitor (such as in WO-A 95/35031), of herbicide resistances (for example to glufosinate or glyphosate by expression of the pat gene or bar gene) or for becoming resistant to nematodes, fungi or viruses (for example by expressing a gluconase, chitinase). However, they may also be modified in their metabolic properties, so that they show a qualitative and/or quantitative change of ingredients (for example by modification of the energy, carbohydrate, fatty acid or nitrogen metabolism or by metabolite currents influencing these (see above).

**[0054]** A list of examples of principles of action which can be introduced by genetic modification into a useful plant and which are suitable for the treatment according to the invention on their own or in combination is compiled in Table 2. Under the header "AP" (active principle), this table contains the respective principle of action and associated therewith the pest to be controlled.

**[0055]** In a particularly preferred variant, the process according to the invention is used for treating transgenic vegetable, maize, soya bean, cotton, tobacco, rice, potato, sunflower, rape and sugar beet varieties. These are preferably Bt plants.

**[0056]** The vegetable plants or varieties are, for example, the following useful plants:

**[0057]** potatoes: preferably starch potatoes, sweet potatoes and table potatoes;

**[0058]** root vegetables: preferably carrots, turnips (swedes, stubble turnips (*Brassica rapa* var. *rapa*), spring turnips, autumn turnips (*Brassica campestris* ssp. rapifera), *Brassica rapa* L. ssp. *rapa f. teltowiensis*), scorzonera, Jerusalem artichoke, turnip-rooted parsley, parsnip, radish and horseradish;

**[0059]** tuber vegetables: preferably kohlrabi, beetroot, celeriac, garden radish;

**[0060]** bulb crops: preferably scallion, leek and onions (planting onions and seed onions);

**[0061]** *brassica* vegetables: preferably headed cabbage (white cabbage, red cabbage, kale, savoy cabbage), cauliflowers, broccoli, curly kale, marrow-stem kale, seakale and Brussels sprouts;

**[0062]** fruiting vegetables: preferably tomatoes (outdoor tomatoes, vine-ripened tomatoes, beef tomatoes, greenhouse tomatoes, cocktail tomatoes, industrial and fresh market tomatoes), melons, eggplants, aubergines, pepper (sweet pepper and hot pepper, Spanish pepper), chilli pepper, pumpkins, courgettes and cucumbers (outdoor cucumbers, greenhouse cucumbers snake gourds and gherkins);

**[0063]** vegetable pulses: preferably bush beans (as sword beans, string beans, flageolet beans, wax beans, corn beans of green- and yellow-podded cultivars), pole beans (as sword beans, string beans, flageolet beans, wax beans of green-, blue- and yellow-podded cultivars), broadbeans (field beans, Windsor beans, cultivars having white- and black-spotted flowers), peas (chickling vetch, chickpeas, marrow peas, shelling peas, sugarpeas, smooth peas, cultivars having light- and dark-green fresh fruits) and lentils;

**[0064]** green vegetables and stem vegetables: preferably Chinese cabbage, round-headed garden lettuce, curled lettuce, lamb's-lettuce, iceberg lettuce, romaine lettuce, oakleaf lettuce, endives, radicchio, lollo rossa, ruccola lettuce, chicory, spinach, chard (leaf chard and stem chard) and parsley;

**[0065]** other vegetables: preferably asparagus, rhubarb, chives, artichokes, mint varieties, sunflowers, Florence fennel, dill, garden cress, mustard, poppy seed, peanuts, sesame und salad chicory.

**[0066]** Bt vegetables including exemplary methods for preparing them are described in detail, for example, in Barton et al., 1987, Plant Physiol. 85: 1103-1109; Vaeck et al., 1987, Nature 328: 33-37; Fischhoff et al., 1987, Bio/Technology 5: 807-813. In addition, Bt vegetable plants are already known as commercial varieties, for example the potato cultivar NewLeaf® (Monsanto). The preparation of Bt vegetables is also described in U.S. Pat. No. 6,072,105.

**[0067]** Likewise, Bt cotton is already known in principle, for example from U.S. Pat. No. 5,322,938 or from Prietro-Samsonór et al., J. Ind. Microbiol. & Biotechn. 1997, 19, 202, and H. Agaisse and D. Lereclus, J. Bacteriol. 1996, 177, 6027. Different varieties of Bt cotton, too, are already commercially available, for example under the name NuCOTN® (Deltapine (USA)). In the context of the present invention, particular preference is given to Bt cotton NuCOTN33® and NuCOTN33B®.

**[0068]** The use and preparation of Bt maize has likewise already been known for a long time, for example from Ishida, Y., Saito, H., Ohta, S., Hiei, Y., Komari, T., and Kumnashiro, T. (1996). High efficiency transformation of maize (*Zea mayz* L.) mediated by *Agrobacterium tumefaciens*. Nature Biotechnology 4: 745-750. EP-B-0485506, too, describes the preparation of Bt maize plants. Furthermore, different varieties of Bt maize are commercially available, for example under the following names (company/companies is/are in each case given in brackets): KnockOut® (Novartis Seeds), NaturGard® (Mycogen Seeds), Yieldgard® (Novartis Seeds, Monsanto, Cargill, Golden Harvest, Pioneer, DeKalb inter alia), Bt-Xtra® (DeKalb) and StarLink® (Aventis CropScience, Garst inter alia). For the purpose of the present invention, particular preference is given especially to the following maize cultivars: KnockOut®, NaturGard®, Yieldgard®, Bt-Xtra® and StarLink®.

**[0069]** For rape, InVigor® cultivars resistant to the herbicide glufosinate are available and can be treated according to the invention. These cultivars are also distinguished by an improved crop yield.

**[0070]** For soya beans, too, Roundup®Ready cultivar or cultivars resistant to the herbicide Liberty Link® are available and can be treated according to the invention. In the case of rice, a large number of "Golden Rice" lines are available which are likewise characterized in that, by virtue of a transgenic modification, they have an increased content of provitamin A. They, too, are examples of plants which can be treated by the method according to the invention, with the advantages described.

**[0071]** The method according to the invention is suitable for controlling a large number of harmful organisms which occur in particular in vegetables, maize, soya bean, cotton, rice, tobacco, rape, potatoes, sugar beet and sunflowers preferably arthropods and nematodes, in particular insects and arachnids. The pests mentioned include:

**[0072]** From the order of the Isopoda, for example, *Oniscus asellus, Armadillidium vulgare, Porcellio scaber.*

**[0073]** From the order of the Diplopoda, for example, *Blaniulus guttulatus.*

**[0074]** From the order of the Chilopoda, for example, *Geophilus carpophagus, Scutigera* spp.

**[0075]** From the order of the Symphyla, for example, *Scutigerella immaculata.*

**[0076]** From the order of the Thysanura, for example, *Lepisma saccharina.*

**[0077]** From the order of the Collembola, for example, *Onychiurus armatus.*

**[0078]** From the order of the Orthoptera, for example, *Acheta domesticus, Gryllotalpa* spp., *Locusta migratoria migratorioides, Melanoplus* spp., *Schistocerca gregaria.*

**[0079]** From the order of the Blattaria, for example, *Blatta orientalis, Periplaneta americana, Leucophaea maderae, Blattella germanica.*

**[0080]** From the order of the Dermaptera, for example, *Forficula auricularia.*

**[0081]** From the order of the Isoptera, for example, *Reticulitermes* spp.

**[0082]** From the order of the Phthiraptera, for example, *Pediculus humanus corporis, Haematopinus* spp., *Linognathus* spp., *Trichodectes* spp., *Damalinia* spp.

**[0083]** From the order of the Thysanoptera, for example, *Hercinothrips femoralis, Thrips tabaci, Thrips palmi, Frankliniella occidentalis.*

**[0084]** From the order of the Heteroptera, for example, *Eurygaster* spp., *Dysdercus intermedius, Piesma quadrata, Cimex lectularius, Rhodnius prolixus, Triatoma* spp.

**[0085]** From the order of the Homoptera, for example, *Aleurodes brassicae, Bemisia tabaci, Trialeurodes vaporariorum, Aphis gossypii, Brevicoryne brassicae, Cryptomyzus ribis, Aphis fabae, Aphis pomi, Eriosoma lanigerum, Hyalopterus arundinis, Phylloxera vastatrix, Pemphigus* spp. *Macrosiphum avenae, Myzus* spp., *Phorodon humuli, Rhopalosiphum padi, Empoasca* spp., *Euscelis bilobatus, Nephotettix cincticeps, Lecanium corni, Saissetia oleae, Laodelphax striatellus, Nilaparvata lugens, Aonidiella aurantii, Aspidiotus hederae, Pseudococcus* spp., *Psylla* spp.

**[0086]** From the order of the Lepidoptera, for example, *Pectinophora gossypiella, Bupalus piniarius, Chematobia brumata, Lithocolletis blancardella, Hyponomeuta padella, Plutella xylostella, Malacosoma neustria, Euproctis chrysorrhoea. Lymantria* spp., *Bucculatrix thurberiella, Phyllocnistis citrella, Agrotis* spp., *Euxoa* spp., *Feltia* spp., *Earias insulana, Heliothis* spp., *Mamestra brassicae, Panolis flammea, Spodoptera* spp., *Trichoplusia ni, Carpocapsa pomonella, Pieris* spp., *Chilo* spp., *Pyrausta nubilalis, Ephestia kuehniella, Galleria mellonella, Tineola bisselliella, Tinea pellionella, Hofmannophila pseudospretella, Cacoecia podana, Capua reticulana, Choristoneura fumiferana, Clysia ambiguella, Homona magnanima, Tortrix viridana, Cnaphalocerus* spp., *Oulema oryzae.*

**[0087]** From the order of the Coleoptera, for example, *Anobium punctatum, Rhizopertha dominica, Bruchidius obtectus, Acanthoscelides obtectus, Hylotrupes bajulus, Agelastica alni, Leptinotarsa decemlineata, Phaedon cochleariae, Diabrotica* spp., *Psylliodes chrysocephala, Epilachna varivestis, Atomaria* spp., *Oryzaephilus surinamensis, Anthonomus* spp., *Sitophilus* spp., *Otiorrhynchus sulcatus, Cosmopolites sordidus, Ceuthorrhynchus assimilis, Hypera postica, Dermestes* spp., *Trogoderma* spp., *Anthrenus* spp., *Attagenus* spp., *Lyctus* spp., *Meligethes aeneus, Ptinus* spp., *Niptus hololeucus, Gibbium psylloides, Tribolium* spp., *Tenebrio molitor, Agriotes* spp., *Conoderus* spp., *Melolontha melolontha, Amphimallon solstitialis, Costelytra zealandica, Lissorhoptrus oryzophilus.*

**[0088]** From the order of the Hymenoptera, for example, *Diprion* spp. *Hoplocampa* spp., *Lasius* spp., *Monomorium pharaonis, Vespa* spp.

**[0089]** From the order of the Diptera, for example, *Aedes* spp., *Anopheles* spp., *Culex* spp., *Drosophila melanogaster, Musca* spp., *Fannia* spp., *Calliphora erythrocephala, Lucilia* spp., *Chrysomyia* spp., *Cuterebra* spp., *Gastrophilus* spp., *Hyppobosca* spp., *Stomoxys* spp., *Oestrus* spp., *Hypoderma* spp., *Tabanus* spp. *Tannia* spp., *Bibio hortulanus, Oscinella flit, Phorbia* spp., *Pegomyia hyoscyami, Ceratitis capitata, Dacus oleae, Tipula paludosa, Ilylemyia* spp., *Liriomyza* spp.

**[0090]** From the order of the Siphonaptera, for example, *Xenopsylla cheopis, Ceratophyllus* spp.

**[0091]** From the class of the Arachnida, for example, *Scorpio maurus, Latrodectus mactans, Acarus siro, Argas* spp., *Ornithodoros* spp., *Dermanyssus gallinae, Eriophyes ribis, Phyllocoptruta oleivora, Boophilus* spp., *Rhipicephalus* spp., *Amblyomma* spp., *Hyalomma* spp., *Ixodes* spp., *Psoroptes* spp., *Chorioptes* spp., *Sarcoptes* spp., *Tarsonemus* spp., *Bryobia praetiosa, Panonychus* spp., *Tetranychus* spp., *Hemitarsonemus* spp., *Brevipalpus* spp.

**[0092]** The plant-parasitic nematodes include, for example, *Pratylenchus* spp., *Radopholus similis, Ditylenchus dipsaci, Tylenchulus semipenetrans, Heterodera* spp., *Globodera* spp., *Meloidogyne* spp., *Aphelenchoides* spp., *Longidorus* spp., *Xiphinerna* spp., *Trichodorus* spp., *Bursaphelenchus* spp.

**[0093]** The method according to the invention is particularly suitable for treating sugar beet or Bt vegetables, Bt maize, Bt cotton, Bt soya beans, Bt tobacco, and also Bt rice. Bt potatoes, Bt rape or Bt sunflowers for controlling insects from the order of the Isoptera, for example, *Reticulitermes* spp., from the order of the Thysanoptera, for example, *Thrips tabaci, Thrips palmi, Frankliniella occidentalis*, from the order of the Heteroptera, for example, *Eurygaster* spp., *Dysdercus intermedius, Piesma quadrata*, from the order of the Homoptera, for example, *Aleurodes brassicae, Bemisia tabaci, Trialeurodes vaporariorum, Aphis gossypii, Brevicoryne brassicae, Cryptomyzus ribis, Aphis fabae, Aphis pomi, Eriosoma lanigerum, Phylloxera vastatrix, Pemphigus* spp.,

*Macrosiphum avenae, Myzus* spp., *Phorodon humuli, Rhopalosiphum padi, Empoasca* spp., *Nephotettix cincticeps, Lecanium corni, Saissetia oleae, Laodelphax striatellus, Nilaparvata lugens, Aonidiella aurantii, Pseudococcus* spp., *Psylla* spp., from the order of the Lepidoptera, for example, *Pectinophora gossypiella, Chematobia brumata, Lithocolletis blancardella, Hyponomeuta padella, Plutella xylostella, Euproctis chrysorrhoea, Lymantria* spp., *Phyllocnistis citrella, Agrotis* spp., *Earias insulana, Heliothis* spp., *Mamestra brassicae, Spodoptera* spp., *Trichoplusia ni, Carpocapsa pomonella, Pieris* spp. *Chilo* spp. *Pyrausta nubilalis, Ephestia kuehniella, Capua reticulana, Clysia ambiguella, Tortrix viridana, Cnaphalocerus* spp., *Oulema oryzae*, from the order of the Coleoptera, for example, *Leptinotarsa decemlineata, Phaedon cochleariae, Diabrotica* spp., *Psylliodes chrysocephala, Epilachna varivestis, Atomaria* spp., *Oryzaephilus surinamensis, Anthonomus* spp., *Sitophilus* spp., *Otiorrhynchus sulcatus, Cosmopolites sordidus, Ceuthorrhynchus assimilis, Meligethes aeneus, Tribolium* spp., *Tenebrio molitor, Agriotes* spp., *Lissorhoptrus oryzophilus*, from the order of the Hymenoptera, for example, *Diprion* spp., *Hoplocampa* spp. or from the order of the Diptera, for example, *Oscinella frit, Phorbia* spp., *Pegomyia hyoscyami, Ceratitis capitata, Dacus oleae, Hylemyia* spp., *Liriomyza* spp.

**[0094]** The active compound combinations can be employed in customary formulations, such as solutions, emulsions, wettable powders, water- and oil-based suspensions, powders, dusts, pastes, soluble powders, soluble granules, granules for broadcasting, suspoemulsion concentrates, natural compounds impregnated with active compound, synthetic substances impregnated with active compound, fertilizers and also microencapsulations in polymeric substances.

**[0095]** These formulations are prepared in a known manner, for example by mixing the active compounds with extenders, i.e. liquid solvents and/or solid carriers, if appropriate using surfactants, i.e. emulsifiers and/or dispersants and/or foam-formers. The formulations are prepared either in suitable plants or else before or during application.

**[0096]** Wettable powders are preparations which can be dispersed homogeneously in water and which, in addition to the active compound and beside a diluent or inert substance, also comprise wetting agents, for example polyethoxylated alkylphenols, polyethoxylated fatty alcohols, alkylsulphonates or alkylphenylsulphonates and dispersants, for example sodium lignosulphonate, sodium 2,2'-dinaphthylmethane-6, 6'-disulphonate.

**[0097]** Dusts are obtained by grinding the active compound with finely distributed solid substances, for example talc, natural clays, such as kaolin, bentonite, pyrophillite or diatomaceous earth. Granules can be prepared either by spraying the active compound onto granular inert material capable of adsorption or by applying active compound concentrates to the surface of carrier substances, such as sand, kaolinites or granular inert material, by means of adhesives, for example polyvinyl alcohol, sodium polyacrylate or mineral oils. Suitable active compounds can also be granulated in the manner customary for the preparation of fertilizer granules—if desired as a mixture with fertilizers.

**[0098]** Suitable for use as auxiliaries are substances which are suitable for imparting to the composition itself and/or to preparations derived therefrom (for example spray liquors, seed dressings) particular properties such as certain technical properties and/or also particular biological properties. Typical suitable auxiliaries are: extenders, solvents and carriers.

**[0099]** Suitable extenders are, for example, water, polar and nonpolar organic chemical liquids, for example from the classes of the aromatic and non-aromatic hydrocarbons (such as paraffins, alkylbenzenes, alkylnaphthalenes, chlorobenzenes), the alcohols and polyols (which, if appropriate, may also be substituted, etherified and/or esterified), the ketones (such as acetone, cyclohexanone), esters (including fats and oils) and (poly)ethers, the unsubstituted and substituted amines, amides, lactams (such as N-alkylpyrrolidones) and lactones, the sulphones and sulphoxides (such as dimethyl sulphoxide).

**[0100]** If the extender used is water, it is also possible to employ, for example, organic solvents as auxiliary solvents. Essentially, suitable liquid solvents are: aromatics such as xylene, toluene or alkylnaphthalenes, chlorinated aromatics and chlorinated aliphatic hydrocarbons such as chlorobenzenes, chloroethylenes or methylene chloride, aliphatic hydrocarbons such as cyclohexane or paraffins, for example petroleum fractions, mineral and vegetable oils, alcohols such as butanol or glycol and also their ethers and esters, ketones such as acetone, methyl ethyl ketone, methyl isobutyl ketone or cyclohexanone, strongly polar solvents such as dimethyl sulphoxide, and also water.

**[0101]** Suitable solid carriers are:

for example, ammonium salts and ground natural minerals such as kaolins, clays, talc, chalk, quartz, attapulgite, montmorillonite or diatomaceous earth, and ground synthetic minerals, such as finely divided silica, alumina and silicates; suitable solid carriers for granules are: for example, crushed and fractionated natural rocks such as calcite, marble, pumice, sepiolite and dolomite, and also synthetic granules of inorganic and organic meals, and granules of organic material such as paper, sawdust, coconut shells, maize cobs and tobacco stalks; suitable emulsifiers and/or foam-formers are: for example, nonionic and anionic emulsifiers, such as polyoxyethylene fatty acid esters, polyoxyethylene fatty alcohol ethers, for example alkylaryl polyglycol ethers, alkylsulphonates, alkyl sulphates, arylsulphonates and also protein hydrolysates; suitable dispersants are nonionic and/or ionic substances, for example from the classes of the alcohol-POE and/or -POP ethers, acid and/or POP POE esters, alkylaryl and/or POP POE ethers, fat and/or POP POE adducts, POE- and/or POP-polyol derivatives, POE- and/or POP-sorbitan or -sugar adducts, alkyl or aryl sulphates, alkyl- or arylsulphonates and alkyl or aryl phosphates or the corresponding PO-ether adducts. Furthermore, suitable oligo- or polymers, for example those derived from vinylic monomers, from acrylic acid, from EO and/or PO alone or in combination with, for example, (poly)alcohols or (poly)amines. It is also possible to employ lignin and its sulphonic acid derivatives, unmodified and modified celluloses, aromatic and/or aliphatic sulphonic acids and their adducts with formaldehyde.

