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(54) Titre : UTILISATION DE MACROLIDES DANS LA LUTTE CONTRE LES PARASITES

(54) Title: USE OF MACROLIDES IN PEST CONTROL

(57) Abrégé/Abstract:

There is now described a method of controlling pests with macrolide compounds; more specifically: A) a method of controlling pests in and on transgenic crops of useful plants, such as, for example, in crops of maize, cereals, soya beans, tomatoes, cotton, potatoes, rice and mustard, with a macrolide compound, characterized in that a pesticidal composition comprising a macrolide compound in free form or in agrochemically useful salt form and at least one auxiliary is applied to the pests or their environment, in particular to the crop plant itself; B) a method of protecting plant propagation material and plant organs formed at a later point in time from attack by pests, characterized in that a pesticide comprising, as pesticidally active compound, at least one macrolide compound as active ingredient and at least one auxiliary in close spatial proximity to, or spatially together with, planting or applying the propagation material is employed to the site of planting or sowing; C) a method of controlling wood pests and molluscs with a macrolide compound, wherein a pesticidally active amount of a pesticide comprising, as pesticidally active compound, at least one macrolide, in free form or agrochemically utilizable salt form, as active ingredient and at least one auxiliary is applied to the pests or their environment; the corresponding use of these compounds, corresponding pesticides whose active ingredient is selected from amongst these compounds, a method for the preparation and the use of these compositions, and plant propagation material which is protected in this manner from attack by pests.

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(21) International Application Number: PCT/EP98/08384 (22) International Filing Date: 21 December 1998 (21.12.98) (30) Priority Data: <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">2960/97</td> <td style="width: 40%;">23 December 1997 (23.12.97)</td> <td style="width: 40%;">CH</td> </tr> <tr> <td>2961/97</td> <td>23 December 1997 (23.12.97)</td> <td>CH</td> </tr> <tr> <td>79/98</td> <td>16 January 1998 (16.01.98)</td> <td>CH</td> </tr> <tr> <td>84/98</td> <td>16 January 1998 (16.01.98)</td> <td>CH</td> </tr> <tr> <td>86/98</td> <td>16 January 1998 (16.01.98)</td> <td>CH</td> </tr> <tr> <td>418/98</td> <td>22 February 1998 (22.02.98)</td> <td>CH</td> </tr> </table> (71) Applicant (for all designated States except AT US): NOVARTIS AG [CH/CH]; Schwarzwaldallee 215, CH-4058 Basel (CH). (71) Applicant (for AT only): NOVARTIS-ERFINDUNGEN VERWALTUNGSGESELLSCHAFT MBH [AT/AT]; Brunner Strasse 59, A-1235 Vienna (AT). (72) Inventors; and (75) Inventors/Applicants (for US only): HOFER, Dieter [CH/CH]; Oristalstrasse 46/5, CH-4410 Liestal (CH). SUTTER, Marius [CH/CH]; Margarethenstrasse 75, CH-4102 Binningen (CH). BRANDL, Franz [DE/DE]; Bannmattstrasse 10, D-79650 Schopfheim (DE). LEE, Bruce [AU/DE];		2960/97	23 December 1997 (23.12.97)	CH	2961/97	23 December 1997 (23.12.97)	CH	79/98	16 January 1998 (16.01.98)	CH	84/98	16 January 1998 (16.01.98)	CH	86/98	16 January 1998 (16.01.98)	CH	418/98	22 February 1998 (22.02.98)	CH	Schwarzwaldstrasse 34b, D-79189 Bad Krozingen (DE). HALL, Roger, Graham [GB/CH]; Bünenmattweg 5, CH-4148 Pfeffingen (CH). ANGST, Max [CH/CH]; Im Stigler 5, CH-4312 Magden (CH). (74) Agent: BECKER, Konrad; Novartis AG, Patent- und Markenabteilung, Lichtstrasse 35, CH-4002 Basel (CH). (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>
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(54) Title: USE OF MACROLIDES IN PEST CONTROL (57) Abstract There is now described a method of controlling pests with macrolide compounds; more specifically: A) a method of controlling pests in and on transgenic crops of useful plants, such as, for example, in crops of maize, cereals, soya beans, tomatoes, cotton, potatoes, rice and mustard, with a macrolide compound, characterized in that a pesticidal composition comprising a macrolide compound in free form or in agrochemically useful salt form and at least one auxiliary is applied to the pests or their environment, in particular to the crop plant itself; B) a method of protecting plant propagation material and plant organs formed at a later point in time from attack by pests, characterized in that a pesticide comprising, as pesticidally active compound, at least one macrolide compound as active ingredient and at least one auxiliary in close spatial proximity to, or spatially together with, planting or applying the propagation material is employed to the site of planting or sowing; C) a method of controlling wood pests and molluscs with a macrolide compound, wherein a pesticidally active amount of a pesticide comprising, as pesticidally active compound, at least one macrolide, in free form or agrochemically utilizable salt form, as active ingredient and at least one auxiliary is applied to the pests or their environment; the corresponding use of these compounds, corresponding pesticides whose active ingredient is selected from amongst these compounds, a method for the preparation and the use of these compositions, and plant propagation material which is protected in this manner from attack by pests.																				

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Use of macrolides in pest control

The present invention relates to a method of controlling pests with macrolide compounds; more specifically to

5 (A) a novel method of controlling pests in and on transgenic crops of useful plants with a macrolide compound;

(B) method of protecting plant propagation material and plant organs formed at a later point in time from attack by pests with such a macrolide compound; and

10 (C) a method of controlling wood pests and molluscs with a macrolide compound.

Certain pest control methods are proposed in the literature. However, these methods are not fully satisfactory in the field of pest control, which is why
15 there is a demand for providing further methods for controlling and combating pests, in particular insects and representatives of the order Acarina, or for protecting plants, especially crop plants. This object is achieved according to the invention by providing the present method.

20 According to one aspect of the present invention, there is provided a method of protecting seed which is to be grown at a later point in time against attack by pests selected from insects, representatives of order Acarina and representatives of class Nematoda; wherein said method
25 comprises treating the seed, prior to sowing, with a pesticidal formulation selected from a wettable powder and a suspension concentrate, the formulation comprising as active ingredient one or more compound selected from Abamectin, Emamectin and Spinosad in free form or in agrochemically
30 utilizable salt form.

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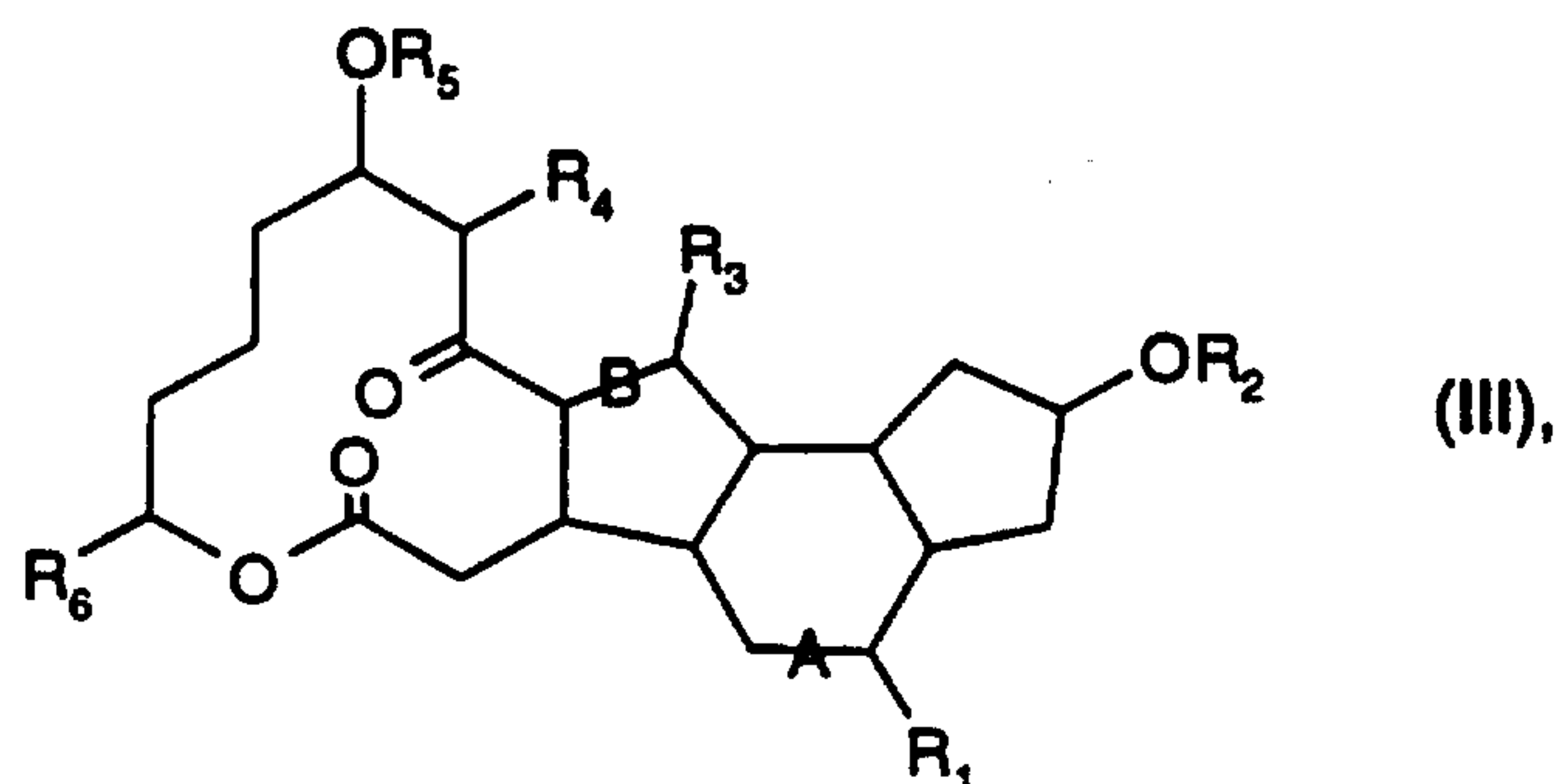
(A) A first aspect of the present invention therefore relates to a method of controlling pests in crops of transgenic useful plants, such as, for example, in crops of maize, cereals, soya beans, tomatoes, cotton, potatoes, 5 rice and mustard, characterized in that a pesticidal composition comprising a macrolide compound, in particular abamectin, in free form or in agrochemically useful salt form and at least one auxiliary is applied to the pests or their environment, in particular to the crop plant itself; 10 to the use of the composition in question and to propagation material of transgenic plants which has been treated with it.

Surprisingly, it has now emerged that the use of a macrolide compound for controlling pests on transgenic 15 useful plants which contain - for instance - one or more genes expressing a pesticidally, particularly insecticidally, acaricidally, nematocidally or fungicidally active ingredient, or which are tolerant against herbicides, has a synergistic effect. It is highly surprising that the 20 use of a macrolide compound in combination with a transgenic plant exceeds the additive effect, to be expected in principle, on the pests to be controlled and thus extends the range of action of the macrolide compound and of the active principle expressed by the transgenic plant in 25 particular in two respects:

In particular, it has been found, surprisingly, that within the scope of invention (A) the pesticidal activity of a macrolide compound in combination with the effect expressed by the

transgenic useful plant, is not only additive in comparison with the pesticidal activities of the macrolide compound alone and of the transgenic crop plant alone, as can generally be expected, but that a synergistic effect is present. The term "synergistic", however, is in no way to be understood in this connection as being restricted to the pesticidal activity, but the term also refers to other advantageous properties of the method according to the invention compared with the macrolide compound alone and the transgenic useful plant alone. Examples of such advantageous properties which may be mentioned are: extension of the pesticidal spectrum of action to other pests, for example to resistant strains; reduction in the application rate of the macrolide compound, or sufficient control of the pests with the aid of the compositions according to the invention even at an application rate of the macrolide compound alone and the transgenic useful plant alone are entirely ineffective; enhanced crop safety; improved quality of produce such as higher content of nutrient or oil, better fiber quality, enhanced shelf life, reduced content of toxic products such as mycotoxins, reduced content of residues or unfavorable constituents of any kind or better digestability; improved tolerance to unfavorable temperatures, draughts or salt content of water; enhanced assimilation rates such as nutrient uptake, water uptake and photosynthesis; favorable crop properties such as altered leaf aerea, reduced vegetative growth, increased yields, favorable seed shape/seed thickness or germination properties, altered colonisation by saprophytes or epiphytes, reduction of senescence, improved phytoalexin production, improved or accelerated ripening, flower set increase, reduced boll fall and *shattering*, better attraction to beneficials and predators, increased pollination, reduced attraction to birds; or other advantages known to those skilled in the art.

The macrolide compounds used according to the inventions part (A), (B) and (C) are known to those skilled in the art. They are the classes of substances which are disclosed as milbemycins and avermectins, for example in US-P-4 310 519, US-P-5 077 298, German Offenlegungsschrift 2 717 040 or US-P-4 427 663. These macrolides are also to be understood as meaning, in accordance with the invention, the derivatives of these substances, that is, for example, milbemycin oxime, moxidectin, ivermectin, abamectin, emamectin and doramectin, and also spinosyns of the formula



in which R_1 , R_2 , R_3 , R_4 , R_5 and R_6 independently of one another are hydrogen or a substituted or unsubstituted alkyl, alkenyl, alkynyl, cycloalkyl, aryl or heterocyclyl group and the substructures A and B independently of one another denote that the two carbon atoms, to which each of these substructures is bonded, are linked by a single bond, by a double bond or by a single bond and an epoxy bridge, in free form or, if appropriate, in agrochemically utilizable salt form.