**[0102]** Tackifiers such as carboxymethylcellulose and natural and synthetic polymers in the form of powders, granules or latices, such as gum arabic, polyvinyl alcohol and polyvinyl acetate, as well as natural phospholipids such as cephalins and lecithins, and synthetic phospholipids, can be used in the formulations.

**[0103]** It is possible to use colorants such as inorganic pigments, for example iron oxide, titanium oxide and Prussian Blue, and organic dyestuffs, such as alizarin dyestuffs, azo dyestuffs and metal phthalocyanine dyestuffs, and trace

nutrients such as salts of iron, manganese, boron, copper, cobalt, molybdenum and zinc.

**[0104]** Other possible additives are perfumes, mineral or vegetable, optionally modified oils, waxes and nutrients (including trace nutrients), such as salts of iron, manganese, boron, copper, cobalt, molybdenum and zinc.

**[0105]** Stabilizers, such as low-temperature stabilizers, preservatives, antioxidants, light stabilizers or other agents which improve chemical and/or physical stability may also be present.

**[0106]** These individual types of formulation are known in principle and are described, for example, in: Winnacker-Küchler, 1986, "Chemische Technologie" [Chemical Technology], Volume 7, 4th Ed., C. Hauser Verlag Munich; van Falkenberg, 1972-73, "Pesticides Formulations", 2nd Ed., Marcel Dekker N.Y.; Martens, 1979, "Spray Drying Handbook", 3rd Ed., G. Goodwin Ltd. London.

**[0107]** Based on his general expert knowledge, the person skilled in the art is able to choose suitable formulation auxiliaries (in this context, see, for example, Watkins, "Handbook of Insecticide Dust Diluents and Carriers", 2nd Ed., Darland Books, Caldwell N.J.; v. Olphen, "Introduction to Clay Colloid Chemistry", 2nd Ed., J. Wiley & Sons, N.Y.; Marsden, "Solvents Guide", 2nd Ed., Interscience, N.Y. 1950; McCutcheon's, "Detergents and Emulsifiers Annual", MC Publ. Corp., Ridgewood, N.J.; Sisley and Wood, "Encyclopedia of Surface Active Agents", Chem. Publ. Co. Inc., N.Y. 1964; Schönfeldt, "Grenzflächenaktive Äthylenoxidaddukte" [Surface-active Ethylene Oxide Adducts], Wiss. Verlagsgesell., Stuttgart 1967; Winnacker-Küchler, "Chemische Technologie" [Chemical Technology], Volume 7, 4th Ed., C. Hanser Verlag Munich 1986.

**[0108]** The active compound combinations according to the invention, in commercially available formulations and in the use forms prepared from these formulations, can be present in a mixture with other known active compounds such as insecticides, attractants, sterilants, bactericides, acaricides, nematicides, fungicides, growth regulators or herbicides. The insecticides include, for example, phosphoric esters, carbamates, carboxylic esters, chlorinated hydrocarbons, phenylureas, substances produced by microorganisms, and the like.

**[0109]** A mixture with other known active compounds such as fertilizers is also possible.

**[0110]** When used as insecticides, the active compound combinations according to the invention in their commercially available formulations and in the use forms which are prepared from these formulations may furthermore be present as a mixture with synergists. Synergists are compounds by which the action of the active compounds is increased without it being necessary for the synergist added to be active itself.

**[0111]** In general, the formulations comprise from 0.01 to 98% by weight of active compound, preferably from 0.5 to 90%. In wettable powders, the active compound concentration is, for example, from about 10 to 90% by weight, the remainder to 100% by weight consisting of customary formulation components. In the case of emulsifiable concentrates, the active compound concentration can be from about 5 to 80% by weight. In most cases, formulations in the form of dusts comprise from 5 to 20% by weight of active compound, sprayable solutions comprise about 2 to 20% by weight. In the case of granules, the active compound content depends partially on whether the active compound is present in liquid or solid form and on which granulation auxiliaries, fillers, etc., are used.

**[0112]** The use is accomplished in a customary manner adapted to the use forms, preferably by means of leaf and drenching application.

**[0113]** The treatment according to the invention of the transgenic plants with the combinations of active compounds is effected directly or by action on their surroundings, habitat or storage space according to customary methods of treatment, for example by immersion, spraying, evaporating, pouring on, misting, scattering, painting on and in the case of propagation material, in particular in the case of seeds, further by applying one or more coats.

**[0114]** The required application rate may also vary with external conditions such as, inter alia, temperature and humidity. It may vary within wide limits, for example between 0.1 g/h and 5.0 kg/ha or more of active substance. Owing to the synergistic effects between Bt vegetables and the active compound combinations according to the invention, particular preference is given to application rates of from 0.1 to 500 g/ha. Particular preference is given to application rates of from 10 to 500 g/ha, especially preferred are 10 to 200 g/ha.

**[0115]** The active compound content of the use forms prepared from the commercial formulations may vary within wide limits. The active compound concentration of the use forms may be from 0.0000001 to 95% by weight of active compound and is, preferably between 0.0001 and 1% by weight.

TABLE 1

| | Feature of the plant/tolerance to |
|---|---|
| | Plant: Maize |
| Structure affected or principle expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolepyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acid, cyclohexanedione |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isooxazoles, such as isoxaflutol or isoxachlortol, triones, such as mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles, such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazole, pyridine derivative, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 | xenobiotics and herbicides, such as sulphonylurea |
| dimboa biosynthesis (Bx1-Gen) | *Helminthosporium turcicum*, *Rhopalosiphum maydis*, *Diplodia maydis*, *Ostrinia nubilalis*, Lepidoptera sp. |
| CMIII (small basic peptide building block from maize grain) | plant pathogens e.g. *Fusarium*, Alternaria, *Sclerotina* |
| Com-SAFP (zeamatin) | plant pathogens, e.g. *Fusarium*, *Alternaria*, *Sclerotina*, *Rhizoctonia*, *Chaetomium*, Phycomycen |
| Hm1-gene | *Cochliobulus* |
| chitinases | plant pathogens |
| glucanases | plant pathogens |
| envelope proteins | viruses, such as the Maize dwarf mosaic virus (MDMV) |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxin, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| 3-hydroxysteroid oxidase | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| peroxidase | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitors (LAPI) | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, Sesamia sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| limonene synthase | Western corn rootworm |
| lectin | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| protease inhibitors e.g. cystatin, patatin, virgiferin, CPTI | weevils, Western corn rootworm |
| ribosome-inactivating protein | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| 5C9-maize polypeptide | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| HMG-CoA reductase | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| Plant: Wheat | |
| Structure affected/protein expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolepyrimidines, pyrimidyloxybenzoates, phthalides |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acid, cyclohexanedione |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isooxazoles, such as isoxaflutol or isoxachlortol, triones, such as mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles, such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 | xenobiotics and herbicides, such as sulphonylurea compounds |
| antifungal polypeptide AlyAFP | plant pathogens, e.g. *Septoria* and *Fusarium* |
| glucose oxidase | plant pathogens, e.g. *Fusarium*, *Septoria* |
| pyrrolnitrin synthesis gene | plant pathogens, e.g. *Fusarium*, *Septoria* |
| serine/threonine kinases | plant pathogens, e.g. *Fusarium*, *Septoria* and other diseases |
| polypeptide having the effect of triggering a hypersensitivity reaction | plant pathogens, e.g. *Fusarium*, *Septoria* and other diseases |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | plant pathogens |
| glucanases | plant pathogens |
| double-strand ribonuclease | viruses such as, for example, BYDV and MSMV |
| envelope proteins | viruses such as, for example, BYDV and MSMV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, Coleoptera, Diptera, nematodes |
| 3-hydroxysteroid oxidase | Lepidoptera, Coleoptera, Diptera, nematodes |
| peroxidase | Lepidoptera, Coleoptera, Diptera, nematodes |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, Coleoptera, Diptera, nematodes |
| lectins | Lepidoptera, Coleoptera, Diptera, nematodes, aphids |
| protease inhibitors, e.g. cystatin, patatin, virgiferin, CPTI | Lepidoptera, Coleoptera, Diptera, nematodes, aphids |
| ribosome-inactivating protein | Lepidoptera, Coleoptera, Diptera, nematodes, aphids |
| HMG-CoA reductase | Lepidoptera, Coleoptera, Diptera, nematodes, e.g. *Ostrinia nubilalis*, *Heliothis zea*, armyworms e.g. *Spodoptera frugiperda*, Western corn rootworm, *Sesamia* sp., *Aprotis ipsilon*, Asian corn borer, weevils |
| Plant: Barley | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolepyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isooxazoles, such as isoxaflutol or isoxachlortol, triones, such as mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles, such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 | xenobiotics and herbicides, such as sulphonylurea compounds |
| antifungal polypeptide AlyAFP | plant pathogens, e.g. *Septoria* and *Fusarium* |
| glucose oxidase | plant pathogens, e.g. *Fusarium*, *Septoria* |
| pyrrolnitrin synthesis gene | plant pathogens, e.g. *Fusarium*, *Septoria* |
| serine/threonine kinases | plant pathogens, e.g. *Fusarium*, *Septoria* and other diseases |
| polypeptide having the effect of triggering a hypersensitivity reaction | plant pathogens, e.g. *Fusarium*, Septoria and other diseases |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | plant pathogens |
| glucanases | plant pathogens |
| double-strand ribonuclease | viruses such as, for example, BYDV and MSMV |
| envelope proteins | viruses such as, for example, BYDV and MSMV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, Coleoptera, Diptera, nematodes |
| 3-hydroxysteroid oxidase | Lepidoptera, Coleoptera, Diptera, nematodes |
| peroxidase | Lepidoptera, Coleoptera, Diptera, nematodes |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, Coleoptera, Diptera, nematodes |
| lectins | Lepidoptera, Coleoptera, Diptera, nematodes, aphids |
| protease inhibitors, e.g. cystatin, patatin, virgiferin, CPTI | Lepidoptera, Coleoptera, Diptera, nematodes, aphids |
| ribosome-inactivating protein | Lepidoptera, Coleoptera, Diptera, nematodes, aphids |
| HMG-CoA reductase | Lepidoptera, Coleoptera, Diptera, nematodes, aphids |
| | Plant: Rice |
| Structure affected/principle expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolepyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acid, cyclohexanedione |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isooxazoles, such as isoxaflutol or isoxachlortol, triones, such as mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles, such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 | xenobiotics and herbicides, such as sulphonylurea compounds |
| antifungal polypeptide AlyAFP | plant pathogens |
| glucose oxidase | plant pathogens |
| pyrrolnitrin synthesis gene | plant pathogens |
| serine/threonine kinases | plant pathogens |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| phenylalanine ammonia lyase (PAL) | plant pathogens, e.g. bacterial foliar mildew and inducible rice blast |
| phytoalexins | plant pathogens, e.g. bacterial foliar mildew and rice blast |
| B-1,3-glucanase (antisense) | plant pathogens, e.g. bacterial foliar mildew and rice blast |
| receptor kinase | plant pathogens, e.g. bacterial foliar mildew and rice blast |
| polypeptide having the effect of triggering a hypersensitivity reaction | plant pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | plant pathogens, e.g. bacterial foliar mildew and rice blast |
| glucanases | plant pathogens |
| double-strand ribonuclease | viruses such as, for example, BYDV and MSMV |
| envelope proteins | viruses such as, for example, BYDV and MSMV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers, e.g. rice brown planthopper |
| 3-hydroxysteroid oxidase | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers, e.g. rice brown planthopper |
| peroxidase | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers, e.g. rice brown planthopper |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers, e.g. rice brown planthopper |
| lectins | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers, e.g. rice brown planthopper |
| protease inhibitors | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers e.g. rice brown planthopper |
| ribosome-inactivating protein | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers, e.g. rice brown planthopper |
| HMG-CoA reductase | Lepidoptera, e.g. stem borer, Coleoptera, e.g. weevils such as *Lissorhoptrus oryzophilus*, Diptera, rice planthoppers e.g. rice brown planthopper |
| Plant: Soya bean | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolepyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isooxazoles, such as isoxaflutol or isoxachlortol, triones, such as mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles, such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides, such as sulphonylurea compounds |
| antifungal polypeptide AlyAFP | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| oxalate oxidase | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| glucose oxidase | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| pyrrolnitrin synthesis gene | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| serine/threonine kinases | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| phenylalanine ammonia lyase (PAL) | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| phytoalexins | plant pathogens, e.g. bacterial foliar mildew and rice blast |
| B-1,3-glucanase (antisense) | plant pathogens, e.g. bacterial foliar mildew and rice blast |
| receptor kinase | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| polypeptide having the effect of triggering a hypersensitivity reaction | plant pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| glucanases | bacterial and fungal pathogens such as, for example, *Fusarium*, *Sclerotinia*, stem rot |
| double-strand ribonuclease | viruses such as, for example, BPMV and SbMV |
| envelope proteins | viruses such as, for example, BYDV and MSMV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, Coleoptera, aphids |
| 3-hydroxysteroid oxidase | Lepidoptera, Coleoptera, aphids |
| peroxidase | Lepidoptera, Coleoptera, aphids |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, Coleoptera, aphids |
| lectins | Lepidoptera, Coleoptera, aphids |
| protease inhibitors, e.g. virgiferin | Lepidoptera, Coleoptera, aphids |
| ribosome-inactivating protein | Lepidoptera, Coleoptera, aphids |
| HMG-CoA reductase | Lepidoptera, Coleoptera, aphids |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| hatching factor for cyst nematodes | cyst nematodes |
| principles for preventing food uptake | nematodes, e.g. root-knot nematodes and cyst nematodes |
| Plant: Potato | |
| Structure affected/protein expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolepyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isooxazoles, such as isoxaflutol or isoxachlortol, triones, such as mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles, such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides, such as sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | black spot |
| metallothionein | bacterial and fungal pathogens such as, for example, *Phytophtora*, |
| ribonuclease | *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| antifungal polypeptide AlyAFP | bacterial and fungal pathogens such as, for example, *Phytophtora* |
| oxalate oxidase | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| glucose oxidase | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| pyrrolnitrin synthesis gene | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| serine/threonine kinases | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| cecropin B | bacteria such as, for example, *Corynebacterium sepedonicum*, *Erwinia carotovora* |
| phenylalanine ammonia lyase (PAL) | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| phytoalexins | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| B-1,3-glucanase (antisense) | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| receptor kinase | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| barnase | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| gene 49 for controlling disease resistance | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| trans-aldolase (antisense) | black spot |
| glucanases | bacterial and fungal pathogens such as, for example, *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| double-strand ribonuclease | viruses such as, for example, PLRV, PVY and TRV |
| envelope proteins | viruses such as, for example, PLRV, PVY and TRV |
| 17 kDa or 60 kDa protein | viruses such as, for example, PLRV, PVY and TRV |
| nuclear inclusion proteins, e.g. a or b | viruses such as, for example, PLRV, PVY and TRV |
| pseudoubiquitin | viruses such as, for example, PLRV, PVY and TRV |
| replicase | viruses such as, for example, PLRV, PVY and TRV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Coleoptera, e.g. Colorado beetle, aphids |
| 3-hydroxysteroid oxidase | Coleoptera, e.g. Colorado beetle, aphids |
| peroxidase | Coleoptera, e.g. Colorado beetle, aphids |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Coleoptera, e.g. Colorado beetle, aphids |
| stilbene synthase | Coleoptera, e.g. Colorado beetle, aphids |
| lectins | Coleoptera, e.g. Colorado beetle, aphids |
| protease inhibitors, e.g. cystatin, patatin | Coleoptera, e.g. Colorado beetle, aphids |
| ribosomene-inactivating protein | Coleoptera, e.g. Colorado beetle, aphids |
| HMG-CoA reductase | Coleoptera, e.g. Colorado beetle, aphids |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| principles for preventing food uptake | nematodes, e.g. root-knot nematodes and cyst nematodes |

TABLE 1-continued

| Feature of the plant/tolerance to | |
|---|---|
| Plant: Tomato | |
| Structure affected/principle expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolepyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acid, cyclohexanedione |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isooxazoles, such as isoxaflutol or isoxachlortol, triones, such as mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles, such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| Cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides, such as sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | black spot |
| metallothionein | bacterial and fungal pathogens such as, for example, *Phytophtora* |
| ribonuclease | *Phytophtora*, *Verticillium*, *Rhizoctonia* |
| antifungal polypeptide AlyAFP | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| oxalate oxidase | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| glucose oxidase | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| pyrrolnitrin synthesis gene | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| serine/threonine kinases | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| cecropin B | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| phenylalanine ammonia lyase (PAL) | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | leaf mould |
| osmotin | early blight |
| alpha hordothionin | bakteria |
| systemin | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| polygalacturonase inhibitors | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| Prf control gene | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| 12 *fusarium* resistance site | *Fusarium* |
| phytoalexins | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| B-1,3-glucanase (antisense) | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| receptor kinase | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| barnase | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| glucanases | bacterial and fungal pathogens such as, for example, bacterial blotch, *Fusarium*, soft rot, powdery mildew, foliar blight, leaf mould etc. |
| double-strand ribonuclease | viruses such as, for example, PLRV, PVY and ToMoV |
| envelope proteins | viruses such as, for example, PLRV, PVY and ToMoV |
| 17 kDa or 60 kDa protein | viruses such as, for example, PLRV, PVY and ToMoV |
| nuclear inclusion proteins e.g. a or b or | viruses such as, for example, PLRV, PVY and ToMoV |
| nucleoprotein | TRV |
| pseudoubiquitin | viruses such as, for example, PLRV, PVY and ToMoV |
| replicase | viruses such as, for example, PLRV, PVY and ToMoV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera e.g. *Heliothis*, whitefly aphids |
| 3-hydroxysteroid oxidase | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| peroxidase | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| lectins | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| protease inhibitors, e.g. cystatin, patatin | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| ribosome-inactivating protein | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| stilbene synthase | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| HMG-CoA reductase | Lepidoptera e.g. *Heliothis*, whitefly, aphids |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| principles for preventing food uptake | nematodes, e.g. root-knot nematodes and cyst nematodes |