Within the scope of invention (A) abamectin is preferred. Abamectin is a mixture of avermectin B_{1a} and avermectin B_{1b} and is described, for example, in The Pesticide Manual, 10th Ed. (1994), The British Crop Protection Council, London, page 3.

Also preferred within the scope of invention (A) is emamectin, which is 4''-Deoxy-4''-epi-N-methylamino avermectin B_{1b}/B_{1a} , known from US-P-4,874,749 and as MK-244 described in Journal of Organic Chemistry, Vol. 59 (1994), pages 7704-7708. Agrochemically especially useful salts of emamectin are described in US-P-5,288,710.

Also preferred within the scope of invention (A) is the group of compounds consisting of the spinosyns and their derivatives; the group of compounds consisting of the naturally occurring spinosyns; or the group of compounds consisting of the derivatives of the naturally occurring spinosyns. Preferably, the active ingredient may comprise, within the scope of the subject-matter of the invention (A), spinosyn A; spinosyn D; or a mixture composed of spinosyn A and spinosyn D; especially preferred is spinosad. spinosad is known from the "The Pesticide Manual", 11th Ed. (1997), The British Crop Protection Council, London, United Kingdom, pages 1272-1273.

The agrochemically compatible salts of the macrolide compounds are, for example, acid addition salts of inorganic and organic acids, in particular of hydrochloric acid, hydrobromic acid, sulfuric acid, nitric acid, perchloric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, malonic acid, toluenesulfonic acid or benzoic acid. Preferred

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within the scope of the present invention is a composition known per se which comprises, as active ingredient, abamectin or spinosad in the free form, and emamectin as the benzoate salt.

The transgenic plants used according to the invention (A) are plants, or propagation material thereof, which are transformed by means of recombinant DNA technology in such a way that they are - for instance - capable of synthesizing selectively acting toxins as are known, for example, from toxin-producing invertebrates, especially of the phylum Arthropoda, as can be obtained from *Bacillus thuringiensis* strains; or as are known from plants, such as lectins; or in the alternative capable of expressing a herbicidal or fungicidal resistance. Examples of such toxins, or transgenic plants which are capable of synthesizing such toxins, have been disclosed, for example, in EP-A-0 374 753, WO 93/07278, WO 95/34656, EP-A-0 427 529 and EP-A-451 878.

The methods for generating such transgenic plants are widely known to those skilled in the art and described, for example, in the publications mentioned above.

The toxins which can be expressed by such transgenic plants include, for example, toxins, such as proteins which have insecticidal properties and which are expressed by transgenic plants, for example *Bacillus cereus* proteins or *Bacillus popilliae* proteins; or *Bacillus thuringiensis* endotoxins (B.t.), such as CryIA(a), CryIA(b), CryIA(c), CryIIA, CryIIIA, CryIIIB2 or CytA; VIP1; VIP2; VIP3; or insecticidal proteins of bacteria colonising nematodes like *Photorhabdus* spp or *Xenorhabdus* spp such as *Photorhabdus luminescens*, *Xenorhabdus nematophilus* etc.; proteinase inhibitors, such as trypsin inhibitors, serine protease inhibitors, patatin, cystatin, papain inhibitors; ribosome-inactivating proteins (RIP), such as ricin, maize RIP, abrin, luffin, saporin or bryodin; plant lectins such as pea lectins, barley lectins or snowdrop lectins; or agglutinins; toxins produced by animals, such as scorpion toxins, spider venoms, wasp venoms and other insect-specific neurotoxins; steroid metabolism enzymes, such as 3-hydroxysteroid oxidase, ecdysteroid UDP-glycosyl transferase, cholesterol oxidases, ecdysone inhibitors, HMG-COA reductase, ion channel blockers such as sodium and calcium, juvenile hormone esterase, diuretic hormone receptors, stilbene synthase, bibenzyl synthase, chitinases and glucanases.

Examples of known transgenic plants which comprise one or more genes which encode insecticidal resistance and express one or more toxins are the following: KnockOut®

(maize), YieldGard® (maize); NuCOTN 33B® (cotton), Bollgard® (cotton), NewLeaf® (potatoes), NatureGard® and Protecta®.

The following table comprises further examples of targets and principles and crop phenotypes of transgenic crops which show tolerance against pests mainly insects, mites, nematodes, virus, bacteria and diseases or are tolerant to specific herbicides or classes of herbicides.

Table A1: Crop: Maize

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phthalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Cytochrome P450 eg. P450 SU1	Xenobiotics and herbicides such as Sulfonylureas
Dimboa biosynthesis (Bx1 gene)	Helminthosporium turcicum, Rhopalosiphum maydis, Diplodia maydis, Ostrinia nubilalis, lepidoptera sp.
CMIII (small basic maize seed peptide)	plant pathogenes eg. fusarium, alternaria, sclerotinia
Corn- SAFP (zeamatin)	plant pathogenes eg. fusarium, alternaria, sclerotinia, rhizoctonia, chaetomium, phycomyces
Hm1 gene	Cochliobulus
Chitinases	plant pathogenes
Glucanases	plant pathogenes
Coat proteins	viruses such as maize dwarf mosaic virus, maize chlorotic dwarf virus
Bacillus thuringiensis toxins, VIP 3, Bacillus cereus toxins, Photorabdus and Xenorhabdus toxins	lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms, sesamia sp., black cutworm, asian corn borer, weevils
3- Hydroxysteroid oxidase	lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms, sesamia sp., black cutworm, asian corn borer, weevils
Peroxidase	lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms, sesamia sp., black cutworm, asian corn

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor (LAPI)	borer, weevils lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms, sesamia sp., black cutworm, asian corn borer, weevils
Limonene synthase	corn rootworms
Lectines	lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms, sesamia sp., black cutworm, asian corn borer, weevils
Protease Inhibitors eg. cystatin, patatin, virgiferin, CPTI ribosome inactivating protein	weevils, corn rootworm lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms, sesamia sp., black cutworm, asian corn borer, weevils
maize 5C9 polypeptide	lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms, sesamia sp., black cutworm, asian corn borer, weevils
HMG-CoA reductase	lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliiothis zea, armyworms eg. spodoptera frugiperda, corn rootworms,

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
	sesamia sp., black cutworm, asian corn borer, weevils

Table A2: Crop Wheat

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1	Xenobiotics and herbicides such as Sulfonylureas
Antifungal polypeptide AlyAFP	plant pathogenes eg septoria and

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
glucose oxidase	fusarium
pyrrolnitrin synthesis genes	plant pathogenes eg. fusarium, septoria
serine/threonine kinases	plant pathogenes eg. fusarium, septoria
Hypersensitive response eliciting polypeptide	plant pathogenes eg. fusarium, septoria and other diseases
Systemic acquires resistance (SAR) genes	plant pathogenes eg. fusarium, septoria and other diseases
Chitinases	viral, bacterial, fungal, nematodal pathogenes
Glucanases	plant pathogenes
double stranded ribonuclease	plant pathogenes
Coat proteins	viruses such as BYDV and MSMV
Bacillus thuringiensis toxins, VIP 3, Bacillus cereus toxins, Photorabdus and Xenorhabdus toxins	viruses such as BYDV and MSMV
3- Hydroxysteroid oxidase	lepidoptera, coleoptera, diptera, nematodes,
Peroxidase	lepidoptera, coleoptera, diptera, nematodes,
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	lepidoptera, coleoptera, diptera, nematodes,
Lectines	lepidoptera, coleoptera, diptera, nematodes, aphids
Protease Inhibitors eg. cystatin, patatin, virgiferin, CPTI	lepidoptera, coleoptera, diptera, nematodes, aphids
ribosome inactivating protein	lepidoptera, coleoptera, diptera, nematodes, aphids
HMG-CoA reductase	lepidoptera, coleoptera, diptera, nematodes, eg. ostrinia nubilalis, heliothis zea, armyworms eg. spodoptera frugiperda, corn rootworms,

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
	sesamia sp., black cutworm, asian corn borer, weevils

Table A3: Crop Barley

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1	Xenobiotics and herbicides such as Sulfonylureas
Antifungal polypeptide AlyAFP	plant pathogenes eg septoria and

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
glucose oxidase	fusarium
pyrrolnitrin synthesis genes	plant pathogenes eg. fusarium, septoria
serine/threonine kinases	plant pathogenes eg. fusarium, septoria and other diseases
Hypersensitive response eliciting polypeptide	plant pathogenes eg. fusarium, septoria and other diseases
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Chitinases	plant pathogenes
Glucanases	plant pathogenes
double stranded ribonuclease	viruses such as BYDV and MSMV
Coat proteins	viruses such as BYDV and MSMV
Bacillus thuringiensis toxins, 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 eg. Leucine aminopeptidase inhibitor	lepidoptera, coleoptera, diptera, nematodes,
Lectines	lepidoptera, coleoptera, diptera, nematodes, aphids
Protease Inhibitors eg. 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

Table A4: Crop Rice

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and loxynil
5-Enolpyruvyl-3phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1	Xenobiotics and herbicides such as Sulfonylureas
Antifungal polypeptide AlyAFP	plant pathogenes
glucose oxidase	plant pathogenes
pyrrolnitrin synthesis genes	plant pathogenes
serine/threonine kinases	plant pathogenes
Phenylalanine ammonia lyase (PAL)	plant pathogenes eg bacterial leaf blight and rice blast, inducible

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
phytoalexins	plant pathogenes eg bacterial leaf blight and rice blast
B-1,3-glucanase antisense	plant pathogenes eg bacterial leaf blight and rice blast
receptor kinase	plant pathogenes eg bacterial leaf blight and rice blast
Hypersensitive response eliciting polypeptide	plant pathogenes
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogenes
Chitinases	plant pathogenes eg bacterial leaf blight and rice blast
Glucanases	plant pathogenes
double stranded ribonuclease	viruses such as BYDV and MSMV
Coat proteins	viruses such as BYDV and MSMV
Bacillus thuringiensis toxins, VIP 3,	lepidoptera eg. stemborer, coleoptera eg
Bacillus cereus toxins, Photorabdus and	rice water weevil, diptera, rice hoppers
Xenorhabdus toxins	eg brown rice hopper
3- Hydroxysteroid oxidase	lepidoptera eg. stemborer, coleoptera eg rice water weevil, diptera, rice hoppers eg brown rice hopper
Peroxidase	lepidoptera eg. stemborer, coleoptera eg rice water weevil, diptera, rice hoppers eg brown rice hopper
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	lepidoptera eg. stemborer, coleoptera eg rice water weevil, diptera, rice hoppers eg brown rice hopper
Lectines	lepidoptera eg. stemborer, coleoptera eg rice water weevil, diptera, rice hoppers eg brown rice hopper
Protease Inhibitors,	lepidoptera eg. stemborer, coleoptera eg

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
ribosome inactivating protein	rice water weevil, diptera, rice hoppers eg brown rice hopper lepidoptera eg. stemborer, coleoptera eg rice water weevil, diptera, rice hoppers eg brown rice hopper
HMG-CoA reductase	lepidoptera eg. stemborer, coleoptera eg rice water weevil, diptera, rice hoppers eg brown rice hopper

Table A5: Crop Soya

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidyloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Antifungal polypeptide AlyAFP	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
oxalate oxidase	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
glucose oxidase	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
pyrrolnitrin synthesis genes	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
serine/threonine kinases	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
Phenylalanine ammonia lyase (PAL)	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
phytoalexins	plant pathogenes eg bacterial leaf blight and rice blast
B-1,3-glucanase antisense	plant pathogenes eg bacterial leaf blight and rice blast
receptor kinase	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
Hypersensitive response eliciting polypeptide	plant pathogenes
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Chitinases	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot
Glucanases	bacterial and fungal pathogens such as fusarium, sclerotinia, stemrot

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
double stranded ribonuclease	viruses such as BPMV and SbMV
Coat proteins	viruses such as BYDV and MSMV
Bacillus thuringiensis toxins, VIP 3,	lepidoptera, coleoptera, aphids
Bacillus cereus toxins, Photorabdus and	
Xenorhabdus toxins	
3- Hydroxysteroid oxidase	lepidoptera, coleoptera, aphids
Peroxidase	lepidoptera, coleoptera, aphids
Aminopeptidase inhibitors eg. Leucine	lepidoptera, coleoptera, aphids
aminopeptidase inhibitor	
Lectines	lepidoptera, coleoptera, aphids
Protease Inhibitors eg virgiferin	lepidoptera, coleoptera, aphids
ribosome inactivating protein	lepidoptera, coleoptera, aphids
HMG-CoA reductase	lepidoptera, coleoptera, aphids
Barnase	nematodes eg root knot nematodes and cyst nematodes
Cyst nematode hatching stimulus	cyst nematodes
Antifeeding principles	nematodes eg root knot nematodes and cyst nematodes

Table A6: Crop Potatoes

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidyloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase	Isoxazoles such as Isoxaflutol or