TABLE 1-continued

| Feature of the plant/tolerance to | |
|---|---|
| Plant: Bell Pepper | |
| Structure affected/protein expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial and fungal pathogens |
| metallothionein | bacterial and fungal pathogens |
| ribonuclease | bacterial and fungal pathogens |
| antifungal polypeptid AlyAFP | bacterial and fungal pathogens |
| oxalate oxidase | bacterial and fungal pathogens |
| glucose oxidase | bacterial and fungal pathogens |
| pyrrolnitrin synthesis genes | bacterial and fungal pathogens |
| serine/threonine kinases | bacterial and fungal pathogens |
| cecropin B | bacterial and fungal pathogens, rot, leaf mould, etc. |
| phenylalanine ammonia lyase (PAL) | bacterial and fungal pathogens |
| Cf genes, e.g. Cf 9 Ct5 Cf4 Cf2 | bacterial and fungal pathogens |
| osmotin | bacterial and fungal pathogens |
| alpha hordothionine | bacterial and fungal pathogens |
| systemin | bacterial and fungal pathogens |
| polygalacturonase inhibitors | bacterial and fungal pathogens |
| Prf control gene | bacterial and fungal pathogens |
| 12 *Fusarium* resistance site | *Fusarium* |
| phytoalexins | bacterial and fungal pathogens |
| B-1,3-glucanase (antisense) | bacterial and fungal pathogens |
| receptor kinase | bacterial and fungal pathogens |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial and fungal pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | bacterial and fungal pathogens |
| barnase | bacterial and fungal pathogens |
| glucanases | bacterial and fungal pathogens |
| double-strand ribonuclease | viruses such as, for example, CMV, TEV |
| envelope proteins | viruses such as, for example, CMV, TEV |
| 17 kDa or 60 kDa protein | viruses such as, for example, CMV, TEV |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses such as, for example, CMV, TEV |
| pseudoubiquitin | viruses such as, for example, CMV, TEV |
| replicase | viruses such as, for example, CMV, TEV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, whitefly, aphids |
| 3-hydroxysteroid oxidase | Lepidoptera, whitefly, aphids |
| peroxidase | Lepidoptera, whitefly, aphids |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, whitefly, aphids |
| lectins | Lepidoptera, whitefly, aphids |
| protease inhibitors, e.g. cystatin, patatin | Lepidoptera, whitefly, aphids |
| ribosome-inactivating protein | Lepidoptera, whitefly, aphids |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| stilbene synthase | Lepidoptera, whitefly, aphids |
| HMG-CoA reductase | Lepidoptera, whitefly, aphids |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| principles for preventing food uptake | nematodes, e.g. root-knot nematodes and cyst nematodes |
| Plant: Grapevines | |
| Structure affected/principle expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| metallothionein | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| ribonuclease | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| antifungal polypeptide AlyAFP | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| oxalate oxidase | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| glucose oxidase | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| pyrrolnitrin synthesis genes | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| serine/threonine kinases | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| cecropin B | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| phenylalanine ammonia lyase (PAL) | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| osmotin | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| alpha hordothionine | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| systemin | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| polygalacturonase inhibitors | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| Prf control gene | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| phytoalexins | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| B-1,3-glucanase (antisense) | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| receptor kinase | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| poly-peptide having the effect of triggering a hypersensitivity reaction | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| barnase | bacterial and fungal pathogens such as *Botrytis* and powdery mildew |
| glucanases | bacterial and fungal pathogens such as Botrytis and powdery mildew |
| double-strand ribonuclease | viruses |
| envelope proteins | viruses |
| 17 kDa or 60 kDa protein | viruses |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses |
| pseudoubiquitin | viruses |
| replicase | viruses |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids |
| peroxidase | Lepidoptera, aphids |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids |
| lectins | Lepidoptera, aphids |
| protease inhibitors, e.g. cystatin, patatin | Lepidoptera, aphids |
| ribosome-inactivating protein | Lepidoptera, aphids |
| stilbene synthase | Lepidoptera, aphids, diseases |
| HMG-CoA reductase | Lepidoptera, aphids |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes or general diseases |
| CBI | root-knot nematodes |
| principles for preventing food uptake | nematodes, e.g. root-knot nematodes or root-cyst nematodes |
| Plant: Oilseed rape | |
| Structure affected/protein expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| metallothionein | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| ribonuclease | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| antifungal polypeptid AlyAFP | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| oxalate oxidase | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| glucose oxidase | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| pyrrolnitrin synthesis genes | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| serine/threonine kinases | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| cecropin B | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| phenylalanine ammonia lyase (PAL) | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| osmotin | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| alpha hordothionine | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| systemin | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| polygalacturonase inhibitors | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| Prf control gene | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| phytoalexins | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| B-1,3-glucanase (antisense) | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| receptor kinase | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| barnase | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* nematodes |
| glucanases | bacterial and fungal pathogens such as *Cylindrosporium*, *Phoma*, *Sclerotinia* |
| double-strand ribonuclease | viruses |
| envelope proteins | viruses |
| 17 kDa or 60 kDa protein | viruses |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses |
| pseudoubiquitin | viruses |
| replicase | viruses |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids |
| peroxidase | Lepidoptera, aphids |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids |
| lectins | Lepidoptera, aphids |
| protease inhibitors, e.g. cystatin, patatin, CPTI | Lepidoptera, aphids |
| ribosome-inactivating protein | Lepidoptera, aphids |
| stilbene synthase | Lepidoptera, aphids, diseases |
| HMG-CoA reductase | Lepidoptera, aphids |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes |
| Plant: *Brassica* vegetables (cabbage, Brussels sprouts etc.) | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial and fungal pathogens |
| metallothionein | bacterial and fungal pathogens |
| ribonuclease | bacterial and fungal pathogens |
| antifungal polypeptid AlyAFP | bacterial and fungal pathogens |
| oxalate oxidase | bacterial and fungal pathogens |
| glucose oxidase | bacterial and fungal pathogens |
| pyrrolnitrin synthesis genes | bacterial and fungal pathogens |
| serine/threonine kinases | bacterial and fungal pathogens |
| cecropin B | bacterial and fungal pathogens |
| phenylalanine ammonia lyase (PAL) | bacterial and flingal pathogens |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | bacterial and fungal pathogens |
| osmotin | bacterial and fungal pathogens |
| alpha hordothionine | bacterial and fungal pathogens |
| systemin | bacterial and fungal pathogens |
| polygalacturonase inhibitors | bacterial and fungal pathogens |
| Prf control gene | bacterial and fungal pathogens |
| phytoalexins | bacterial and fungal pathogens |
| B-1,3-glucanase (antisense) | bacterial and fungal pathogens |
| receptor kinase | bacterial and fungal pathogens |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial and fungal pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| chitinases | bacterial and fungal pathogens |
| barnase | bacterial and fungal pathogens |
| glucanases | bacterial and fungal pathogens |
| double-strand ribonuclease | viruses |
| envelope proteins | viruses |
| 17 kDa or 60 kDa protein | viruses |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses |
| pseudoubiquitin | viruses |
| replicase | viruses |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids |
| peroxidase | Lepidoptera, aphids |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids |
| lectins | Lepidoptera, aphids |
| protease inhibitors, e.g. cystatin, patatin, CPTI | Lepidoptera, aphids |
| ribosome-inactivating protein | Lepidoptera, aphids |
| stilbene synthase | Lepidoptera, aphids, diseases |
| HMG-CoA reductase | Lepidoptera, aphids |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes<br>cyst nematodes |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| Plants: Pomaceous fruit, e.g. apples, pears | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| metallothionein | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| ribonuclease | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| antifungal polypeptid AlyAFP | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| oxalate oxidase | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| glucose oxidase | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| pyrrolnitrin synthesis genes | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| serine/threonine kinases | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| cecropin B | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| phenylalanine ammonia lyase (PAL) | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| osmotin | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| alpha hordothionine | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| systemin | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| polygalacturonase inhibitors | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| Prf control gene | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| phytoalexins | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| B-1,3-glucanase (antisense) | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| receptor kinase | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| lytic protein | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| lysozyme | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| chitinases | bacterial and fungal pathogens such as storage scab on apples or fire-blight |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| barnase | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| glucanases | bacterial and fungal pathogens such as storage scab on apples or fire-blight |
| double-strand ribonuclease | viruses |
| envelope proteins | viruses |
| 17 kDa or 60 kDa protein | viruses |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses |
| pseudoubiquitin | viruses |
| replicase | viruses |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids, mites |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids, mites |
| peroxidase | Lepidoptera, aphids, mites |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids, mites |
| lectins | Lepidoptera, aphids, mites |
| protease inhibitors, e.g. cystatin, patatin, CPTI | Lepidoptera, aphids, mites |
| ribosome-inactivating protein | Lepidoptera, aphids, mites |
| stilbene synthase | Lepidoptera, aphids, diseases, mites |
| HMG-CoA reductase | Lepidoptera, aphids, mites |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes |
| Plant: Melon | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial or fungal pathogens such as *Phytophtora* |
| metallothionein | bacterial or fungal pathogens such as *Phytophtora* |
| ribonuclease | bacterial or fungal pathogens such as *Phytophtora* |
| antifungal polypeptid AlyAFP | bacterial or fungal pathogens such as *Phytophtora* |
| oxalate oxidase | bacterial or fungal pathogens such as *Phytophtora* |
| glucose oxidase | bacterial or fungal pathogens such as *Phytophtora* |
| pyrrolnitrin synthesis genes | bacterial or fungal pathogens such as *Phytophtora* |
| serine/threonine kinases | bacterial or fungal pathogens such as *Phytophtora* |
| cecropin B | bacterial or fungal pathogens such as *Phytophtora* |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| phenylalanine ammonia lyase (PAL) | bacterial or fungal pathogens such as *Phytophtora* |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | bacterial or fungal pathogens such as *Phytophtora* |
| osmotin | bacterial or fungal pathogens such as *Phytophtora* |
| alpha hordothionine | bacterial or fungal pathogens such as *Phytophtora* |
| systemin | bacterial or fungal pathogens such as *Phytophtora* |
| polygalacturonase inhibitors | bacterial or fungal pathogens such as *Phytophtora* |
| Prf control gene | bacterial or fungal pathogens such as *Phytophtora* |
| phytoalexins | bacterial or fungal pathogens such as *Phytophtora* |
| B-1,3-glucanase (antisense) | bacterial or fungal pathogens such as *Phytophtora* |
| receptor kinase | bacterial or fungal pathogens such as *Phytophtora* |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial or fungal pathogens such as *Phytophtora* |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| lytic protein | bacterial or fungal pathogens such as *Phytophtora* |
| lysozyme | bacterial or fungal pathogens such as *Phytophtora* |
| chitinases | bacterial or fungal pathogens such as *Phytophtora* |
| barnase | bacterial or fungal pathogens such as *Phytophtora* |
| glucanases | bacterial or fungal pathogens such as *Phytophtora* |
| double-strand ribonuclease | viruses such as CMV, PRSV, WMV2, SMV, ZYMV |
| envelope proteins | viruses such as CMV, PRSV, WMV2, SMV, ZYMV |
| 17 kDa or 60 kDa protein | viruses such as CMV, PRSV, WMV2, SMV, ZYMV |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses such as CMV, PRSV, WMV2, SMV, ZYMV |
| pseudoubiquitin | viruses such as CMV, PRSV, WMV2, SMV, ZYMV |
| replicase | viruses such as CMV, PRSV, WMV2, SMV, ZYMV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids, mites |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids, mites, whitefly |
| peroxidase | Lepidoptera, aphids, mites, whitefly |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids, mites, whitefly |
| lectins | Lepidoptera, aphids, mites, whitefly |
| protease inhibitors, e.g. cystatin, patatin, CPTI, virgiferin | Lepidoptera, aphids, mites, whitefly |
| ribosome-inactivating protein | Lepidoptera, aphids, mites, whitefly |
| stilbene synthase | Lepidoptera, aphids, mites, whitefly |
| HMG-CoA reductase | Lepidoptera, aphids, mites, whitefly |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes |
| Plant: Banana | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial or fungal pathogens |
| metallothionein | bacterial or fungal pathogens |
| ribonuclease | bacterial or fungal pathogens |
| antifungal polypeptid AlyAFP | bacterial or fungal pathogens |
| oxalate oxidase | bacterial or fungal pathogens |
| glucose oxidase | bacterial or fungal pathogens |
| pyrrolnitrin synthesis genes | bacterial or fungal pathogens |
| serine/threonine kinases | bacterial or fungal pathogens |
| cecropin B | bacterial or fungal pathogens |
| phenylalanine ammonia lyase (PAL) | bacterial or fungal pathogens |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | bacterial or fungal pathogens |
| osmotin | bacterial or fungal pathogens |
| alpha hordothionine | bacterial or fungal pathogens |
| systemin | bacterial or fungal pathogens |
| polygalacturonase inhibitors | bacterial or fungal pathogens |
| Prf control gene | bacterial or fungal pathogens |
| phytoalexins | bacterial or fungal pathogens |
| B-1,3-glucanase (antisense) | bacterial or fungal pathogens |
| receptor kinase | bacterial or fungal pathogens |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial or fungal pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| lytic protein | bacterial or fungal pathogens |
| lysozyme | bacterial or fungal pathogens |
| chitinases | bacterial or fungal pathogens |
| barnase | bacterial or fungal pathogens |
| glucanases | bacterial or fungal pathogens |
| double-strand ribonuclease | viruses such as the Banana Bunchy Top Virus (BBTV) |
| envelope proteins | viruses such as the Banana Bunchy Top Virus (BBTV) |
| 17 kDa or 60 kDa protein | viruses such as the Banana Bunchy Top Virus (BBTV) |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses such as the Banana Bunchy Top Virus (BBTV) |
| pseudoubiquitin | viruses such as the Banana Bunchy Top Virus (BBTV) |
| replicase | viruses such as the Banana Bunchy Top Virus (BBTV) |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids, mites, nematodes |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids, mites, nematodes |
| peroxidase | Lepidoptera, aphids, mites, nematodes |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids, mites, nematodes |
| lectins | Lepidoptera, aphids, mites, nematodes |
| protease inhibitors, e.g. cystatin, patatin, CPTI, virgiferin | Lepidoptera, aphids, mites, nematodes |
| ribosome-inactivating protein | Lepidoptera, aphids, mites, nematodes |
| stilbene synthase | Lepidoptera, aphids, mites, nematodes |
| HMG-CoA reductase | Lepidoptera, aphids, mites, nematodes |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes |
| Plant: Cotton | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthese |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial or fungal pathogens |
| metallothionein | bacterial or fungal pathogens |
| ribonuclease | bacterial or fungal pathogens |
| antifungal polypeptid AlyAFP | bacterial or fungal pathogens |
| oxalate oxidase | bacterial or fungal pathogens |
| glucose oxidase | bacterial or fungal pathogens |
| pyrrolnitrin synthesis genes | bacterial or fungal pathogens |
| serine/threonine kinases | bacterial or fungal pathogens |
| cecropin B | bacterial or fungal pathogens |
| phenylalanine ammonia lyase (PAL) | bacterial or fungal pathogens |
| Cf genes, e.g. Cf9 Cf5 Cf4 Cf2 | bacterial or fungal pathogens |
| osmotin | bacterial or fungal pathogens |
| alpha hordothionine | bacterial or fungal pathogens |
| systemin | bacterial or fungal pathogens |
| polygalacturonase inhibitors | bacterial or fungal pathogens |
| Prf control gene | bacterial or fungal pathogens |
| phytoalexins | bacterial or fungal pathogens |
| B-1,3-glucanase (antisense) | bacterial or fungal pathogens |
| receptor kinase | bacterial or fungal pathogens |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial or fungal pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| lytic protein | bacterial or fungal pathogens |
| lysozyme | bacterial or fungal pathogens |
| chitinases | bacterial or fungal pathogens |
| barnase | bacterial or fungal pathogens |
| glucanases | bacterial or fungal pathogens |
| double-strand ribonuclease | viruses such as the wound tumour virus (WTV) |
| envelope proteins | viruses such as the wound tumour virus (WTV) |
| 17 kDa or 60 kDa protein | viruses such as the wound tumour virus (WTV) |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses such as the wound tumour virus (WTV) |
| pseudoubiquitin | viruses such as the wound tumour virus (WTV) |
| replicase | viruses such as the wound tumour virus (WTV) |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids, mites, nematodes, whitefly |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids, mites, nematodes, whitefly |
| peroxidase | Lepidoptera, aphids, mites, nematodes, whitefly |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids, mites, nematodes, whitefly |
| lectins | Lepidoptera, aphids, mites, nematodes, whitefly |
| protease inhibitors, e.g. cystatin, patatin, CPTI, virgiferin | Lepidoptera, aphids, mites, nematodes, whitefly |
| ribosome-inactivating protein | Lepidoptera, aphids, mites, nematodes, whitefly |
| stilbene synthase | Lepidoptera, aphids, mites, nematodes, whitefly |
| HMG-CoA reductase | Lepidoptera, aphids, mites, nematodes, whitefly |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes |
| Plant: Sugar cane | |
| Feature affected/protein expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial or fungal pathogens |
| metallothionein | bacterial or fungal pathogens |
| ribonuclease | bacterial or fungal pathogens |
| antifungal polypeptid AlyAFP | bacterial or fungal pathogens |
| oxalate oxidase | bacterial or fungal pathogens |
| glucose oxidase | bacterial or fungal pathogens |
| pyrrolnitrin synthesis genes | bacterial or fungal pathogens |
| serine/threonine kinases | bacterial or fungal pathogens |
| cecropin B | bacterial or fungal pathogens |
| phenylalanine ammonia lyase (PAL) | bacterial or fungal pathogens |
| Cf genes, e.g. Cf9 Cf5 Cf4 Cf2 | bacterial or fungal pathogens |
| osmotin | bacterial or fungal pathogens |
| alpha hordothionine | bacterial or fungal pathogens |
| systemin | bacterial or fungal pathogens |
| polygalacturonase inhibitors | bacterial or fungal pathogens |
| Prf control gene | bacterial or fungal pathogens |
| phytoalexins | bacterial or fungal pathogens |
| B-1,3-glucanase (antisense) | bacterial or fungal pathogens |
| receptor kinase | bacterial or fungal pathogens |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial or fungal pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| lytic protein | bacterial or fungal pathogens |
| lysozyme | bacterial or fungal pathogens, e.g. Clavibacter |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| chitinases | bacterial or fungal pathogens |
| barnase | bacterial or fungal pathogens |
| glucanases | bacterial or fungal pathogens |
| double-strand ribonuclease | viruses such as SCMV, SrMV |
| envelope proteins | viruses such as SCMV, SrMV |
| 17 kDa or 60 kDa protein | viruses such as SCMV, SrMV |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses such as SCMV, SrMV |
| pseudoubiquitin | viruses such as SCMV, SrMV |
| replicase | viruses such as SCMV, SrMV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| peroxidase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| lectins | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| protease inhibitors, e.g. cystatin, patatin, CPTI, virgiferin | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| ribosome-inactivating protein | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| stilbene synthase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| HMG-CoA reductase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles such as e.g. the Mexican rice borer |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes |
| Plant: Sunflower | |
| Structure affected/protein expressed | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial or fungal pathogens |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| metallothionein | bacterial or fungal pathogens |
| ribonuclease | bacterial or fungal pathogens |
| antifungal polypeptid AlyAFP | bacterial or fungal pathogens |
| oxalate oxidase | bacterial or fungal pathogens, e.g. *Sclerotinia* |
| glucose oxidase | bacterial or fungal pathogens |
| pyrrolnitrin synthesis genes | bacterial or fungal pathogens |
| serine/threonine kinases | bacterial or fungal pathogens |
| cecropin B | bacterial or fungal pathogens |
| phenylalanine ammonia lyase (PAL) | bacterial or fungal pathogens |
| Cf genes, e.g. Cf9 Cf5 Cf4 Cf2 | bacterial or fungal pathogens |
| osmotin | bacterial or fungal pathogens |
| alpha hordothionine | bacterial or fungal pathogens |
| systemin | bacterial or fungal pathogens |
| polygalacturonase inhibitors | bacterial or fungal pathogens |
| Prf control gene | bacterial or fungal pathogens |
| phytoalexins | bacterial or fungal pathogens |
| B-1,3-glucanase (antisense) | bacterial or fungal pathogens |
| receptor kinase | bacterial or fungal pathogens |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial or fungal pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| lytic protein | bacterial or fungal pathogens |
| lysozyme | bacterial or fungal pathogens |
| chitinases | bacterial or fungal pathogens |
| barnase | bacterial or fungal pathogens |
| glucanases | bacterial or fungal pathogens |
| double-strand ribonuclease | viruses such as CMV, TMV |
| envelope proteins | viruses such as CMV, TMV |
| 17 kDa or 60 kDa protein | viruses such as CMV, TMV |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses such as CMV, TMV |
| pseudoubiquitin | viruses such as CMV, TMV |
| replicase | viruses such as CMV, TMV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| peroxidase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| lectins | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| protease inhibitors, e.g. cystatin, patatin, CPTI, virgiferin | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| ribosome-inactivating protein | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| stilbene synthase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| HMG-CoA reductase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced at nematode feeding sites | nematodes, e.g. root-knot nematodes and root-cyst nematodes |

TABLE 1-continued

| Feature of the plant/tolerance to | |
|---|---|
| Plants: Sugar beet, turnips | |
| acetolactate synthase (ALS) | sulphonylurea compounds, imidazolinones triazolopyrimidines, pyrimidyloxybenzoates, phthalides |
| acetyl-CoA carboxylase (ACCase) | aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones |
| hydroxyphenylpyruvate dioxygenase (HPPD) | isoxazoles such as, for example, isoxaflutole or isoxachlortole, triones such as, for example, mesotrione or sulcotrione |
| phosphinothricin acetyltransferase | phosphinothricin |
| O-methyl transferase | modified lignin content |
| glutamine synthetase | glufosinate, bialaphos |
| adenylosuccinate lyase (ADSL) | inhibitors of IMP and AMP synthesis |
| adenylosuccinate synthase | inhibitors of adenylosuccinate synthesis |
| anthranilate synthase | inhibitors of tryptophan synthesis and degradation |
| nitrilase | 3,5-dihalo-4-hydroxybenzonitriles such as bromoxynil and loxinyl |
| 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS) | glyphosate or sulphosate |
| glyphosate oxidoreductase | glyphosate or sulphosate |
| protoporphyrinogen oxidase (PROTOX) | diphenyl ethers, cyclic imides, phenylpyrazoles, pyridine derivatives, phenopylate, oxadiazoles etc. |
| cytochrome P450 e.g. P450 SU1 or selection | xenobiotics and herbicides such as, for example, sulphonylurea compounds |
| polyphenol oxidase or polyphenol oxidase (antisense) | bacterial or fungal pathogens |
| metallothionein | bacterial or fungal pathogens |
| ribonuclease | bacterial or fungal pathogens |
| antifungal polypeptid AlyAFP | bacterial or fungal pathogens |
| oxalate oxidase | bacterial or fungal pathogens, e.g. *Sclerotinia* |
| glucose oxidase | bacterial or fungal pathogens |
| pyrrolnitrin synthesis genes | bacterial or fungal pathogens |
| serine/threonine kinases | bacterial or fungal pathogens |
| cecropin B | bacterial or fungal pathogens |
| phenylalanine ammonia lyase (PAL) | bacterial or fungal pathogens |
| Cf genes, e.g. Cf 9 Cf5 Cf4 Cf2 | bacterial or fungal pathogens |
| osmotin | bacterial or fungal pathogens |
| alpha hordothionine | bacterial or fungal pathogens |
| systemin | bacterial or fungal pathogens |
| polygalacturonase inhibitors | bacterial or fungal pathogens |
| Prf control gene | bacterial or fungal pathogens |
| phytoalexins | bacterial or fungal pathogens |
| B-1,3-glucanase (antisense) | bacterial or fungal pathogens |
| AX + WIN-proteins | bacterial and fungal pathogens such as *Cercospora beticola* |
| receptor kinase | bacterial or fungal pathogens |
| polypeptide having the effect of triggering a hypersensitivity reaction | bacterial or fungal pathogens |
| systemic aquired resistance (SAR) genes | viral, bacterial, fungal and nematodal pathogens |
| lytic protein | bacterial or fungal pathogens |
| lysozyme | bacterial or fungal pathogens |
| chitinases | bacterial or fungal pathogens |
| barnase | bacterial or fungal pathogens |
| glucanases | bacterial or fungal pathogens |
| double-strand ribonuclease | viruses such as, for example, BNYVV |
| envelope proteins | viruses such as, for example, BNYVV |
| 17 kDa or 60 kDa protein | viruses such as, for example, BNYVV |
| nuclear inclusion proteins e.g. a or b or nucleoprotein | viruses such as, for example, BNYVV |
| pseudoubiquitin | viruses such as, for example, BNYVV |
| replicase | viruses such as, for example, BNYVV |
| toxins of *Bacillus thuringiensis*, VIP 3, *Bacillus cereus* toxins, *Photorabdus* and *Xenorhabdus* toxins | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| 3-hydroxysteroid oxidase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| peroxidase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |

TABLE 1-continued

| | Feature of the plant/tolerance to |
|---|---|
| aminopeptidase inhibitors, e.g. leucine aminopeptidase inhibitor | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| lectins | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| protease inhibitors, e.g. cystatin, patatin, CPTI, virgiferin | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| ribosome-inactivating protein | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| stilbene synthase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| HMG-CoA reductase | Lepidoptera, aphids, mites, nematodes, whitefly, beetles, root-flies |
| hatching factor for cyst nematodes | cyst nematodes |
| barnase | nematodes, e.g. root-knot nematodes and cyst nematodes |
| beet cyst nematode resistance site | cyst nematodes |
| CBI | root-knot nematodes |
| principles for preventing food uptake induced | nematodes, e.g. root-knot nematodes and root-cyst nematodes |

TABLE 2

| AP | Control of |
|---|---|
| CrylA(a) | *Adoxophyes* spp. |
| CrylA(a) | *Agrotis* spp. |
| CrylA(a) | *Alabama argiliaceae* |
| CrylA(a) | *Anticarsia gemmatalis* |
| CrylA(a) | *Chilo* spp. |
| CrylA(a) | *Clysia ambiguella* |
| CrylA(a) | *Crocidolomia binotalis* |
| CrylA(a) | *Cydia* spp. |
| CrylA(a) | *Diparopsis castanea* |
| CrylA(a) | *Earias* spp. |
| CrylA(a) | *Ephestia* spp. |
| CrylA(a) | *Heliothis* spp. |
| CrylA(a) | *Heliula undalis* |
| CrylA(a) | *Keiferia lycopersicella* |
| CrylA(a) | *Leucoptera scitella* |
| CrylA(a) | *Lithocollethis* spp. |
| CrylA(a) | *Lobesia botrana* |
| CrylA(a) | *Ostrinia nubilalis* |
| CrylA(a) | *Pandemis* spp. |
| CrylA(a) | *Pectinophora gossyp.* |
| CrylA(a) | *Phyllocnistis citrella* |
| CrylA(a) | *Pieris* spp. |
| CrylA(a) | *Plutella xylostella* |
| CrylA(a) | *Scirpophaga* spp. |
| CrylA(a) | *Sesamia* spp. |
| CrylA(a) | *Sparganothis* spp. |
| CrylA(a) | *Spodoptera* spp. |
| CrylA(a) | *Tortrix* spp. |
| CrylA(a) | *Trichoplusia ni* |
| CrylA(a) | *Agriotes* spp. |
| CrylA(a) | *Anthonomus grandis* |
| CrylA(a) | *Curculio* spp. |
| CrylA(a) | *Diabrotica balteata* |
| CrylA(a) | *Leptinotarsa* spp. |
| CrylA(a) | *Lissorhoptrus* spp. |
| CrylA(a) | *Otiorhynchus* spp. |
| CrylA(a) | *Aleurothrixus* spp. |
| CrylA(a) | *Aleyrodes* spp. |
| CrylA(a) | *Aonidiella* spp. |
| CrylA(a) | *Aphididea* spp. |
| CrylA(a) | *Aphis* spp. |
| CrylA(a) | *Bemisia tabaci* |
| CrylA(a) | *Empoasca* spp. |
| CrylA(a) | *Mycus* spp. |
| CrylA(a) | *Nephotettix* spp. |
| CrylA(a) | *Nilaparvata* spp. |
| CrylA(a) | *Pseudococcus* spp. |
| CrylA(a) | *Psylla* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| CrylA(a) | *Quadraspidiotus* spp. |
| CrylA(a) | *Schizaphis* spp. |
| CrylA(a) | *Trialeurodes* spp. |
| CrylA(a) | *Lyriomyza* spp. |
| CrylA(a) | *Oscinella* spp. |
| CrylA(a) | *Phorbia* spp. |
| CrylA(a) | *Frankliniella* spp. |
| CrylA(a) | *Thrips* spp. |
| CrylA(a) | *Scirtothrips aurantii* |
| CrylA(a) | *Aceria* spp. |
| CrylA(a) | *Aculus* spp. |
| CrylA(a) | *Brevipaipus* spp. |
| CrylA(a) | *Panonychus* spp. |
| CrylA(a) | *Phyllocoptruta* spp. |
| CrylA(a) | *Tetranychus* spp. |
| CrylA(a) | *Heterodera* spp. |
| CrylA(a) | *Meloidogyne* spp. |
| CrylA(b) | *Adoxophyes spp* |
| CrylA(b) | *Agrotis spp* |
| CrylA(b) | *Alabama argillaceae* |
| CrylA(b) | *Anticarsia gemmatalis* |
| CrylA(b) | *Chilo* spp. |
| CrylA(b) | *Ciysia ambiguella* |
| CrylA(b) | *Crocidolomia binotaiis* |
| CrylA(b) | *Cydia* spp. |
| CrylA(b) | *Diparopsis castanea* |
| CrylA(b) | *Earias* spp. |
| CrylA(b) | *Ephestia* spp. |
| CrylA(b) | *Heliothis* spp. |
| CrylA(b) | *Hellula undalis* |
| CrylA(b) | *Keiferia lycopersicella* |
| CrylA(b) | *Leucoptera scitella* |
| CrylA(b) | *Lithocollethis* spp. |
| CrylA(b) | *Lobesia botrana* |
| CrylA(b) | *Ostrinia nubilalis* |
| CrylA(b) | *Pandemis* spp. |
| CrylA(b) | *Pectinophora gossyp.* |
| CrylA(b) | *Phyllocnistis citrella* |
| CrylA(b) | *Pieris* spp. |
| CrylA(b) | *Plutelia xyiostella* |
| CrylA(b) | *Scirpophaga* spp. |
| CrylA(b) | *Sesamia* spp. |
| CrylA(b) | *Sparganothis* spp. |
| CrylA(b) | *Spodoptera* spp. |
| CrylA(b) | *Tortrix* spp. |
| CrylA(b) | *Trichoplusia ni* |
| CrylA(b) | *Agriotes* spp. |
| CrylA(b) | *Anthonomus grandis* |

TABLE 2-continued

| AP | Control of |
|---|---|
| CrylA(b) | *Curculio* spp. |
| CrylA(b) | *Diabrotica balteata* |
| CrylA(b) | *Leptinotarsa* spp. |
| CrylA(b) | *Lissorhoptrus* spp. |
| CrylA(b) | *Otiorhynchus* spp. |
| CrylA(b) | *Aleurothrixus* spp. |
| CrylA(b) | *Aleyrodes* spp. |
| CrylA(b) | *Aonidiella* spp. |
| CrylA(b) | *Aphididae* spp. |
| CrylA(b) | *Aphis* spp. |
| CrylA(b) | *Bemisia tabaci* |
| CrylA(b) | *Empoasca* spp. |
| CrylA(b) | *Mycus* spp. |
| CrylA(b) | *Nephotettix* spp. |
| CrylA(b) | *Nilaparvata* spp. |
| CrylA(b) | *Pseudococcus* spp. |
| CrylA(b) | *Psylla* spp. |
| CrylA(b) | *Quadraspidiotus* spp. |
| CrylA(b) | *Schizaphis* spp. |
| CrylA(b) | *Trialeurodes* spp. |
| CrylA(b) | *Lyriomyza* spp. |
| CrylA(b) | *Oscinella* spp. |
| CrylA(b) | *Phorbia* spp. |
| CrylA(b) | *Frankliniella* spp. |
| CrylA(b) | *Thrips* spp. |
| CrylA(b) | *Scirtothrips aurantii* |
| CrylA(b) | *Aceria* spp. |
| CrylA(b) | *Aculus* spp. |
| CrylA(b) | *Brevipalpus* spp. |
| CrylA(b) | *Panonychus* spp. |
| CrylA(b) | *Phyllocoptruta* spp. |
| CrylA(b) | *Tetranychus* spp. |
| CrylA(b) | *Heterodera* spp. |
| CrylA(b) | *Meloidogyne* spp. |
| CrylA(c) | *Adoxophyes* spp. |
| CrylA(c) | *Agrotis* spp. |
| CrylA(c) | *Alabama argillaceae* |
| CrylA(c) | *Anticarsia gemmatalis* |
| CrylA(c) | *Chilo* spp. |
| CrylA(c) | *Ciysia ambiguella* |
| CrylA(c) | *Crocidolomia binotalis* |
| CrylA(c) | *Cydia* spp. |
| CrylA(c) | *Diparopsis castanea* |
| CrylA(c) | *Earias* spp. |
| CrylA(c) | *Ephestia* spp. |
| CrylA(c) | *Heliothis* spp. |
| CrylA(c) | *Hellula undalis* |
| CrylA(c) | *Keiferia lycopersicella* |
| CrylA(c) | *Leucoptera scitella* |
| CrylA(c) | *Lithocollethis* spp. |
| CrylA(c) | *Lobesia botrana* |
| CrylA(c) | *Ostrinia nubilalis* |
| CrylA(c) | *Pandemis* spp. |
| CrylA(c) | *Pectinophora gossypielia.* |
| CrylA(c) | *Phyllocnistis citrella* |
| CrylA(c) | *Pieris* spp. |
| CrylA(c) | *Plutella xyiostella* |
| CrylA(c) | *Scirpophaga* spp. |
| CrylA(c) | *Sesamia* spp. |
| CrylA(c) | *Sparganothis* spp. |
| CrylA(c) | *Spodoptera* spp. |
| CrylA(c) | *Tortrix* spp. |
| CrylA(c) | *Trichoplusia ni* |
| CrylA(c) | *Agriotes* spp. |
| CrylA(c) | *Anthonomus grandis* |
| CrylA(c) | *Curculio* spp. |
| CrylA(c) | *Diabrotica baiteata* |
| CrylA(c) | *Leptinotarsa* spp. |
| CrylA(c) | *Lissorhoptrus* spp. |
| CrylA(c) | *Otiorhynchus* spp. |
| CrylA(c) | *Aleurothrixus* spp. |
| CrylA(c) | *Aleyrodes* spp. |
| CrylA(c) | *Aonidiella* spp. |
| CrylA(c) | *Aphididae* spp. |
| CrylA(c) | *Aphis* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| CrylA(c) | *Bemisia tabaci* |
| CrylA(c) | *Empoasca* spp. |
| CrylA(c) | *Mycus* spp. |
| CrylA(c) | *Nephotettix* spp. |
| CrylA(c) | *Nilaparvata* spp. |
| CrylA(c) | *Pseudococcus* spp. |
| CrylA(c) | *Psylla* spp. |
| CrylA(c) | *Quadraspidiotus* spp. |
| CrylA(c) | *Schizaphis* spp. |
| CrylA(c) | *Trialeurodes* spp. |
| CrylA(c) | *Lyriomyza* spp. |
| CrylA(c) | *Oscinelia* spp. |
| CrylA(c) | *Phorbia* spp. |
| CrylA(c) | *Frankliniella* spp. |
| CrylA(c) | *Thrips* spp. |
| CrylA(c) | *Scirtothrips aurantii* |
| CrylA(c) | *Aceria* spp. |
| CrylA(c) | *Aculus* spp. |
| CrylA(c) | *Brevipalpus* spp. |
| CrylA(c) | *Panonychus* spp. |
| CrylA(c) | *Phyllocoptruta* spp. |
| CrylA(c) | *Tetranychus* spp. |
| CrylA(c) | *Heterodera* spp. |
| CrylA(c) | *Meloidogyne* spp. |
| CryllA | *Adoxophyes* spp. |
| CryllA | *Agrotis* spp. |
| CryllA | *Alabama argillaceae* |
| CryllA | *Anticarsia gemmatalis* |
| CryllA | *Chilo* spp. |
| CryllA | *Clysia ambiguella* |
| CryllA | *Crocidolomia binotalis* |
| CryllA | *Cydia* spp. |
| CryllA | *Diparopsis castanea* |
| CryllA | *Earias* spp. |
| CryllA | *Ephestia* spp. |
| CryllA | *Heliothis* spp. |
| CryllA | *Hellula undalis* |
| CryllA | *Keiferia lycopersicella* |
| CryllA | *Leucoptera scitella* |
| CryllA | *Lithocoliethis* spp. |
| CryllA | *Lobesia botrana* |
| CryllA | *Ostrinia nubilalis* |
| CryllA | *Pandemis* spp. |
| CryllA | *Pectinophora gossyp.* |
| CryllA | *Phyllocnistis citrella* |
| CryllA | *Pieris* spp. |
| CryllA | *Plutella xylostella* |
| CryllA | *Scirpophaga* spp. |
| CryllA | *Sesamia* spp. |
| CryllA | *Sparganothis* spp. |
| CryllA | *Spodoptera* spp. |
| CryllA | *Tortrix* spp. |
| CryllA | *Trichoplusia ni* |
| CryllA | *Agriotes* spp. |
| CryllA | *Anthonomus grandis* |
| CryllA | *Curculio* spp. |
| CryllA | *Diabrotica balteata* |
| CryllA | *Leptinotarsa* spp. |
| CryllA | *Lissorhoptrus* spp. |
| CryllA | *Otiorhynchus* spp. |
| CryllA | *Aleurothrixus* spp. |
| CryllA | *Aleyrodes* spp. |
| CryllA | *Aonidiella* spp. |
| CryllA | *Aphididae* spp. |
| CryllA | *Aphis* spp. |
| CryllA | *Bemisia tabaci* |
| CryllA | *Empoasca* spp. |
| CryllA | *Mycus* spp. |
| CryllA | *Nephotettix* spp. |
| CryllA | *Nilaparvata* spp. |
| CryllA | *Pseudococcus* spp. |
| CryllA | *Psyila* spp. |
| CryllA | *Quadraspidiotus* spp. |
| CryllA | *Schizaphis* spp. |
| CryllA | *Trialeurodes* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| CryIIA | *Lyriomyza* spp. |
| CryIIA | *Oscinella* spp. |
| CryIIA | *Phorbia* spp. |
| CryIIA | *Frankliniella* spp. |
| CryIIA | *Thrips* spp. |
| CryIIA | *Scirtothrips aurantii* |
| CryIIA | *Aceria* spp. |
| CryIIA | *Acutus* spp. |
| CryIIA | *Brevipalpus* spp. |
| CryIIA | *Panonychus* spp. |
| CryIIA | *Phyllocoptruta* spp. |
| CryIIA | *Tetranychus* spp. |
| CryIIA | *Heterodera* spp. |
| CryIIA | *Meloidogyne* spp. |
| CryIIIA | *Adoxophyes* spp. |
| CryIIIA | *Agrotis* spp. |
| CryIIIA | *Alabama argiiiaceae* |
| CryIIIA | *Anticarsia gemmataiis* |
| CryIIIA | *Chilo* spp. |
| CryIIIA | *Ciysia ambiguelia* |
| CryIIIA | *Crocodolomia binotalis* |
| CryIIIA | *Cydia* spp. |
| CryIIIA | *Diparopsis castanea* |
| CryIIIA | *Earias* spp. |
| CryIIIA | *Ephestia* spp. |
| CryIIIA | *Heliothis* spp. |
| CryIIIA | *Hellula undalis* |
| CryIIIA | *Keiferia lycopersicella* |
| CryIIIA | *Leucoptera scitella* |
| CryIIIA | *Lithocollethis* spp. |
| CryIIIA | *Lobesia botrana* |
| CryIIIA | *Ostrinia nubilalis* |
| CryIIIA | *Pandemis* spp. |
| CryIIIA | *Pectinophora gossyp.* |
| CryIIIA | *Phyllocnistis citrella* |
| CryIIIA | *Pieris* spp. |
| CryIIIA | *Plutella xylostella* |
| CryIIIA | *Scirpophaga* spp. |
| CryIIIA | *Sesamia* spp. |
| CryIIIA | *Sparganothis* spp. |
| CryIIIA | *Spodoptera* spp. |
| CryIIIA | *Tortrix* spp. |
| CryIIIA | *Trichoplusia ni* |
| CryIIIA | *Agriotes* spp. |
| CryIIIA | *Anthonomus grandis* |
| CryIIIA | *Curculio* spp. |
| CryIIIA | *Diabrotica balteata* |
| CryIIIA | *Leptinotarsa* spp. |
| CryIIIA | *Lissorhoptrus* spp. |
| CryIIIA | *Otiorhynchus* spp. |
| CryIIIA | *Aleurothrixus* spp. |
| CryIIIA | *Aleyrodes* spp. |
| CryIIIA | *Aonidiella* spp. |
| CryIIIA | *Aphididae* spp. |
| CryIIIA | *Aphis* spp. |
| CryIIIA | *Bemisia tabaci* |
| CryIIIA | *Empoasca* spp. |
| CryIIIA | *Mycus* spp. |
| CryIIIA | *Nephotettix* spp. |
| CryIIIA | *Nilaparvata* spp. |
| CryIIIA | *Pseudococcus* spp. |
| CryIIIA | *Psylla* spp. |
| CryIIIA | *Quadraspidiotus* spp. |
| CryIIIA | *Schizaphis* spp. |
| CryIIIA | *Trialeurodes* spp. |
| CryIIIA | *Lyriomyza* spp. |
| CryIIIA | *Oscinella* spp. |
| CryIIIA | *Phorbia* spp. |
| CryIIIA | *Frankliniella* spp. |
| CryIIIA | *Thrips* spp. |
| CryIIIA | *Scirtothrips aurantii* |
| CryIIIA | *Aceria* spp. |
| CryIIIA | *Aculus* spp. |
| CryIIIA | *Brevipalpus* spp. |
| CryIIIA | *Panonychus* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| CryIIIA | *Phyllocoptruta* spp. |
| CryIIIA | *Tetranychus* spp. |
| CryIIIA | *Heterodera* spp. |
| CryIIIA | *Meloidogyne* spp. |
| CryIIIB2 | *Adoxophyes* spp. |
| CryIIIB2 | *Agrotis* spp. |
| CryIIIB2 | *Alabama argiilaceae* |
| CryIIIB2 | *Anticarsia gemmatalis* |
| CryIIIB2 | *Chilo* spp. |
| CryIIIB2 | *Clysia ambiguella* |
| CryIIIB2 | *Crocidolomia binotaiis* |
| CryIIIB2 | *Cydia* spp. |
| CryIIIB2 | *Diparopsis castanea* |
| CryIIIB2 | *Earias* spp. |
| CryIIIB2 | *Ephestia* spp. |
| CryIIIB2 | *Heliothis* spp. |
| CryIIIB2 | *Hellula undalis* |
| CryIIIB2 | *Keiferia lycopersicella* |
| CryIIIB2 | *Leucoptera sectelia* |
| CryIIIB2 | *Lithocollethis* spp. |
| CryIIIB2 | *Lobesia botrana* |
| CryIIIB2 | *Ostrinia nubilalis* |
| CryIIIB2 | *Pandemis* spp. |
| CryIIIB2 | *Pectinophora gossyp.* |
| CryIIIB2 | *Phyllocnistis citrella* |
| CryIIIB2 | *Pieris* spp. |
| CryIIIB2 | *Plutella xylostella* |
| CryIIIB2 | *Scirpophaga* spp. |
| CryIIIB2 | *Sesamia* spp. |
| CryIIIB2 | *Sparganothis* spp. |
| CryIIIB2 | *Spodoptera* spp. |
| CryIIIB2 | *Tortrix* spp. |
| CryIIIB2 | *Trichoplusia ni* |
| CryIIIB2 | *Agriotes* spp. |
| CryIIIB2 | *Anthonomus grandis* |
| CryIIIB2 | *Curculio* spp. |
| CryIIIB2 | *Diabrotica balteata* |
| CryIIIB2 | *Leptinotarsa* spp. |
| CryIIIB2 | *Lissorhoptrus* spp. |
| CryIIIB2 | *Otiorhynchus* spp. |
| CryIIIB2 | *Aleurothrixus* spp. |
| CryIIIB2 | *Aleyrodes* spp. |
| CryIIIB2 | *Aonidiella* spp. |
| CryIIIB2 | *Aphididae* spp. |
| CryIIIB2 | *Aphis* spp. |
| CryIIIB2 | *Bemisia tabaci* |
| CryIIIB2 | *Empoasca* spp. |
| CryIIIB2 | *Mycus* spp. |
| CryIIIB2 | *Nephotettix* spp. |
| CryIIIB2 | *Nilaparvata* spp. |
| CryIIIB2 | *Pseudococcus* spp. |
| CryIIIB2 | *Psylla* spp. |
| CryIIIB2 | *Quadraspidiotus* spp. |
| CryIIIB2 | *Schizaphis* spp. |
| CryIIIB2 | *Trialeurodes* spp. |
| CryIIIB2 | *Lyriomyza* spp. |
| CryIIIB2 | *Oscinella* spp. |
| CryIIIB2 | *Phorbia* spp. |
| CryIIIB2 | *Frankliniella* spp. |
| CryIIIB2 | *Thrips* spp. |
| CryIIIB2 | *Scirtothrips aurantii* |
| CryIIIB2 | *Aceria* spp. |
| CryIIIB2 | *Acutus* spp. |
| CryIIIB2 | *Brevipalpus* spp. |
| CryIIIB2 | *Panonychus* spp. |
| CryIIIB2 | *Phyllocoptruta* spp. |
| CryIIIB2 | *Tetranychus* spp. |
| CryIIIB2 | *Heterodera* spp. |
| CryIIIB2 | *Meloidogyne* spp. |
| CytA | *Adoxophyes* spp. |
| CytA | *Agrotis* spp. |
| CytA | *Alabama argiilaceae* |
| CytA | *Anticarsia gemmatalis* |
| CytA | *Chilo* spp. |
| CytA | *Clysia ambiguella* |