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
(HPPD)	Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	blackspot bruise
Metallothionein	bacterial and fungal pathogens such as phytophthora
Ribonuclease	Phytophthora, Verticillium, Rhizoctonia
Antifungal polypeptide AlyAFP	bacterial and fungal pathogens such as phytophthora
oxalate oxidase	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
glucose oxidase	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
pyrrolnitrin synthesis genes	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
serine/threonine kinases	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
Cecropin B	bacteria such as corynebacterium sepedonicum, Erwinia carotovora
Phenylalanine ammonia lyase (PAL)	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
phytoalexins	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
B-1,3-glucanase antisense	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
receptor kinase	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
Hypersensitive response eliciting polypeptide	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Chitinases	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
Barnase	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
Disease resistance response gene 49	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
trans aldolase antisense	blackspots
Glucanases	bacterial and fungal pathogens such as Phytophthora, Verticillium, Rhizoctonia
double stranded ribonuclease	viruses such as PLRV, PVY and TRV
Coat proteins	viruses such as PLRV, PVY and TRV
17kDa or 60 kDa protein	viruses such as PLRV, PVY and TRV
Nuclear inclusion proteins eg. a or b	viruses such as PLRV, PVY and TRV

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Pseudoubiquitin	viruses such as PLRV, PVY and TRV
Replicase	viruses such as PLRV, PVY and TRV
Bacillus thuringiensis toxins, VIP 3, Bacillus cereus toxins, Photorabdus and Xenorhabdus toxins	coleoptera eg colorado potato beetle, aphids
3- Hydroxysteroid oxidase	coleoptera eg colorado potato beetle, aphids
Peroxidase	coleoptera eg colorado potato beetle, aphids
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	coleoptera eg colorado potato beetle, aphids
stilbene synthase	coleoptera eg colorado potato beetle, aphids
Lectines	coleoptera eg colorado potato beetle, aphids
Protease Inhibitors eg cystatin, patatin	coleoptera eg colorado potato beetle, aphids
ribosome inactivating protein	coleoptera eg colorado potato beetle, aphids
HMG-CoA reductase	coleoptera eg colorado potato beetle, aphids
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
Antifeeding principles	nematodes eg root knot nematodes and cyst nematodes

Table A7: Crop Tomatoes

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones,

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
AcetylCoA Carboxylase (ACCase)	Triazolopyrimidines, Pyrimidyloxybenzoates, Phtalides Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase O-Methyl transferase	Phosphinothricin altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	blackspot bruise
Metallothionein	bacterial and fungal pathogens such as phytophthora
Ribonuclease	Phytophthora, Verticillium, Rhizoctonia
Antifungal polypeptide AlyAFP	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
	etc.
oxalate oxidase	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
glucose oxidase	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
pyrrolinitrin synthesis genes	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
serine/threonine kinases	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
Cecropin B	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
Phenylalanine ammonia lyase (PAL)	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
Cf genes eg. Cf 9 Cf5 Cf4 Cf2	leaf mould
Osmotin	alternaria solani
Alpha Hordothionin	bacteria
Systemin	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Polygalacturonase inhibitors	etc. bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
Prf regulatory gene	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
I2 Fusarium resistance locus phytoalexins	fusarium bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
B-1,3-glucanase antisense	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
receptor kinase	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
Hypersensitive response eliciting polypeptide	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Chitinases	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Barnase	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
Glucanases	bacterial and fungal pathogens such as bacterial speck, fusarium, soft rot, powdery mildew, crown rot, leaf mould etc.
double stranded ribonuclease	viruses such as PLRV, PVY and ToMoV
Coat proteins	viruses such as PLRV, PVY and ToMoV
17kDa or 60 kDa protein	viruses such as PLRV, PVY and ToMoV
Nuclear inclusion proteins eg. a or b or Nucleoprotein	viruses such as PLRV, PVY and ToMoV TRV
Pseudoubiquitin	viruses such as PLRV, PVY and ToMoV
Replicase	viruses such as PLRV, PVY and ToMoV
Bacillus thuringiensis toxins, VIP 3, Bacillus cereus toxins, Photorabdus and Xenorhabdus toxins	lepidoptera eg heliothis, whiteflies aphids
3- Hydroxysteroid oxidase	lepidoptera eg heliothis, whiteflies aphids
Peroxidase	lepidoptera eg heliothis, whiteflies aphids
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	lepidoptera eg heliothis, whiteflies aphids
Lectines	lepidoptera eg heliothis, whiteflies aphids
Protease Inhibitors eg cystatin, patatin	lepidoptera eg heliothis, whiteflies aphids
ribosome inactivating protein	lepidoptera eg heliothis, whiteflies aphids
stilbene synthase	lepidoptera eg heliothis, whiteflies

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
HMG-CoA reductase	aphids lepidoptera eg heliothis, whiteflies aphids
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
Antifeeding principles	nematodes eg root knot nematodes and cyst nematodes

Table A8: Crop Peppers

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pirimidyloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial and fungal pathogens
Metallothionein	bacterial and fungal pathogens
Ribonuclease	bacterial and fungal pathogens
Antifungal polypeptide 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 eg. Cf 9 Cf5 Cf4 Cf2	bacterial and fungal pathogens
Osmotin	bacterial and fungal pathogens
Alpha Hordothionin	bacterial and fungal pathogens
Systemin	bacterial and fungal pathogens
Polygalacturonase inhibitors	bacterial and fungal pathogens
Prf regulatory gene	bacterial and fungal pathogens
I2 Fusarium resistance locus	fusarium
phytoalexins	bacterial and fungal pathogens
B-1,3-glucanase antisense	bacterial and fungal pathogens
receptor kinase	bacterial and fungal pathogens
Hypersensitive response eliciting polypeptide	bacterial and fungal pathogens
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Chitinases	bacterial and fungal pathogens
Barnase	bacterial and fungal pathogens
Glucanases	bacterial and fungal pathogens
double stranded ribonuclease	viruses such as CMV, TEV
Coat proteins	viruses such as CMV, TEV
17kDa or 60 kDa protein	viruses such as CMV, TEV
Nuclear inclusion proteins eg. a or b or Nucleoprotein	viruses such as CMV, TEV
Pseudoubiquitin	viruses such as CMV, TEV
Replicase	viruses such as CMV, TEV
Bacillus thuringiensis toxins, VIP 3, Bacillus cereus toxins, Photorabdus and Xenorhabdus toxins	lepidoptera, whiteflies aphids
3- Hydroxysteroid oxidase	lepidoptera, whiteflies aphids
Peroxidase	lepidoptera, whiteflies aphids
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	lepidoptera, whiteflies aphids
Lectines	lepidoptera, whiteflies aphids
Protease Inhibitors eg cystatin, patatin	lepidoptera, whiteflies aphids
ribosome inactivating protein	lepidoptera, whiteflies aphids
stilbene synthase	lepidoptera, whiteflies aphids
HMG-CoA reductase	lepidoptera, whiteflies aphids
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
Antifeeding principles	nematodes eg root knot nematodes and cyst nematodes