TABLE 2-continued

| AP | Control of |
|---|---|
| CytA | *Crocidolomia binotaiis* |
| CytA | *Cydia* spp. |
| CytA | *Diparopsis castanea* |
| CytA | *Earias* spp. |
| CytA | *Ephestia* spp. |
| CytA | *Heliothis* spp. |
| CytA | *Hellula undalis* |
| CytA | *Keiferia lycopersicella* |
| CytA | *Leucoptera scitelia* |
| CytA | *Lithocollethis* spp. |
| CytA | *Lobesia botrana* |
| CytA | *Ostrinia nubilalis* |
| CytA | *Pandemis* spp. |
| CytA | *Pectinophora gossyp.* |
| CytA | *Phyllocnistis citrella* |
| CytA | *Pieris* spp. |
| CytA | *Plutella xylostella* |
| CytA | *Scirpophaga* spp. |
| CytA | *Sesamia* spp. |
| CytA | *Sparganothis* spp. |
| CytA | *Spodoptera* spp. |
| CytA | *Tortrix* spp. |
| CytA | *Trichoplusia ni* |
| CytA | *Agriotes* spp. |
| CytA | *Anthonomus grandis* |
| CytA | *Curculio* spp. |
| CytA | *Diabrotica balteata* |
| CytA | *Leptinotarsa* spp. |
| CytA | *Lissorhoptrus* spp. |
| CytA | *Otiorhynchus* spp. |
| CytA | *Aleurothrixus* spp. |
| CytA | *Aleyrodes* spp. |
| CytA | *Aonidielia* spp. |
| CytA | *Aphididae* spp. |
| CytA | *Aphis* spp. |
| CytA | *Bemisia tabaci* |
| CytA | *Empoasca* spp. |
| CytA | *Mycus* spp. |
| CytA | *Nephotettix* spp. |
| CytA | *Nilaparvata* spp. |
| CytA | *Pseudococcus* spp. |
| CytA | *Psylla* spp. |
| CytA | *Quadraspidiotus* spp. |
| CytA | *Schizaphis* spp. |
| CytA | *Trialeurodes* spp. |
| CytA | *Lyriomyza* spp. |
| CytA | *Oscinella* spp. |
| CytA | *Phorbia* spp. |
| CytA | *Frankliniella* spp. |
| CytA | *Thrips* spp. |
| CytA | *Scirtothrips aurantii* |
| CytA | *Aceria* spp. |
| CytA | *Acutus* spp. |
| CytA | *Brevipalpus* spp. |
| CytA | *Panonychus* spp. |
| CytA | *Phyllocoptruta* spp. |
| CytA | *Tetranychus* spp. |
| CytA | *Heterodera* spp. |
| CytA | *Meloidogyne* spp. |
| VIP3 | *Adoxophyes* spp. |
| VIP3 | *Agrotis* spp. |
| VIP3 | *Alabama argillaceae* |
| VIP3 | *Anticarsia gemmatalis* |
| VIP3 | *Chilo* spp. |
| VIP3 | *Clysia ambiguella* |
| VIP3 | *Crocidolomia binotalis* |
| VIP3 | *Cydia* spp. |
| VIP3 | *Diparopsis castanea* |
| VIP3 | *Earias* spp. |
| VIP3 | *Ephestia* spp. |
| VIP3 | *Heliothis* spp. |
| VIP3 | *Hellula undalis* |
| VIP3 | *Keiferia lycopersicella* |
| VIP3 | *Leucoptera scitella* |