Table A9: Crop Grapes

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones,

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
AcetylCoA Carboxylase (ACCase)	Triazolopyrimidines, Pyrimidyloxybenzoates, Phtalides Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial and fungal pathogens like Botrytis and powdery mildew
Metallothionein	bacterial and fungal pathogens like Botrytis and powdery mildew
Ribonuclease	bacterial and fungal pathogens like Botrytis and powdery mildew
Antifungal polypeptide AlyAFP	bacterial and fungal pathogens like Botrytis and powdery mildew

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
oxalate oxidase	bacterial and fungal pathogens like Botrytis and powdery mildew
glucose oxidase	bacterial and fungal pathogens like Botrytis and powdery mildew
pyrrolnitrin synthesis genes	bacterial and fungal pathogens like Botrytis and powdery mildew
serine/threonine kinases	bacterial and fungal pathogens like Botrytis and powdery mildew
Cecropin B	bacterial and fungal pathogens like Botrytis and powdery mildew
Phenylalanine ammonia lyase (PAL)	bacterial and fungal pathogens like Botrytis and powdery mildew
Cf genes eg. Cf 9 Cf5 Cf4 Cf2	bacterial and fungal pathogens like Botrytis and powdery mildew
Osmotin	bacterial and fungal pathogens like Botrytis and powdery mildew
Alpha Hordothionin	bacterial and fungal pathogens like Botrytis and powdery mildew
Systemin	bacterial and fungal pathogens like Botrytis and powdery mildew
Polygalacturonase inhibitors	bacterial and fungal pathogens like Botrytis and powdery mildew
Prf regulatory gene	bacterial and fungal pathogens like Botrytis and powdery mildew
phytoalexins	bacterial and fungal pathogens like Botrytis and powdery mildew
B-1,3-glucanase antisense	bacterial and fungal pathogens like Botrytis and powdery mildew
receptor kinase	bacterial and fungal pathogens like Botrytis and powdery mildew
Hypersensitive response eliciting	bacterial and fungal pathogens like

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
polypeptide	Botrytis and powdery mildew
Systemic acquires resistance (SAR)	viral, bacterial, fungal, nematodal
genes	pathogens
Chitinases	bacterial and fungal pathogens like Botrytis and powdery mildew
Barnase	bacterial and fungal pathogens like Botrytis and powdery mildew
Glucanases	bacterial and fungal pathogens like Botrytis and powdery mildew
double stranded ribonuclease	viruses
Coat proteins	viruses
17kDa or 60 kDa protein	viruses
Nuclear inclusion proteins eg. a or b or	viruses
Nucleoprotein	
Pseudoubiquitin	viruses
Replicase	viruses
Bacillus thuringiensis toxins, VIP 3,	lepidoptera, aphids
Bacillus cereus toxins, Photorabdus and	
Xenorhabdus toxins	
3- Hydroxysteroid oxidase	lepidoptera, aphids
Peroxidase	lepidoptera, aphids
Aminopeptidase inhibitors eg. Leucine	lepidoptera, aphids
aminopeptidase inhibitor	
Lectines	lepidoptera, aphids
Protease Inhibitors eg cystatin, patatin	lepidoptera, aphids
ribosome inactivating protein	lepidoptera, aphids
stilbene synthase	lepidoptera, aphids, diseases
HMG-CoA reductase	lepidoptera, aphids
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes or general diseases
CBI	root knot nematodes

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Antifeeding principles	nematodes eg root knot nematodes or root cyst nematodes

Table A10: crop Oil Seed rape

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonyleureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phthalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonyleureas
Polyphenol oxidase or Polyphenol	bacterial and fungal pathogens like

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
oxidase antisense	Cylindrosporium, Phoma, Sclerotinia
Metallothionein	bacterial and fungal pathogens like
Ribonuclease	Cylindrosporium, Phoma, Sclerotinia
Antifungal polypeptide AlyAFP	bacterial and fungal pathogens like
oxalate oxidase	Cylindrosporium, Phoma, Sclerotinia
glucose oxidase	bacterial and fungal pathogens like
pyrrolnitrin synthesis genes	Cylindrosporium, Phoma, Sclerotinia
serine/threonine kinases	bacterial and fungal pathogens like
Cecropin B	Cylindrosporium, Phoma, Sclerotinia
Phenylalanine ammonia lyase (PAL)	bacterial and fungal pathogens like
Cf genes eg. Cf 9 Cf5 Cf4 Cf2	Cylindrosporium, Phoma, Sclerotinia
Osmotin	bacterial and fungal pathogens like
Alpha Hordothionin	Cylindrosporium, Phoma, Sclerotinia
Systemin	bacterial and fungal pathogens like
Polygalacturonase inhibitors	Cylindrosporium, Phoma, Sclerotinia
Prf regulatory gene	bacterial and fungal pathogens like
phytoalexins	Cylindrosporium, Phoma, Sclerotinia
	bacterial and fungal pathogens like

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
B-1,3-glucanase antisense	Cylindrosporium, Phoma, Sclerotinia
receptor kinase	bacterial and fungal pathogens like
	Cylindrosporium, Phoma, Sclerotinia
Hypersensitive response eliciting	bacterial and fungal pathogens like
polypeptide	Cylindrosporium, Phoma, Sclerotinia
Systemic acquires resistance (SAR)	bacterial and fungal pathogens like
genes	Cylindrosporium, Phoma, Sclerotinia
Chitinases	viral, bacterial, fungal, nematodal
	pathogens
Barnase	bacterial and fungal pathogens like
	Cylindrosporium, Phoma, Sclerotinia
	bacterial and fungal pathogens like
	Cylindrosporium, Phoma,
	Sclerotinia, nematodes
Glucanases	bacterial and fungal pathogens like
	Cylindrosporium, Phoma, Sclerotinia
double stranded ribonuclease	viruses
Coat proteins	viruses
17kDa or 60 kDa protein	viruses
Nuclear inclusion proteins eg. a or b or	viruses
Nucleoprotein	
Pseudoubiquitin	viruses
Replicase	viruses
Bacillus thuringiensis toxins, VIP 3,	lepidoptera, aphids
Bacillus cereus toxins, Photorabdus and	
Xenorhabdus toxins	
3- Hydroxysteroid oxidase	lepidoptera, aphids
Peroxidase	lepidoptera, aphids
Aminopeptidase inhibitors eg. Leucine	lepidoptera, aphids
aminopeptidase inhibitor	
Lectines	lepidoptera, aphids
Protease Inhibitors eg cystatin, patatin,	lepidoptera, aphids

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
CPTI	
ribosome inactivating protein	lepidoptera, aphids
stilbene synthase	lepidoptera, aphids, diseases
HMG-CoA reductase	lepidoptera, aphids
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes

Table A11: Crop Brassica vegetable (cabbage, brussel sprouts, broccoli etc.)

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate	Glyphosate or sulfosate

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Synthase (EPSPS)	
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial and fungal pathogens
Metallothionein	bacterial and fungal pathogens
Ribonuclease	bacterial and fungal pathogens
Antifungal polypeptide 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 fungal pathogens
Cf genes eg. Cf 9 Cf5 Cf4 Cf2	bacterial and fungal pathogens
Osmotin	bacterial and fungal pathogens
Alpha Hordothionin	bacterial and fungal pathogens
Systemin	bacterial and fungal pathogens
Polygalacturonase inhibitors	bacterial and fungal pathogens
Prf regulatory 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
Hypersensitive response eliciting polypeptide	bacterial and fungal pathogens
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Chitinases	bacterial and fungal pathogens

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Barnase	bacterial and fungal pathogens
Glucanases	bacterial and fungal pathogens
double stranded ribonuclease	viruses
Coat proteins	viruses
17kDa or 60 kDa protein	viruses
Nuclear inclusion proteins eg. a or b or	viruses
Nucleoprotein	
Pseudoubiquitin	viruses
Replicase	viruses
Bacillus thuringiensis toxins, VIP 3,	lepidoptera, aphids
Bacillus cereus toxins, Photorabdus and	
Xenorhabdus toxins	
3- Hydroxysteroid oxidase	lepidoptera, aphids
Peroxidase	lepidoptera, aphids
Aminopeptidase inhibitors eg. Leucine	lepidoptera, aphids
aminopeptidase inhibitor	
Lectines	lepidoptera, aphids
Protease inhibitors eg cystatin, patatin,	lepidoptera, aphids
CPTI	
ribosome inactivating protein	lepidoptera, aphids
stilbene synthase	lepidoptera, aphids, diseases
HMG-CoA reductase	lepidoptera, aphids
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and
	cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a	nematodes eg root knot nematodes, root
nematode feeding site	cyst nematodes

Table A12 : Crop Pome fruits eg apples, pears

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pirimidyloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial and fungal pathogens like apple scab or fireblight
Metallothionein	bacterial and fungal pathogens like apple scab or fireblight
Ribonuclease	bacterial and fungal pathogens like

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Antifungal polypeptide AlyAFP	apple scab or fireblight bacterial and fungal pathogens like apple scab or fireblight
oxalate oxidase	bacterial and fungal pathogens like apple scab or fireblight
glucose oxidase	bacterial and fungal pathogens like apple scab or fireblight
pyrrolnitrin synthesis genes	bacterial and fungal pathogens like apple scab or fireblight
serine/threonine kinases	bacterial and fungal pathogens like apple scab or fireblight
Cecropin B	bacterial and fungal pathogens like apple scab or fireblight
Phenylalanine ammonia lyase (PAL)	bacterial and fungal pathogens like apple scab or fireblight
Cf genes eg. Cf 9 Cf5 Cf4 Cf2	bacterial and fungal pathogens like apple scab or fireblight
Osmotin	bacterial and fungal pathogens like apple scab or fireblight
Alpha Hordothionin	bacterial and fungal pathogens like apple scab or fireblight
Systemin	bacterial and fungal pathogens like apple scab or fireblight
Polygalacturonase inhibitors	bacterial and fungal pathogens like apple scab or fireblight
Prf regulatory gene	bacterial and fungal pathogens like apple scab or fireblight
phytoalexins	bacterial and fungal pathogens like apple scab or fireblight
B-1,3-glucanase antisense	bacterial and fungal pathogens like apple scab or fireblight
receptor kinase	bacterial and fungal pathogens like

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Hypersensitive response eliciting polypeptide	apple scab or fireblight bacterial and fungal pathogens like apple scab or fireblight
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Lytic protein	bacterial and fungal pathogens like apple scab or fireblight
Lysozym	bacterial and fungal pathogens like apple scab or fireblight
Chitinases	bacterial and fungal pathogens like apple scab or fireblight
Barnase	bacterial and fungal pathogens like apple scab or fireblight
Glucanases	bacterial and fungal pathogens like apple scab or fireblight
double stranded ribonuclease	viruses
Coat proteins	viruses
17kDa or 60 kDa protein	viruses
Nuclear inclusion proteins eg. a or b or Nucleoprotein	viruses
Pseudoubiquitin	viruses
Replicase	viruses
Bacillus thuringiensis toxins, VIP 3, Bacillus cereus toxins, Photorabdus and Xenorhabdus toxins	lepidoptera, aphids, mites
3- Hydroxysteroid oxidase	lepidoptera, aphids, mites
Peroxidase	lepidoptera, aphids, mites
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	lepidoptera, aphids, mites
Lectines	lepidoptera, aphids, mites
Protease Inhibitors eg cystatin, patatin,	lepidoptera, aphids , mites

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
CPTI	
ribosome inactivating protein	lepidoptera, aphids, mites
stilbene synthase	lepidoptera, aphids, diseases, mites
HMG-CoA reductase	lepidoptera, aphids, mites
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes

Table A13: Crop Melons

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate	Glyphosate or sulfosate

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Synthase (EPSPS)	
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial or fungal pathogens like phytophthora
Metallothionein	bacterial or fungal pathogens like phytophthora
Ribonuclease	bacterial or fungal pathogens like phytophthora
Antifungal polypeptide AlyAFP	bacterial or fungal pathogens like phytophthora
oxalate oxidase	bacterial or fungal pathogens like phytophthora
glucose oxidase	bacterial or fungal pathogens like phytophthora
pyrrolnitrin synthesis genes	bacterial or fungal pathogens like phytophthora
serine/threonine kinases	bacterial or fungal pathogens like phytophthora
Cecropin B	bacterial or fungal pathogens like phytophthora
Phenylalanine ammonia lyase (PAL)	bacterial or fungal pathogens like phytophthora
Cf genes eg. Cf 9 Cf5 Cf4 Cf2	bacterial or fungal pathogens like phytophthora
Osmotin	bacterial or fungal pathogens like phytophthora