TABLE 2-continued

| AP | Control of |
|---|---|
| VIP3 | *Lithocollethis* spp. |
| VIP3 | *Lobesia botrana* |
| VIP3 | *Ostrinia nubilalis* |
| VIP3 | *Pandemis* spp. |
| VIP3 | *Pectinophora gossyp.* |
| VIP3 | *Phyllocnistis citrella* |
| VIP3 | *Pieris* spp. |
| VIP3 | *Piutella xylostella* |
| VIP3 | *Scirpophaga* spp. |
| VIP3 | *Sesamia* spp. |
| VIP3 | *Sparganothis* spp. |
| VIP3 | *Spodoptera* spp. |
| VIP3 | *Tortrix* spp. |
| VIP3 | *Trichoplusia ni* |
| VIP3 | *Agriotes* spp. |
| VIP3 | *Anthonomus grandis* |
| VIP3 | *Curculio* spp. |
| VIP3 | *Diabrotica balteata* |
| VIP3 | *Leptinotarsa* spp. |
| VIP3 | *Lissorhoptrus* spp. |
| VIP3 | *Otiorhynchus* spp. |
| VIP3 | *Aleurothrixus* spp. |
| VIP3 | *Aleyrodes* spp. |
| VIP3 | *Aonidiella* spp. |
| VIP3 | *Aphididae* spp. |
| VIP3 | *Aphis* spp. |
| VIP3 | *Bemisia tabaci* |
| VIP3 | *Empoasca* spp. |
| VIP3 | *Mycus* spp. |
| VIP3 | *Nephotettix* spp. |
| VIP3 | *Niiaparvata* spp. |
| VIP3 | *Pseudococcus* spp. |
| VIP3 | *Psylla* spp. |
| VIP3 | *Quadraspidiotus* spp. |
| VIP3 | *Schizaphis* spp. |
| VIP3 | *Trialeurodes* spp. |
| VIP3 | *Lyriomyza* spp. |
| VIP3 | *Oscinella* spp. |
| VIP3 | *Phorbia* spp. |
| VIP3 | *Frankliniella* spp. |
| VIP3 | *Thrips* spp. |
| VIP3 | *Scirtothrips aurantii* |
| VIP3 | *Aceria* spp. |
| VIP3 | *Acutus* spp. |
| VIP3 | *Brevipalpus* spp. |
| VIP3 | *Panonychus* spp. |
| VIP3 | *Phyllocoptruta* spp. |
| VIP3 | *Tetranychus* spp. |
| VIP3 | *Heterodera* spp. |
| VIP3 | *Meloidogyne* spp. |
| GL | *Adoxophyes* spp. |
| GL | *Agrotis* spp. |
| GL | *Alabama argillaceae* |
| GL | *Anticarsia gemmatalis* |
| GL | *Chilo* spp. |
| GL | *Clysia ambiguella* |
| GL | *Crocidolomia binotaiis* |
| GL | *Cydia* spp. |
| GL | *Diparopsis castanea* |
| GL | *Earias* spp. |
| GL | *Ephestia* spp. |
| GL | *Heliothis* spp. |
| GL | *Hellula undalis* |
| GL | *Keiferia lycopersicella* |
| GL | *Leucoptera scitella* |
| GL | *Lithocollethis* spp. |
| GL | *Lobesia botrana* |
| GL | *Ostrinia nubilalis* |
| GL | *Pandemis* spp. |
| GL | *Pectinophora gossyp.* |
| GL | *Phyliocnistis citrella* |
| GL | *Pieris* spp. |
| GL | *Plutella xylostella* |
| GL | *Scirpophaga* spp. |
| GL | *Sesamia* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| GL | *Sparganothis* spp. |
| GL | *Spodoptera* spp. |
| GL | *Tortrix* spp. |
| GL | *Trichoplusia ni* |
| GL | *Agriotes* spp. |
| GL | *Anthonomus grandis* |
| GL | *Curculio* spp. |
| GL | *Diabrotica balteata* |
| GL | *Leptinotarsa* spp. |
| GL | *Lissorhoptrus* spp. |
| GL | *Otiorhynchus* spp. |
| GL | *Aleurothrixus* spp. |
| GL | *Aleyrodes* spp. |
| GL | *Aonidiella* spp. |
| GL | *Aphididae* spp. |
| GL | *Aphis* spp. |
| GL | *Bemisia tabaci* |
| GL | *Empoasca* spp. |
| GL | *Mycus* spp. |
| GL | *Nephotettix* spp. |
| GL | *Nilaparvata* spp. |
| GL | *Pseudococcus* spp. |
| GL | *Psylia* spp. |
| GL | *Quadraspidiotus* spp. |
| GL | *Schizaphis* spp. |
| GL | *Trialeurodes* spp. |
| GL | *Lyriomyza* spp. |
| GL | *Oscinella* spp. |
| GL | *Phorbia* spp. |
| GL | *Frankliniella* spp. |
| GL | *Thrips* spp. |
| GL | *Scirtothrips aurantii* |
| GL | *Aceria* spp. |
| GL | *Aculus* spp. |
| GL | *Brevipalpus* spp. |
| GL | *Panonychus* spp. |
| GL | *Phyliocoptruta* spp. |
| GL | *Tetranychus* spp. |
| GL | *Heterodera* spp. |
| GL | *Meioidogyne* spp. |
| PL | *Adoxophyesspp.* |
| PL | *Agrotis* spp. |
| PL | *Alabama argillaceae* |
| PL | *Anticarsia gemmatalis* |
| PL | *Chilo* spp. |
| PL | *Clysia ambiguella* |
| PL | *Crocidolomia binotalis* |
| PL | *Cydia* spp. |
| PL | *Diparopsis castanea* |
| PL | *Earias* spp. |
| PL | *Ephestia* spp. |
| PL | *Heliothis* spp. |
| PL | *Hellula undaiis* |
| PL | *Keiferia lycopersicella* |
| PL | *Leucoptera scitella* |
| PL | *Lithocollethis* spp. |
| PL | *Lobesia botrana* |
| PL | *Ostrinia nubilalis* |
| PL | *Pandemis* spp. |
| PL | *Pectinophora gossyp.* |
| PL | *Phyllocnistis citrella* |
| PL | *Pieris* spp. |
| PL | *Plutella xylostella* |
| PL | *Scirpophaga* spp. |
| PL | *Sesamia* spp. |
| PL | *Sparganothis* spp. |
| PL | *Spodoptera* spp. |
| PL | *Tortrix* spp. |
| PL | *Trichoplusia ni* |
| PL | *Agriotes* spp. |
| PL | *Anthonomus grandis* |
| PL | *Curculio* spp. |
| PL | *Diabrotica balteata* |
| PL | *Leptinotarsa* spp. |
| PL | *Lissorhoptrus* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| PL | *Otiorhynchus* spp. |
| PL | *Aleurothrixus* spp. |
| PL | *Aleyrodes* spp. |
| PL | *Aonidiella* spp. |
| PL | *Aphididae* spp. |
| PL | *Aphis* spp. |
| PL | *Bemisia tabaci* |
| PL | *Empoasca* spp. |
| PL | *Mycus* spp. |
| PL | *Nephotettix* spp. |
| PL | *Nilaparvata* spp. |
| PL | *Pseudococcus* spp. |
| PL | *Psylla* spp. |
| PL | *Quadraspidiotus* spp. |
| PL | *Schizaphis* spp. |
| PL | *Trialeurodes* spp. |
| PL | *Lyriomyza* spp. |
| PL | *Oscinella* spp. |
| PL | *Phorbia* spp. |
| PL | *Frankliniella* spp. |
| PL | *Thrips* spp. |
| PL | *Scirtothrips auranii* |
| PL | *Aceria* spp. |
| PL | *Aculus* spp. |
| PL | *Brevipalpus* spp. |
| PL | *Panonychus* spp. |
| PL | *Phyllocoptruta* spp. |
| PL | *Tetranychus* spp. |
| PL | *Heterodera* spp. |
| PL | *Meloidogyne* spp. |
| XN | *Adoxophyes* spp. |
| XN | *Agrotis* spp. |
| XN | *Alabama argiliaceae* |
| XN | *Anticarsia gemmatalis* |
| XN | *Chilo* spp. |
| XN | *Clysia ambiguella* |
| XN | *Crocidolomia binotalis* |
| XN | *Cydia* spp. |
| XN | *Diparopsis castanea* |
| XN | *Earias* spp. |
| XN | *Ephestia* spp. |
| XN | *Heliothis* spp. |
| XN | *Helluia undaiis* |
| XN | *Keiferia lycopersicella* |
| XN | *Leucoptera scitella* |
| XN | *Lithocollethis* spp. |
| XN | *Lobesia botrana* |
| XN | *Ostrinia nubilalis* |
| XN | *Pandemis* spp. |
| XN | *Pectinophora gossyp.* |
| XN | *Phyllocnistis citrella* |
| XN | *Pieris* spp. |
| XN | *Plutella xylostella* |
| XN | *Scirpophaga* spp. |
| XN | *Sesamia* spp. |
| XN | *Sparganothis* spp. |
| XN | *Spodoptera* spp. |
| XN | *Tortrix* spp. |
| XN | *Trichoplusia ni* |
| XN | *Agriotes* spp. |
| XN | *Anthonomus grandis* |
| XN | *Curculio* spp. |
| XN | *Diabrotica balteata* |
| XN | *Leptinotarsa* spp. |
| XN | *Lissorhoptrus* spp. |
| XN | *Otiorhynchus* spp. |
| XN | *Aleurothrixus* spp. |
| XN | *Aleyrodes* spp. |
| XN | *Aonidiella* spp. |
| XN | *Aphididae* spp. |
| XN | *Aphis* spp. |
| XN | *Bemisia tabaci* |
| XN | *Empoasca* spp. |
| XN | *Mycus* spp. |
| XN | *Nephotettix* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| XN | *Nilaparvata* spp. |
| XN | *Pseudococcus* spp. |
| XN | *Psylla* spp. |
| XN | *Quadraspidiotus* spp. |
| XN | *Schizaphis* spp. |
| XN | *Trialeurodes* spp. |
| XN | *Lyriomyza* spp. |
| XN | *Oscinella* spp. |
| XN | *Phorbia* spp. |
| XN | *Frankliniella* spp. |
| XN | *Thrips* spp. |
| XN | *Scirtothrips aurantii* |
| XN | *Aceria* spp. |
| XN | *Aculus* spp. |
| XN | *Brevipalpus* spp. |
| XN | *Panonychus* spp. |
| XN | *Phyllocoptruta* spp. |
| XN | *Tetranychus* spp. |
| XN | *Heterodera* spp. |
| XN | *Meloidogyne* spp. |
| Plnh. | *Adoxophyes* spp. |
| Plnh. | *Agrotis* spp. |
| Plnh. | *Alabama argiliaceae* |
| Plnh. | *Anticarsia gemmatalis* |
| Plnh. | *Chilo* spp. |
| Plnh. | *Clysia ambiguella* |
| Plnh. | *Crocidolomia binotalis* |
| Plnh. | *Cydia* spp. |
| Plnh. | *Diparopsis castanea* |
| Plnh. | *Earias* spp. |
| Plnh. | *Ephestia* spp. |
| Plnh. | *Heliothis* spp. |
| Plnh. | *Heliuia undalis* |
| Plnh. | *Keiferia lycopersicella* |
| Plnh. | *Leucoptera scitella* |
| Plnh. | *Lithocollethis* spp. |
| Plnh. | *Lobesia botrana* |
| Plnh. | *Ostrinia nubilalis* |
| Plnh. | *Pandemis* spp. |
| Plnh. | *Pectinophora gossyp.* |
| Plnh. | *Phyllocnistis citrelia* |
| Plnh. | *Pieris* spp. |
| Plnh. | *Plutella xylostella* |
| Plnh. | *Scirpophaga* spp. |
| Plnh. | *Sesamia* spp. |
| Plnh. | *Sparganothis* spp. |
| Plnh. | *Spodoptera* spp. |
| Plnh. | *Tortrix* spp. |
| Plnh. | *Trichoplusia ni* |
| Plnh. | *Agriotes* spp. |
| Plnh. | *Anthonomus grandis* |
| Plnh. | *Curculio* spp. |
| Plnh. | *Diabrotica balteata* |
| Plnh. | *Leptinotarsa* spp. |
| Plnh. | *Lissorhoptrus* spp. |
| Plnh. | *Otiorhynchus* spp. |
| Plnh. | *Aleurothrixus* spp. |
| Plnh. | *Aleyrodes* spp. |
| Plnh. | *Aonidiella* spp. |
| Plnh. | *Aphididae* spp. |
| Plnh. | *Aphis* spp. |
| Plnh. | *Bemisia tabaci* |
| Plnh. | *Empoasca* spp. |
| Plnh. | *Mycus* spp. |
| Plnh. | *Nephotettix* spp. |
| Plnh. | *Nilaparvata* spp. |
| Plnh. | *Pseudococcus* spp. |
| Plnh. | *Psylla* spp. |
| Plnh. | *Quadraspidiotus* spp. |
| Plnh. | *Schizaphis* spp. |
| Plnh. | *Trialeurodes* spp. |
| Plnh. | *Lyriomyza* spp. |
| Plnh. | *Oscinella* spp. |
| Plnh. | *Phorbia* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| Plnh. | *Frankliniella* spp. |
| Plnh. | *Thrips* spp. |
| Plnh. | *Scirtothrips aurantii* |
| Plnh. | *Aceria* spp. |
| Plnh. | *Acutus* spp. |
| Plnh. | *Brevipalpus* spp. |
| Plnh. | *Panonychus* spp. |
| Plnh. | *Phyllocoptruta* spp. |
| Plnh. | *Tetranychus* spp. |
| Plnh. | *Heterodera* spp. |
| Plnh. | *Meloidogyne* spp. |
| PLec. | *Adoxophyes* spp. |
| PLec. | *Agrotis* spp. |
| PLec. | *Alabama argillaceae* |
| PLec. | *Anticarsia gemmatalis* |
| PLec. | *Chilo* spp. |
| PLec. | *Clysia ambiguella* |
| PLec. | *Crocidolomia binotalis* |
| PLec. | *Cydia* spp. |
| PLec. | *Diparopsis castanea* |
| PLec. | *Earias* spp. |
| PLec. | *Ephestia* spp. |
| PLec. | *Heliothis* spp. |
| PLec. | *Hellula undalis* |
| PLec. | *Keiferia lycopersicella* |
| PLec. | *Leucoptera scitella* |
| PLec. | *Lithocollethis* spp. |
| PLec. | *Lobesia botrana* |
| PLec. | *Ostrinia nubilalis* |
| PLec. | *Pandemis* spp. |
| PLec. | *Pectinophora gossyp.* |
| PLec. | *Phyllocnistis citrella* |
| PLec. | *Pieris* spp. |
| PLec. | *Plutella xylostella* |
| PLec. | *Scirpophaga* spp. |
| PLec. | *Sesamia* spp. |
| PLec. | *Sparganothis* spp. |
| PLec. | *Spodoptera* spp. |
| PLec. | *Tortrix* spp. |
| PLec. | *Trichoplusia ni* |
| PLec. | *Agriotes* spp. |
| PLec. | *Anthonomus grandis* |
| PLec. | *Curculio* spp. |
| PLec. | *Diabrotica balteata* |
| PLec. | *Leptinotarsa* spp. |
| PLec. | *Lissorhoptrus* spp. |
| PLec. | *Otiorhynchus* spp. |
| PLec. | *Aleurothrixus* spp. |
| PLec. | *Aleyrodes* spp. |
| PLec. | *Aonidiella* spp. |
| PLec. | *Aphididae* spp. |
| PLec. | *Aphis* spp. |
| PLec. | *Bemisia tabaci* |
| PLec. | *Empoasca* spp. |
| PLec. | *Mycus* spp. |
| PLec. | *Nephotettix* spp. |
| PLec. | *Nilaparvata* spp. |
| PLec. | *Pseudococcus* spp. |
| PLec. | *Psylia* spp. |
| PLec. | *Quadraspidiotus* spp. |
| PLec. | *Schizaphis* spp. |
| PLec. | *Trialeurodes* spp. |
| PLec. | *Lyriomyza* spp. |
| PLec. | *Oscinella* spp. |
| PLec. | *Phorbia* spp. |
| PLec. | *Frankliniella* spp. |
| PLec. | *Thrips* spp. |
| PLec. | *Scirtothrips aurantii* |
| PLec. | *Aceria* spp. |
| PLec. | *Aculus* spp. |
| PLec. | *Brevipalpus* spp. |
| PLec. | *Panonychus* spp. |
| PLec. | *Phyllocoptruta* spp. |
| PLec. | *Tetranychus* spp. |
| PLec. | *Heterodera* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| PLec. | *Meloidogyne* spp. |
| Aggl. | *Adoxophyes* spp. |
| Aggl. | *Agrotis* spp. |
| Aggl. | *Alabama argillaceae* |
| Aggl. | *Anticarsia gemmatalis* |
| Aggl. | *Chilo* spp. |
| Aggl. | *Clysia ambiguella* |
| Aggl. | *Crocidolomia binotalis* |
| Aggl. | *Cydia* spp. |
| Aggl. | *Diparopsis castanea* |
| Aggl. | *Earias* spp. |
| Aggl. | *Ephestia* spp. |
| Aggl. | *Heliothis* spp. |
| Aggl. | *Hellula undalis* |
| Aggl. | *Keiferia lycopersicella* |
| Aggl. | *Leucoptera scitella* |
| Aggl. | *Lithocollethis* spp. |
| Aggl. | *Lobesia botrana* |
| Aggl. | *Ostrinia nubilalis* |
| Aggl. | *Pandemis* spp. |
| Aggl. | *Pectinophora gossyp.* |
| Aggl. | *Phyllocnistis citrella* |
| Aggl. | *Pieris* spp. |
| Aggl. | *Plutiia xylostella* |
| Aggl. | *Scirpophaga* spp. |
| Aggl. | *Sesamia* spp. |
| Aggl. | *Sparganothis* spp. |
| Aggl. | *Spodoptera* spp. |
| Aggl. | *Tortrix* spp. |
| Aggl. | *Trichoplusia ni* |
| Aggl. | *Agriotes* spp. |
| Aggl. | *Anthonomus grandis* |
| Aggl. | *Curculio* spp. |
| Aggl. | *Diabrotica balteata* |
| Aggl. | *Leptinotarsa* spp. |
| Aggl. | *Lissorhoptrus* spp. |
| Aggl. | *Otiorhynchus* spp. |
| Aggl. | *Aleurothrixus* spp. |
| Aggl. | *Aleyrodes* spp. |
| Aggl. | *Aonidiella* spp. |
| Aggl. | *Aphididae* spp. |
| Aggl. | *Aphis* spp. |
| Aggl. | *Bemisia tabaci* |
| Aggl. | *Empoasca* spp. |
| Aggl. | *Mycus* spp. |
| Aggl. | *Nephotettix* spp. |
| Aggl. | *Nilaparvata* spp. |
| Aggl. | *Pseudococcus* spp. |
| Aggl. | *Psylla* spp. |
| Aggl. | *Quadraspidiotus* spp. |
| Aggl. | *Schizaphis* spp. |
| Aggl. | *Trialeurodes* spp. |
| Aggl. | *Lyriomyza* spp. |
| Aggl. | *Oscinella* spp. |
| Aggl. | *Phorbia* spp. |
| Aggl. | *Frankliniella* spp. |
| Aggl. | *Thrips* spp. |
| Aggl. | *Scirtothrips aurantii* |
| Aggl. | *Aceria* spp. |
| Aggl. | *Aculus* spp. |
| Aggl. | *Brevipalpus* spp. |
| Aggl. | *Panonychus* spp. |
| Aggl. | *Phyllocoptruta spp* |
| Aggl. | *Tetranychus* spp. |
| Aggl. | *Heterodera* spp. |
| Aggl. | *Meloidogyne* spp. |
| CO | *Adoxophyes* spp. |
| CO | *Agrotis* spp. |
| CO | *Alabama argiliaceae* |
| CO | *Anticarsia gemmatalis* |

TABLE 2-continued

| AP | Control of |
|---|---|
| CO | *Chilo* spp. |
| CO | *Ciysia ambiguella* |
| CO | *Crocidolomia binotalis* |
| CO | *Cydia* spp. |
| CO | *Diparopsis castanea* |
| CO | *Earias* spp. |
| CO | *Ephestia* spp. |
| CO | *Heliothis* spp. |
| CO | *Hellula undalis* |
| CO | *Keiferia lycopersicella* |
| CO | *Leucoptera scitella* |
| CO | *Lithocollethis* spp. |
| CO | *Lobesia botrana* |
| CO | *Ostrinia nubilalis* |
| CO | *Pandemis* spp. |
| CO | *Pectinophora gossyp.* |
| CO | *Phyllocnistis citrella* |
| CO | *Pieris* spp. |
| CO | *Plutella xylostella* |
| CO | *Scirpophaga* spp. |
| CO | *Sesamia* spp. |
| CO | *Sparganothis* spp. |
| CO | *Spodoptera* spp. |
| CO | *Tortrix* spp. |
| CO | *Trichoplusia ni* |
| CO | *Agriotes* spp. |
| CO | *Anthonomus grandis* |
| CO | *Curculio* spp. |
| CO | *Diabrotica balteata* |
| CO | *Leptinotarsa* spp. |
| CO | *Lissorhoptrus* spp. |
| CO | *Otiorhynchus* spp. |
| CO | *Aleurothrixus* spp. |
| CO | *Aleyrodes* spp. |
| CO | *Aonidielia* spp. |
| CO | *Aphididae* spp. |
| CO | *Aphis* spp. |
| CO | *Bemisia tabaci* |
| CO | *Empoasca* spp. |
| CO | *Mycus* spp. |
| CO | *Nephotettix* spp. |
| CO | *Nilaparvata* spp. |
| CO | *Pseudococcus* spp. |
| CO | *Psylla* spp. |
| CO | *Quadraspidiotus* spp. |
| CO | *Schizaphis* spp. |
| CO | *Trialeurodes* spp. |
| CO | *Lyriomyza* spp. |
| CO | *Oscinella* spp. |
| CO | *Phorbia* spp. |
| CO | *Frankliniella* spp. |
| CO | *Thrips* spp. |
| CO | *Scirtothrips aurantii* |
| CO | *Aceria* spp. |
| CO | *Acutus* spp. |
| CO | *Brevipalpus* spp. |
| CO | *Panonychus* spp. |
| CO | *Phyllocoptruta* spp. |
| CO | *Tetranychus* spp. |
| CO | *Heterodera* spp. |
| CO | *Meloidogyne* spp. |
| CH | *Adoxophyes* spp. |
| CH | *Agrotis* spp. |
| CH | *Alabama argillaceae* |
| CH | *Anticarsia gemmatalis* |
| CH | *Chilo* spp. |
| CH | *Clysia ambiguella* |
| CH | *Crocidolomia binotalis* |
| CH | *Cydia* spp. |
| CH | *Diparopsis castanea* |
| CH | *Earias* spp. |
| CH | *Ephestia* spp. |
| CH | *Heliothis* spp. |
| CH | *Hellula undalis* |

TABLE 2-continued

| AP | Control of |
|---|---|
| CH | *Keiferia lycopersicella* |
| CH | *Leucoptera scitella* |
| CH | *Lithocollethis* spp. |
| CH | *Lobesia botrana* |
| CH | *Ostrinia nubilalis* |
| CH | *Pandemis* spp. |
| CH | *Pectinophora gossyp.* |
| CH | *Phyllocnistis citrella* |
| CH | *Pieris* spp. |
| CH | *Plutella xylostella* |
| CH | *Scirpophaga* spp. |
| CH | *Sesamia* spp. |
| CH | *Sparganothis* spp. |
| CH | *Spodoptera* spp. |
| CH | *Tortrix* spp. |
| CH | *Trichoplusia ni* |
| CH | *Agriotes* spp. |
| CH | *Anthonomus grandis* |
| CH | *Curculio* spp. |
| CH | *Diabrotica balteata* |
| CH | *Leptinotarsa* spp. |
| CH | *Lissorhoptrus* spp. |
| CH | *Otiorhynohus* spp. |
| CH | *Aleurothrixus* spp. |
| CH | *Aleyrodes* spp. |
| CH | *Aonidiella* spp. |
| CH | *Aphididae* spp. |
| CH | *Aphis* spp. |
| CH | *Bemisia tabaci* |
| CH | *Empoasca* spp. |
| CH | *Mycus* spp. |
| CH | *Nephotettix* spp. |
| CH | *Nilaparvata* spp. |
| CH | *Pseudococcus* spp. |
| CH | *Psylla* spp. |
| CH | *Quadraspidiotus* spp. |
| CH | *Schizaphis* spp. |
| CH | *Trialeurodes* spp. |
| CH | *Lyriomyza* spp. |
| CH | *Oscinella* spp. |
| CH | *Phorbia* spp. |
| CH | *Frankliniella* spp. |
| CH | *Thrips* spp. |
| CH | *Scirtothrips aurantii* |
| CH | *Aceria* spp. |
| CH | *Aculus* spp. |
| CH | *Brevipalpus* spp. |
| CH | *Panonychus* spp. |
| CH | *Phyllocoptruta* spp. |
| CH | *Tetranychus* spp. |
| CH | *Heterodera* spp. |
| CH | *Meloidogyne* spp. |
| SS | *Adoxophyes* spp. |
| SS | *Agrotis* spp. |
| SS | *Alabama argillaceae* |
| SS | *Anticarsia gemmatalis* |
| SS | *Chilo* spp. |
| SS | *Clysia ambiguella* |
| SS | *Crocidolomia binotalis* |
| SS | *Cydia* spp. |
| SS | *Diparopsis castanea* |
| SS | *Earias* spp. |
| SS | *Ephestia* spp. |
| SS | *Heliothis* spp. |
| SS | *Hellula undalis* |
| SS | *Keiferia lycopersicella* |
| SS | *Leucoptera scitella* |
| SS | *Lithocollethis* spp. |
| SS | *Lobesia botrana* |
| SS | *Ostrinia nubilalis* |
| SS | *Pandemis* spp. |
| SS | *Pectinophora gossyp.* |
| SS | *Phyllocnistis citrella* |
| SS | *Pieris* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| SS | *Plutella xylostella* |
| SS | *Scirpophaga* spp. |
| SS | *Sesamia* spp. |
| SS | *Sparganothis* spp. |
| SS | *Spodoptera* spp. |
| SS | *Tortrix* spp. |
| SS | *Trichopiusia ni* |
| SS | *Agriotes* spp. |
| SS | *Anthonomus grandis* |
| SS | *Curculio* spp. |
| SS | *Diabrotica balteata* |
| SS | *Leptinotarsa* spp. |
| SS | *Lissorhoptrus* spp. |
| SS | *Otiorhynchus* spp. |
| SS | *Aleurothrixus* spp. |
| SS | *Aleyrodes* spp. |
| SS | *Aonidielia* spp. |
| SS | *Aphididae* spp. |
| SS | *Aphis* spp. |
| SS | *Bemisia tabaci* |
| SS | *Empoasca* spp. |
| SS | *Mycus* spp. |
| SS | *Nephotettix* spp. |
| SS | *Nilaparvata* spp. |
| SS | *Pseudococcus* spp. |
| SS | *Psylla* spp. |
| SS | *Quadraspidiotus* spp. |
| SS | *Schizaphis* spp. |
| SS | *Trialeurodes* spp. |
| SS | *Lyriomyza* spp. |
| SS | *Oscinella* spp. |
| SS | *Phorbia* spp. |
| SS | *Frankliniella* spp. |
| SS | *Thrips* spp. |
| SS | *Scirtothrips aurantii* |
| SS | *Aceria* spp. |
| SS | *Aculus* spp. |
| SS | *Brevipalpus* spp. |
| SS | *Panonychus* spp. |
| SS | *Phyllocoptruta* spp. |
| SS | *Tetranychus* spp. |
| SS | *Heterodera* spp. |
| SS | *Meloidogyne* spp. |
| HO | *Adoxophyes* spp. |
| HO | *Agrotis* spp. |
| HO | *Alabama argillaceae* |
| HO | *Anticarsia gemmatalis* |
| HO | *Chilo* spp. |
| HO | *Clysia ambiguella* |
| HO | *Crocidolomia binotalis* |
| HO | *Cydia* spp. |
| HO | *Diparopsis castanea* |
| HO | *Earias* spp. |
| HO | *Ephestia* spp. |
| HO | *Heliothis* spp. |
| HO | *Hellula undalis* |
| HO | *Keiferia lycopersicella* |
| HO | *Leucoptera scitella* |
| HO | *Lithocollethis* spp. |
| HO | *Lobesia botrana* |
| HO | *Ostrinia nubilalis* |
| HO | *Pandemis* spp. |
| HO | *Pectinophora gossypiella* |
| HO | *Phyllocnistis citrella* |
| HO | *Pieris* spp. |
| HO | *Plutella xylostella* |
| HO | *Scirpophaga* spp. |
| HO | *Sesamia* spp. |
| HO | *Sparganothis* spp. |
| HO | *Spodoptera* spp. |
| HO | *Tortrix* spp. |
| HO | *Trichoplusia ni* |
| HO | *Agriotes* spp. |
| HO | *Anthonomus grandis* |
| HO | *Curculio* spp. |

TABLE 2-continued

| AP | Control of |
|---|---|
| HO | *Diabrotica balteata* |
| HO | *Leptinotarsa* spp. |
| HO | *Lissorhoptrus* spp. |
| HO | *Otiorhynchus* spp. |
| HO | *Aleurothrixus* spp. |
| HO | *Aleyrodes* spp. |
| HO | *Aonidiella* spp. |
| HO | *Aphididae* spp. |
| HO | *Aphis* spp. |
| HO | *Bemisia tabaci* |
| HO | *Empoasca* spp. |
| HO | *Mycus* spp. |
| HO | *Nephotettix* spp. |
| HO | *Nilaparvata* spp. |
| HO | *Pseudococcus* spp. |
| HO | *Psylla* spp. |
| HO | *Quadraspidiotus* spp. |
| HO | *Schizaphis* spp. |
| HO | *Trialeurodes* spp. |
| HO | *Lyriomyza* spp. |
| HO | *Oscinella* spp. |
| HO | *Phorbia* spp. |
| HO | *Frankliniella* spp. |
| HO | *Thrips* spp. |
| HO | *Scirtothrips aurantii* |
| HO | *Aceria* spp. |
| HO | *Acutus* spp. |
| HO | *Brevipalpus* spp. |
| HO | *Panonychus* spp. |
| HO | *Phyllocoptruta* spp. |
| HO | *Tetranychus* spp. |
| HO | *Heterodera* spp. |
| HO | *Meloidogyne spp.* |

In the table, the following abbreviations were used:
active principle of the transgenic plant: AP
*Photorhabdus luminescens*: PL
*Xenorhabdus nematophilus*: XN
proteinase inhibitors: Plnh.
plant lectins PLec.
agglutinines: Aggl.
3-hydroxysteroid oxidase: HO
cholesterol oxidase: CO
chitinase: CH
glucanase: GL
stilbene synthase: SS

TABLE 3

| Principle | Tolerance to | Plant |
|---|---|---|
| ALS | sulphonylurea compounds etc.*** | cotton |
| ALS | sulphonylurea compounds etc.*** | rice |
| ALS | sulphonylurea compounds etc.*** | *Brassica* |
| ALS | sulphonylurea compounds etc.*** | potatoes |
| ALS | sulphonylurea compounds etc.*** | tomatoes |
| ALS | sulphonylurea compounds etc.*** | pumpkin |
| ALS | sulphonylurea compounds etc.*** | soya beans |
| ALS | sulphonylurea compounds etc.*** | maize |
| ALS | sulphonylurea compounds etc.*** | wheat |
| ALS | sulphonylurea compounds etc.*** | pome fruit |
| ALS | sulphonylurea compounds etc.*** | stone fruit |
| ALS | sulphonylurea compounds etc.*** | citrus fruit |
| ACCase | +++ | cotton |
| ACCase | +++ | rice |
| ACCase | +++ | *Brassica* |
| ACCase | +++ | potato |
| ACCase | +++ | tomatoes |
| ACCase | +++ | pumpkin |

TABLE 3-continued

| Principle | Tolerance to | Plant |
|---|---|---|
| ACCase | +++ | soya beans |
| ACCase | +++ | maize |
| ACCase | +++ | wheat |
| ACCase | +++ | pome fruit |
| ACCase | +++ | stone fruit |
| ACCase | +++ | citrus fruit |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | cotton |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | rice |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | *Brassica* |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | potatoes |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | tomatoes |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | pumpkin |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | soya beans |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | maize |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | wheat |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | pome fruit |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | stone fruit |
| HPPD | isoxaflutole, isoxachlortole, sulcotrione, mesotrione | citrus fruit |
| nitrilase | bromoxynil, loxynil | cotton |
| nitrilase | bromoxynil, loxynil | rice |
| nitrilase | bromoxynil, loxynil | *Brassica* |
| nitrilase | bromoxynil, loxynil | potatoes |
| nitrilase | bromoxynil, loxynil | tomatoes |
| nitrilase | bromoxynil, loxynil | pumpkin |
| nitrilase | bromoxynil, loxynil | soya beans |
| nitrilase | bromoxynil, loxynil | maize |
| nitrilase | bromoxynil, loxynil | wheat |
| nitrilase | bromoxynil, loxynil | pome fruit |
| nitrilase | bromoxynil, loxynil | stone fruit |
| nitrilase | bromoxynil, loxynil | citrus fruit |
| IPS | chloroactanilides&&& | cotton |
| IPS | chloroactanilides&&& | rice |
| IPS | chloroactanilides&&& | *Brassica* |
| IPS | chloroactanilides&&& | potatoes |
| IPS | chloroactanilides&&& | tomatoes |
| IPS | chloroactanilides&&& | pumpkin |
| IPS | chloroactanilides&&& | soya beans |
| IPS | chloroactanilides&&& | maize |
| IPS | chloroactanilides&&& | wheat |
| IPS | chloroactanilides&&& | pome fruit |
| IPS | chloroactanilides&&& | stone fruit |
| IPS | chloroactanilides&&& | citrus fruit |
| HOM | 2,4-D, mecoprop-P | cotton |
| HOM | 2,4-D, mecoprop-P | rice |
| HOM | 2,4-D, mecoprop-P | *Brassica* |
| HOM | 2,4-D, mecoprop-P | potatoes |
| HOM | 2,4-D, mecoprop-P | tomatoes |
| HOM | 2,4-D, mecoprop-P | pumpkin |
| HOM | 2,4-D, mecoprop-P | soya beans |
| HOM | 2,4-D, mecoprop-P | maize |
| HOM | 2,4-D, mecoprop-P | wheat |
| HOM | 2,4-D, mecoprop-P | pome fruit |
| HOM | 2,4-D, mecoprop-P | stone fruit |
| HOM | 2,4-D, mecoprop-P | citrus fruit |
| PROTOX | Protox inhibitors/// | cotton |
| PROTOX | Protox inhibitors/// | rice |
| PROTOX | Protox inhibitors/// | *Brassica* |
| PROTOX | Protox inhibitors/// | potatoes |
| PROTOX | Protox inhibitors/// | tomatoes |
| PROTOX | Protox inhibitors/// | pumpkin |

TABLE 3-continued

| Principle | Tolerance to | Plant |
|---|---|---|
| PROTOX | Protox inhibitors/// | soya beans |
| PROTOX | Protox inhibitors/// | maize |
| PROTOX | Protox inhibitors/// | wheat |
| PROTOX | Protox inhibitors/// | pome fruit |
| PROTOX | Protox inhibitors/// | stone fruit |
| PROTOX | Protox inhibitors/// | citrus fruit |
| EPSPS | glyphosate and/or sulphosate | cotton |
| EPSPS | glyphosate and/or sulphosate | rice |
| EPSPS | glyphosate and/or sulphosate | *Brassica* |
| EPSPS | glyphosate and/or sulphosate | potatoes |
| EPSPS | glyphosate and/or sulphosate | tomatoes |
| EPSPS | glyphosate and/or sulphosate | pumpkin |
| EPSPS | glyphosate and/or sulphosate | soya beans |
| EPSPS | glyphosate and/or sulphosate | maize |
| EPSPS | glyphosate and/or sulphosate | wheat |
| EPSPS | glyphosate and/or sulphosate | pome fruit |
| EPSPS | glyphosate and/or sulphosate | stone fruit |
| EPSPS | glyphosate and/or sulphosate | citrus fruit |
| GS | gluphosinate and/or bialaphos | cotton |
| GS | gluphosinate and/or bialaphos | rice |
| GS | gluphosinate and/or bialaphos | *Brassica* |
| GS | gluphosinate and/or bialaphos | potatoes |
| GS | gluphosinate and/or bialaphos | tomatoes |
| GS | gluphosinate and/or bialaphos | pumpkin |
| GS | gluphosinate and/or bialaphos | soya beans |
| GS | gluphosinate and/or bialaphos | maize |
| GS | gluphosinate and/or bialaphos | wheat |
| GS | gluphosinate and/or bialaphos | pome fruit |

TABLE 3-continued

| Principle | Tolerance to | Plant |
|---|---|---|
| GS | gluphosinate and/or bialaphos | stone fruit |
| GS | gluphosinate and/or bialaphos | citrus fruit |

Abbreviations:

acetyl-CoA carboxylase: ACCase

acetolactate synthase: ALS

hydroxyphenylpyruvate dioxygenase: HPPD

inhibition of protein synthesis: IPS

hormone imitation: HO

glutamine synthetase: GS

protoporphyrinogen oxidase: PROTOX

5-enolpyruvyl-3-phosphoshikimate synthase: EPSPS

***included are sulphonylurea compounds, imidazolinones, triazolopyrimidines, dimethoxypyrimidines and N-acylsulphonamides: sulphonylurea compounds such as chlorsulfuron, chlorimuron, ethamethsulfuron, metsulfuron, primisulfuron, prosulfuron, triasulfuron, cinosulfuron, trifusulfuron, oxasulfuron, bensulfuron, tribenuron, ACC 322140, fluzasulfuron, ethoxysulfuron, fluzadsulfuron, nicosulfuron, rimsulfuron, thifensulfuron, pyrazosulfuron, clopyrasulfuron, NC 330, azimsulfuron, imazosulfuron, sulfosulfuron, amidosulfuron, flupyrsulfuron, CGA 362622
imidazolinones such as imazamethabenz, imazaquin, imazamethypyr, imazethapyr, imazapyr and imazamox;
triazolopyrimidines such as DE 511, flumetsulam and chloransulam;

dimethoxypyrimidines such as, for example, pyrithiobac, pyriminobac, bispyribac and pyribenzoxim.

+++ Tolerance to diclofop-methyl, fluazifop-P-butyl, haloxyfop-P-methyl, haloxyfop-P-ethyl, quizalafop-P-ethyl, clodinafop-propargyl, fenoxaprop-ethyl, tepraloxydim, alloxydim, sethoxydim, cycloxydim, cloproxydim, tralkoxydim, butoxydim, caloxydim, clefoxydim, clethodim.

&&&chloroacetanilides such as, for example, alachlor, acetochlor, dimethenamid

///Protox inhibitors: for example diphenyl ethers such as, for example, acifluorfen, aclonifen, bifenox, chlornitrofen, ethoxyfen, fluoroglycofen, fomesafen, lactofen, oxyfluorfen; imides such as, for example, azafenidin, carfentrazone-ethyl, cinidon-ethyl, flumiclorac-pentyl, flumioxazin, fluthiacet-methyl, oxadiargyl, oxadiazon, pentoxazone, sulfentrazone, imides and other compounds such as, for example, flumipropyn, flupropacil, nipyraclofen and thidiazimin; and also fluazola and pyraflufen-ethyl.

TABLE 4

List of examples of transgenic plants having modified properties:

| Transgenic plants | Transgenically modified properties |
|---|---|
| *Dianthus caryophyllus* (carnation) line 66 [Florigene Pty. Ltd.] | Longer-lasting as a result of reduced ethylene accumulation owing to the expression of ACC synthase; tolerant to sulphonylurea herbicides |
| *Dianthus caryophyllus* (carnation) lines 4, 11, 15, 16 [Florigene Pty. Ltd.] | Modified flower colour; tolerant to sulphonylurea herbicides |
| *Dianthus caryophyllus* (carnation) lines 959A, 988A, 1226A, 1351A, 1363A, 1400A [Florigene Pty. Ltd.] | Modified flower colour; tolerant to sulphonylurea herbicides |
| *Brassica napus* (Argentine oilseed rape) lines 23-18-17, 23-198 [Monsanto Company] | Modified fatty acid content in the seeds |
| *Zea mays* L. (maize) lines REN-ØØØ38-3 (LY038) [Monsanto Company] | Elevated lysine content |
| *Zea mays* L. (maize) lines REN-ØØØ38-3, MON-ØØ81Ø-6 (MON-ØØ81Ø-6 x LY038) [*Monsanto Company*] | Elevated lysine content, corn borer resistant |
| *Cucumis melo* (melon) lines A, B [Agritope Inc.] | Delayed maturity as a result of the expression of S-adenosylmethionine hydrolase |
| *Carica papaya* (papaya) lines 55-1/63-1 [Cornell University] | Resistant to the papaya ring spot virus (PRSV) |
| *Solanum tuberosum* L. (potato) lines RBMT21-129, RBMT21-350, RBMT22-082 [Monsanto Company] | Resistant to the Colorado beetle and the potato leaf roll virus (PLRV) |
| *Solanum tuberosum* L. (potato) lines RBMT15-101, SEMT15-02, SEMT15-15 [Monsanto Company] | Resistant to the Colorado beetle and the potato virus Y (PVY) |
| *Glycine max* L. (soya bean) lines DD-Ø26ØØ5-3 (G94-1, G94-19, G168 [DuPont Canada Agricultural Products] | Modified fatty acid content in the seeds, in particular elevated oleic acid content |

TABLE 4-continued

List of examples of transgenic plants having modified properties:

| Transgenic plants | Transgenically modified properties |
|---|---|
| *Glycine max* L. (soya bean) lines OT96-15 [Agriculture & Agri-Food Canada] | Modified fatty acid content in the seeds, in particular reduced linolenic acid content |
| *Cucurbita pepo* (pumpkin) line ZW20 [Upjohn (USA); Seminis Vegetable Inc. (Canada)] | Resistant to viral infections, watermelon mosaic virus (WMV) 2 and zucchini yellow mosaic virus (ZYMV) |
| *Cucurbita pepo* (pumpkin) line CZW-3 [Asgrow (USA); Seminis Vegetable Inc. (Canada)] | Resistance to viral infections, cucumber mosaic virus (CMV), watermelon mosaic virus (WMV) 2 and zucchini yellow mosaic virus (ZYMV) |
| *Nicotiana tabacum* L. (tobacco) line Vector 21-41 [Vector Tobacco] | Reduced nicotine content |
| *Lycopersicon esculentum* (tomato) line 1345-4 [DNA Plant Technology] | Longer lasting as a result of reduced ethylene accumulation owing to the expression of ACC synthase |
| *Lycopersicon esculentum* (tomato) line 35 1 N [Agritope Inc.] | Delayed maturity as a result of the expression of S-adenosylmethionine hydrolase |
| *Lycopersicon esculentum* (tomato) line CGN-89322-3 (8338) [Monsanto Company] | Delayed maturity as a result of the expression of ACCd |
| *Lycopersicon esculentum* (tomato) lines B, Da, F [Zeneca Seeds] | Delayed softening as a result of a reduced expression of polygalacturonase |
| *Lycopersicon esculentum* (tomato) line CGN-89564-2 (FLAVR SAVR) [Calgene Inc.] | Delayed softening as a result of a reduced expression of polygalacturonase |

**[0116]** The good effect of the present invention's combinations of insecticides and transgenic plants is apparent from the examples which follow. The combinations display an effect which exceeds a simple summing of effects.

**[0117]** A synergistic effect in insecticides and acaricides is always present when the effect of the present invention's combinations is greater than the expected effect, which for a given combination can be calculated after S.R. Colby, Weeds 15 (1967), 20-22 as follows:

when

**[0118]** X is the kill rate expressed in % of the untreated control on using active compound A at an application rate of m g/ha or in a concentration of m ppm,

**[0119]** Y is the kill rate expressed in % of the untreated control on using active compound B at an application rate of n g/ha or in a concentration of n ppm and

**[0120]** Z is the kill rate expressed in % of the untreated control on using active compound C at an application rate of r g/ha or in a concentration of r ppm,

**[0121]** E is the efficacy on using active compounds A and B and C in application rates of m and n and r g/ha

then

**[0122]** If the actual kill rate is greater than calculated, then the killing effect of the combination is superadditive, i.e., a synergistic effect is present. In this case, the actually observed kill rate has to be greater than that calculated from the above-recited formula for the expected kill rate (E).

**[0123]** The invention is more particularly elucidated by the examples which follow without being restricted by them.

Example 1

Leaf Application for *Aphis gossypii*/Cotton

**[0124]** Individually potted transgenic cotton plants with Lepidoptera resistance and herbicide resistance (line DP444 BG/RR) are treated with the desired product against the cotton aphid (*Aphis gossypii*).

**[0125]** After the desired time, the kill in % is determined. 100% means that all the aphids were killed; 0% means that no aphids were killed.

**[0126]** Compared with the control plants not treated according to the invention, a distinct improvement in the control of the pests is evident.

$$E = X + Y + Z - \frac{(X \cdot Y + X \cdot Z + Y \cdot Z \; X \cdot Y \cdot Z)}{100} \quad X \cdot Y \cdot Z + 10000$$

TABLE B1-1

*Aphis gossypii* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 4 d | |
|---|---|---|---|
| (I-1) | 0.16 | 0 | |
| Fipronil | 4 | 25 | |
| DP 444 BG/RR Cry1Ac&cp4 epsps | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Fipronil 1:25 onto DP 444 BG/RR according to the invention | 0.16 + 4 | 80 | 25 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

Example 2

Leaf Application for *Heliothis armigera*/Cotton

**[0127]** Individually potted transgenic cotton plants with Lepidoptera resistance and herbicide resistance (line DP444 BG/RR) are treated with the desired product against the cotton ball worm (*Heliothis armigera*).

**[0128]** After the desired time, the kill in % is determined. 100% means that all the caterpillars were killed; 0% means that no caterpillars were killed.

**[0129]** Compared with the control plants not treated according to the invention, a distinct improvement in the control of the pests is evident.

TABLE B2-1

*Heliothis armigera* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 4 d | |
|---|---|---|---|
| (I-1) | 0.032 | 50 | |
| Abamectin | 0.16 | 30 | |
| Clothianidin | 0.16 | 0 | |
| Spinosad | 0.16 | 20 | |
| DP 444 BG/RR Cry1Ac&cp4 epsps | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Abamectin 1:5 onto DP 444 BG/RR according to the invention | 0.032 + 0.16 | 90 | 65 |
| (I-1) + Clothianidin 1:5 onto DP 444 BG/RR according to the invention | 0.032 + 0.16 | 100 | 50 |
| (I-1) + Spinosad 1:5 onto DP 444 BG/RR according to the invention | 0.032 + 0.16 | 80 | 60 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

Example 3

Leaf Application for *Spodoptera frugiperda*/Cotton

**[0130]** Individually potted transgenic cotton plants with Lepidoptera resistance and herbicide resistance (line DP444 BG/RR) are treated with the desired product against the army worm (*Spodoptera frugiperda*)

**[0131]** After the desired time, the kill in % is determined. 100% means that all the caterpillars were killed; 0% means that no caterpillars were killed.

**[0132]** Compared with the control plants not treated according to the invention, a distinct improvement in the control of the pests is evident.

TABLE B3-1

*Spodoptera frugiperda* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 4 d | |
|---|---|---|---|
| (I-1) | 0.032 | 70 | |
| Clothianidin | 0.16 | 0 | |
| DP 444 BG/RR Cry1Ac&cp4 epsps | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Clothianidin 1:5 onto DP 444 BG/RR according to the invention | 0.032 + 0.16 | 100 | 70 |

TABLE B3-2

*Spodoptera frugiperda* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 6 d | |
|---|---|---|---|
| (I-1) | 0.032 | 15 | |
| Imidacloprid | 4 | 10 | |
| DP 444 BG/RR Cry1Ac&cp4 epsps | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Imidacloprid onto DP 444 BG/RR according to the invention | 0.032 + 4 | 40 | 23.5 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

Example 4

Leaf Application for *Spodoptera exigua*/Maize

**[0133]** Pots each holding 5 transgenic maize plants with Lepidoptera, Coleoptera and/or herbicide resistance are treated in 2 replications against the small mottled willow (*Spodoptera exigua*).

**[0134]** After the desired time, the kill in % is determined. 100% means that all the caterpillars were killed; 0% means that no caterpillars were killed.

**[0135]** Compared with the control plants not treated according to the invention, a distinct improvement in the control of the pests is evident.

TABLE B4-1

*Spodoptera exigua* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 1 d |
|---|---|---|
| (I-1) | 0.16 | 0 |
| Clothianidin | 4 | 0 |
| Imidacloprid | 4 | 0 |
| VSN-BT Bt MON 810 | | 10 |

TABLE B4-1-continued

*Spodoptera exigua* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 1 d | |
|---|---|---|---|
| HCL201CRW2RR2xLH324 Cry3Bb1&cp4 epsps FR1064LLxFR 2108 (Liberty Link) herbicide resistance | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Clothianidin 1:25 onto HCL201CRW2RR2xLH324 according to the invention | 0.16 + 4 | 20 | 0 |
| (I-1) + Clothianidin 1:25 onto FR1064LLxFR 2108 according to the invention | 0.16 + 4 | 20 | 0 |
| (I-1) + Imidacloprid 1:25 onto VSN-BT according to the invention | 0.16 + 4 | 30 | 10 |

TABLE B4-2

*Spodoptera exigua* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 4 d | |
|---|---|---|---|
| (I-1) | 0.16 | | |
| | 0.032 | 0 | |
| Abamectin | 0.16 | 35 | |
| Fipronil | 4 | 0 | |
| Spinosad | 0.16 | 20 | |
| VSN-RR BT Cry1Ab&cp4 epsps | | 40 | |
| VSN-RR cp4 epsps | | 0 | |
| VSN-BTCRW Cry1Ab&Cry3Bb1 | | 50 | |
| VSN-BT Bt MON810 HCL201CRW2RR2xLH324 Cry3Bb1&cp4 epsps | | 55 | |
| FR1064LLxFR 2108 (Liberty Link) herbicide resistance | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Abamectin 1:1 onto VSN-RR BT according to the invention | 0.16 + 0.16 | 80 | 61 |
| (I-1) + Abamectin 1:1 onto VSN-RR according to the invention | 0.16 + 0.16 | 80 | 35 |
| (I-1) + Abamectin 1:1 onto VSN-BTCRW according to the invention | 0.16 + 0.16 | 90 | 67.5 |
| (I-1) + Abamectin 1:1 onto VSN-BT according to the invention | 0.16 + 0.16 | 80 | 70.75 |
| (I-1) + Abamectin 1:1 onto HCL201CRW2RR2xLH324 according to the invention | 0.16 + 0.16 | 90 | 35 |
| (I-1) + Abamectin 1:1 onto FR1064LLXFR 2108 according to the invention | 0.16 + 0.16 | 100 | 35 |
| (I-1) + Fipronil 1:125 onto HCL201CRW2RR2xLH324 according to the invention | 0.032 + 4 | 50 | 0 |
| (I-1) + Fipronil 1:125 onto FR1064LLXFR 2108 according to the invention | 0.032 + 4 | 50 | 0 |
| (I-1) + Spinosad 1:5 onto VSN-RR BT according to the invention | 0.032 + 0.16 | 80 | 52 |

TABLE B4-2-continued

*Spodoptera exigua* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 4 d | |
|---|---|---|---|
| (I-1) + Spinosad 1:5 onto VSN-RR according to the invention | 0.032 + 0.16 | 80 | 20 |
| (I-1) + Spinosad 1:5 onto VSN-BTCRW according to the invention | 0.032 + 0.16 | 90 | 60 |
| (I-1) + Spinosad 1:5 onto HCL201CRW2RR2xLH324 according to the invention | 0.032 + 0.16 | 70 | 20 |
| (I-1) + Spinosad 1:5 onto FR1064LLXFR 2108 according to the invention | 0.032 + 0.16 | 90 | 20 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

## Example 5

### Leaf Application for *Spodoptera frugiperda*/Maize

**[0136]** Pots each holding 5 transgenic maize plants with Lepidoptera, Coleoptera and/or herbicide resistance are treated in 2 replications against the army worm (*Spodoptera frugiperda*).

**[0137]** After the desired time, the kill in % is determined. 100% means that all the caterpillars were killed; 0% means that no caterpillars were killed.

**[0138]** Compared with the control plants not treated according to the invention, a distinct improvement in the control of the pests is evident.

TABLE B5-1

*Spodoptera frugiperda* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 1 d | |
|---|---|---|---|
| (I-1) | 0.16 | 0 | |
| Abamectin | 0.16 | 10 | |
| Imidacloprid | 4 | 0 | |
| HCL201CRW2RR x LH 324 Cry3Bb1&CP4epsps | | 0 | |
| FR1064LLxFR 2108 (Liberty Link) herbicide resistance | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Abamectin 1:1 onto FR1064LLXFR 2108 according to the invention | 0.16 + 0.16 | 40 | 10 |
| (I-1) + Imidacloprid 1:25 onto HCL201CRW2RRxLH 324 according to the invention | 0.16 + 4 | 20 | 0 |

TABLE B5-2

*Spodoptera frugiperda* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 4 d |
|---|---|---|
| (I-1) | 0.0064 | 0 |
| Spinosad | 0.16 | 0 |
| VSN-RR BT Cry1Ab&cp4 epsps | | 0 |

TABLE B5-2-continued

*Spodoptera frugiperda* - test (leaf application)

| Active compound | Concentration in ppm | Kill in % after 4 d | |
|---|---|---|---|
| VSN-RR cp4 epsps | | 0 | |
| VSN-BT Bt MON810 | | 85 | |
| HCL201CRW2RR2xLH324 Cry3Bb1&cp4 epsps | | 0 | |
| FR1064LLxFR 2108 (Liberty Link) herbicide resistance | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Spinosad 1:5 onto VSN-RR BT according to the invention | 0.0064 + 0.16 | 100 | 0 |
| (I-1) + Spinosad 1:5 onto VSN-RR according to the invention | 0.0064 + 0.16 | 65 | 0 |
| (I-1) + Spinosad 1:5 onto VSN-BT according to the invention | 0.0064 + 0.16 | 100 | 85 |
| (I-1) + Spinosad 1:5 onto HCL201CRW2RR2xLH324 according to the invention | 0.0064 + 0.16 | 85 | 0 |
| (I-1) + Spinosad 1:5 onto FR1064LLXFR 2108 according to the invention | 0.0064 + 0.16 | 100 | 0 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

## Example 6

### Drench Application for *Spodoptera frugiperda*/Maize

**[0139]** The earth of the pots each with 5 transgenic maize plants with Lepidoptera, Coleoptera and/or herbicide resistance is drenched with the desired product. Then, the plants are infected with larvae of the army worm (*Spodoptera frugiperda*).

**[0140]** After the desired time, the kill in % is determined. 100% means that all the caterpillars were killed; 0% means that no caterpillars were killed.

**[0141]** Compared with the control plants not treated according to the invention, a distinct improvement in the control of the pests is evident.

TABLE B6-1

*Spodoptera frugiperda* - test (drench application)

| Active compound | Concentration in ppm | Kill in % after 1 d | |
|---|---|---|---|
| (I-1) | 20 | 30 | |
| Abamectin | 4 | 0 | |
| HCL201CRW2RR x LH 324 Cry3Bb1&CP4epsps | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Abamectin 5:1 onto HCL201CRW2RRxLH 324 according to the invention | 20 + 4 | 60 | 30 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

TABLE B6-2

*Spodoptera frugiperda* - test (drench application)

| Active compound | Concentration in ppm | Kill in % after 3 d | |
|---|---|---|---|
| (I-1) | 20 | 45 | |
| Imidacloprid | 4 | 0 | |
| HCL201CRW2RR x LH 324 Cry3Bb1&CP4epsps | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Imidacloprid 5:1 onto HCL201CRW2RRxLH 324 according to the invention | 20 + 4 | 65 | 45 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

TABLE B6-3

*Spodoptera frugiperda* - test (drench application)

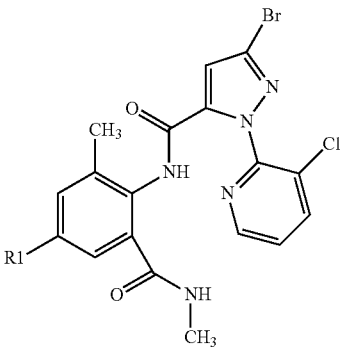
| Active compound | Concentration in ppm | Kill in % after 4 d | |
|---|---|---|---|
| (I-1) | 20 | 50 | |
| | 4 | 0 | |
| Abamectin | 4 | 0 | |
| Clothianidin | 4 | 10 | |
| Fipronil | 20 | 0 | |
| Spinosad | 4 | 0 | |
| VSN-RR BT Cry1Ab&cp4 epsps | | 55 | |
| VSN-RR cp4 epsps | | 0 | |
| VSN-BTCRW Cry1Ab&Cry3Bb1 | | 30 | |
| VSN-BT Bt MON810 | | 40 | |
| HCL201CRW2RR2xLH324 Cry3Bb1&cp4 epsps | | 0 | |
| | | obs.* | calc.** |
| (I-1) + Abamectin 1:1 onto VSN-RR BT according to the invention | 4 + 4 | 90 | 55 |
| (I-1) + Abamectin 1:1 onto VSN-RR according to the invention | 4 + 4 | 60 | 0 |
| (I-1) + Abamectin 1:1 onto VSN-BT according to the invention | 4 + 4 | 70 | 40 |
| (I-1) + Clothianidin 1:1 onto VSN-BT according to the invention | 4 + 4 | 70 | 46 |
| (I-1) + Fipronil 1:1 onto VSN-RR according to the invention | 20 + 20 | 90 | 50 |
| (I-1) + Fipronil 1:1 onto HCL201CRW2RR2xLH324 according to the invention | 20 + 20 | 80 | 50 |
| (I-1) + Spinosad 1:1 onto VSN-RR according to the invention | 4 + 4 | 60 | 0 |
| (I-1) + Spinosad 1:1 onto VSN-BTCRW according to the invention | 20 + 4 | 80 | 65 |
| (I-1) + Spinosad 1:1 onto VSN-BT according to the invention | 4 + 4 | 60 | 40 |
| (I-1) + Spinosad 1:1 onto HCL201CRW2RR2xLH324 according to the invention | 4 + 4 | 70 | 0 |

*obs. = activity observed

**calc. = activity calculated by Colby formula

**1**. A method for improving the production potential of a transgenic plant, comprising treating the plant with an effective amount of a mixture of

(A) at least one compound of the formula I




where R1 represents chlorine or cyano,

and

(B) at least one nicotinergic acetylcholine receptor agonist/antagonist selected from the group consisting of acetamiprid, clothianidin, dinotefuran, imidacloprid, imidaclothiz, nitenpyram, nithiazine, thiacloprid, thiamethoxam, and AKD-1022.

**2**. A method according to claim **1**, wherein said mixture comprises at least one compound of formula I and at least one compound of component (B), and optionally at least one further active co-component.

**3**. A method according to claim **1**, wherein the plant has at least one genetic modification having a modified principle of action selected from the group consisting of acetolactate synthase, acetyl-CoA carboxylase, hydroxyphenylpyruvate dioxygenase, nitrilase, protein synthesis inhibitor, hormone imitator, protoporphyrinogen oxidase, 5-enolpyruvyl-3-phosphoshikimate synthase, and GS glutamine synthetase.

**4**. A method according to claim **1**, wherein the plant is a transgenic plant according to Table 4.

**5**. A method according to claim **1**, wherein the plant contains at least one genetic modification in which the active principle is selected from the group consisting of Cry1A(a), Cry1A(b), Cry1A(c), Cry11A, Cry111A, Cry111B2, CytA, CytA, VIP3, glucanase, *Photorhabdus luminescens, Xenorhabdus nematophilus*, proteinase inhibitor, plant lectin, agglutinine, cholesterol oxidase, chitinase, stilbene synthase, and 3-hydroxysteroid oxidase.

**6**. A method according to claim **1**, wherein the transgenic plant contains at least one gene or a gene fragment coding for a Bt toxin.

**7**. A method according to claim **1**, wherein the transgenic plant comprises at least one herbicide resistance.

**8**. A method according to claim **1**, wherein the transgenic plant is a vegetable plant, maize plant, soya bean plant, cotton plant, tobacco plant, rice plant, wheat plant, barley plant, rape plant, sugar beet plant, pomaceous fruit plant, banana plant, grape plant, melon plant, *Brassica* plant, sunflower plant or potato plant.

**9**. A method according to claim **1**, wherein the mixture of at least one compound of formula I and at least one compound of component (B) are used for controlling insects from the order Isoptera, Thysanoptera, Homoptera, Heteroptera, Lepidoptera, Coleoptera, Hymenoptera and/or Diptera.

**10**. A method according to claim **1**, wherein an application rate from 0.1 g/ha to 5.0 kg/ha is employed.

**11**. A method of claim **1**, wherein an application rate from 0.1 g/ha to 500 g/ha is employed.

**12**. A method of claim **1**, wherein an application rate from 10 g/ha to 500 g/ha is employed.

**13**. A method of claim **1**, wherein an application rate from 10 g/ha to 200 g/ha is employed.

**14**. A method of claim **1**, wherein component (B) is selected from the group consisting of imidacloprid, clothianidin, thiacloprid, and thiamethoxam.

**15**. A method according to claim **1**, wherein the transgenic plant is

(i) a maize plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, acetolactate synthase (ALS), adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, dimboa biosynthesis (Bx1-Gen), CMIII peptide building block from maize grain, Com-SAFP (zeamatin), Hml-gene, chitinase, glucanase, envelope protein, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, limonene synthase, lectin, protease inhibitor, ribosome-inactivating protein, 5C9-maize polypeptide, or HMG-CoA reductase; or

(ii) a wheat plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, antifungal polypeptide AlyAFP, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, glucanase, double-strand ribonuclease, envelope protein, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, or HMG-CoA reductase; or

(iii) a barley plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, antifungal polypeptide AlyAFP, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, glu-

canase, double-strand ribonuclease, envelope protein, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, or HMG-CoA reductase; or

(iv) a rice plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, antifungal polypeptide AlyAFP, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, phenylalanine ammonia lyase (PAL), phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, glucanase, double-strand ribonuclease, envelope protein, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, or HMG-CoA reductase or

(v) a soya bean plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, phenylalanine ammonia lyase (PAL), phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, glucanase, double-strand ribonuclease, envelope protein, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, HMG-CoA reductase, barnase, or cyst nematode hatching factor or

(vi) a potato plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), phytoalexin, B-1, 3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, barnase, gene 49 for controlling disease resistance, trans-aldolase (antisense), glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, HMG-CoA reductase, or cyst nematode hatching factor, or

(vii) a tomato plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, 12 *fusarium* resistance site, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, or cyst nematode hatching factor; or

(viii) a bell pepper vegetable plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase. O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, 12 *fusarium* resistance site, phytoalexin, B-1, 3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxi-

dase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching or cyst nematode hatching factor; or

(ix) a grape plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, CBI, cyst nematode hatching or cyst nematode hatching factor; or

(x) an oilseed rape plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, or cyst nematode hatching factor; or

(xi) a *Brassica* vegetable plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, or CBI; or

(xii) a Pomaceous fruit plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor. Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, lytic protein, lysozyme, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, or CBI; or

(xiii) a melon plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin

synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, lytic protein, lysozyme, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, or CBI; or

(xiv) a banana plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, lytic protein, lysozyme, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, or CBI; or

(xv) a cotton plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, lytic protein, lysozyme, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, or CBI; or

(xvi) a sugar cane plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, lytic protein, lysozyme, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, or CBI; or

(xvii) a sunflower plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, lytic protein, lysozyme, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, or CBI; or

(xviii) a sugar beet or turnip plant having at least one genetically modified acetolactate synthase (ALS), acetyl-CoA carboxylase (ACCase), hydroxyphenylpyruvate dioxygenase (HPPD), phosphinothricin acetyltransferase, O-methyl transferase, glutamine synthetase, adenylosuccinate lyase (ADSL), adenylosuccinate synthase, anthranilate synthase, nitrilase, 5-enolpyruvyl-3-phosphoshikimate synthase (EPSPS), glyphosate oxidoreductase, protoporphyrinogen oxidase (PROTOX), cytochrome P450, polyphenol oxidase or polyphenol oxidase (antisense), metallothionein, ribonuclease, antifungal polypeptide AlyAFP, oxalate oxidase, glucose oxidase, pyrrolnitrin synthesis gene, serine/threonine kinase, cecropin B, phenylalanine ammonia lyase (PAL), Cf genes, osmotin, alpha hordothionin, systemin, polygalacturonase inhibitor, Prf control gene, phytoalexin, B-1,3-glucanase (antisense), AX+WIN protein, receptor kinase, polypeptide that triggers a hypersensitivity reaction, systemic acquired resistance (SAR) gene, lytic protein, lysozyme, chitinase, barnase, glucanase, double-strand ribonuclease, envelope protein, 17 kDa or 60 kDa protein, nuclear inclusion protein, pseudoubiquitin, replicase, *Bacillus thuringiensis* VIP 3 toxin, *Bacillus cereus* toxin, *Photorabdus* toxin, *Xenorhabdus* toxin, 3-hydroxysteroid oxidase, peroxidase, aminopeptidase inhibitor, lectin, protease inhibitor, ribosome-inactivating protein, stilbene synthase, HMG-CoA reductase, cyst nematode hatching factor, beet cyst nematode resistance site, or CBI.

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