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Alpha Hordothionin	bacterial or fungal pathogens like phytophthora
Systemin	bacterial or fungal pathogens like phytophthora
Polygalacturonase inhibitors	bacterial or fungal pathogens like phytophthora
Prf regulatory gene	bacterial or fungal pathogens like phytophthora
phytoalexins	bacterial or fungal pathogens like phytophthora
B-1,3-glucanase antisense	bacterial or fungal pathogens like phytophthora
receptor kinase	bacterial or fungal pathogens like phytophthora
Hypersensitive response eliciting polypeptide	bacterial or fungal pathogens like phytophthora
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Lytic protein	bacterial or fungal pathogens like phytophthora
Lysozym	bacterial or fungal pathogens like phytophthora
Chitinases	bacterial or fungal pathogens like phytophthora
Barnase	bacterial or fungal pathogens like phytophthora
Glucanases	bacterial or fungal pathogens like phytophthora
double stranded ribonuclease	viruses as CMV,, PRSV, WMV2, SMV, ZYMV
Coat proteins	viruses as CMV,, PRSV, WMV2, SMV,

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
17kDa or 60 kDa protein	ZYMV viruses as CMV,, PRSV, WMV2, SMV, ZYMV
Nuclear inclusion proteins eg. a or b or Nucleoprotein	viruses as CMV,, PRSV, WMV2, SMV, ZYMV
Pseudoubiquitin	viruses as CMV,, PRSV, WMV2, SMV, ZYMV
Replicase	viruses as CMV,, PRSV, WMV2, SMV, ZYMV
Bacillus thuringiensis toxins, 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 eg. Leucine aminopeptidase inhibitor	lepidoptera, aphids, mites, whitefly
Lectines	lepidoptera, aphids, mites, whitefly
Protease Inhibitors eg 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
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes
Table A14: Crop Banana	
Effected target or expressed principle(s)	Crop phenotype / Tolerance to

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones,
	Triazolopyrimidines,
	Pyrimidyloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids,
	cyclohexanediones
Hydroxyphenylpyruvate dioxygenase	Isoxazoles such as Isoxaflutol or
(HPPD)	Isoxachlortol, Triones such as
	mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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
	catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such
	as Bromoxynil and Ioxynil
5-Enolpyruvyl-3phosphoshikimate	Glyphosate or sulfosate
Synthase (EPSPS)	
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides,
	phenylpyrazoles, pyridin derivatives,
	phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or	Xenobiotics and herbicides such as
selection	Sulfonylureas
Polyphenol oxidase or Polyphenol	bacterial or fungal pathogens
oxidase antisense	
Metallothionein	bacterial or fungal pathogens
Ribonuclease	bacterial or fungal pathogens
Antifungal polypeptide AlyAFP	bacterial or fungal pathogens
oxalate oxidase	bacterial or fungal pathogens
glucose oxidase	bacterial or fungal pathogens

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
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 eg. Cf 9 Cf5 Cf4 Cf2	bacterial or fungal pathogens
Osmotin	bacterial or fungal pathogens
Alpha Hordothionin	bacterial or fungal pathogens
Systemin	bacterial or fungal pathogens
Polygalacturonase inhibitors	bacterial or fungal pathogens
Prf regulatory 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
Hypersensitive response eliciting polypeptide	bacterial or fungal pathogens
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Lytic protein	bacterial or fungal pathogens
Lysozym	bacterial or fungal pathogens
Chitinases	bacterial or fungal pathogens
Barnase	bacterial or fungal pathogens
Glucanases	bacterial or fungal pathogens
double stranded ribonuclease	viruses as Banana bunchy top virus (BBTV)
Coat proteins	viruses as Banana bunchy top virus (BBTV)
17kDa or 60 kDa protein	viruses as Banana bunchy top virus (BBTV)
Nuclear inclusion proteins eg. a or b or Nucleoprotein	viruses as Banana bunchy top virus (BBTV)
Pseudoubiquitin	viruses as Banana bunchy top virus (BBTV)

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Replicase	viruses as Banana bunchy top virus (BBTV)
Bacillus thuringiensis toxins, 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 eg. Leucine aminopeptidase inhibitor	lepidoptera, aphids, mites, nematodes
Lectines	lepidoptera, aphids, mites, nematodes
Protease Inhibitors eg 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
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes

Table A15: Crop Cotton

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
	mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial or fungal pathogens
Metallothionein	bacterial or fungal pathogens
Ribonuclease	bacterial or fungal pathogens
Antifungal polypeptide 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 eg. Cf 9 Cf5 Cf4 Cf2	bacterial or fungal pathogens
Osmotin	bacterial or fungal pathogens
Alpha Hordothionin	bacterial or fungal pathogens

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Systemin	bacterial or fungal pathogens
Polygalacturonase inhibitors	bacterial or fungal pathogens
Prf regulatory 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
Hypersensitive response eliciting polypeptide	bacterial or fungal pathogens
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Lytic protein	bacterial or fungal pathogens
Lysozym	bacterial or fungal pathogens
Chitinases	bacterial or fungal pathogens
Barnase	bacterial or fungal pathogens
Glucanases	bacterial or fungal pathogens
double stranded ribonuclease	viruses as wound tumor virus (WTV)
Coat proteins	viruses as wound tumor virus (WTV)
17kDa or 60 kDa protein	viruses as wound tumor virus (WTV)
Nuclear inclusion proteins eg. a or b or Nucleoprotein	viruses as wound tumor virus (WTV)
Pseudoubiquitin	viruses as wound tumor virus (WTV)
Replicase	viruses as wound tumor virus (WTV)
Bacillus thuringiensis toxins, 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
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	lepidoptera, aphids, mites, nematodes, whitefly
Lectines	lepidoptera, aphids, mites, nematodes,

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Protease Inhibitors eg cystatin, patatin, CPTI, virgiferin	whitefly 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
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes

Table A16: Crop Sugarcane

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
Glutamine synthetase	Glufosinate, Bialaphos
Adenylosuccinate Lyase (ADSL)	Inhibitors of IMP and AMP synthesis
Adenylosuccinate Synthase	Inhibitors of adenylosuccinate synthesis

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Anthranilate Synthase	Inhibitors of tryptophan synthesis and catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial or fungal pathogens
Metallothionein	bacterial or fungal pathogens
Ribonuclease	bacterial or fungal pathogens
Antifungal polypeptide 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 eg. Cf 9 Cf5 Cf4 Cf2	bacterial or fungal pathogens
Osmotin	bacterial or fungal pathogens
Alpha Hordothionin	bacterial or fungal pathogens
Systemin	bacterial or fungal pathogens
Polygalacturonase inhibitors	bacterial or fungal pathogens
Prf regulatory 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

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Hypersensitive response eliciting polypeptide	bacterial or fungal pathogens
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Lytic protein	bacterial or fungal pathogens
Lysozym	bacterial or fungal pathogens eg clavibacter
Chitinases	bacterial or fungal pathogens
Barnase	bacterial or fungal pathogens
Glucanases	bacterial or fungal pathogens
double stranded ribonuclease	viruses as SCMV, SrMV
Coat proteins	viruses as SCMV, SrMV
17kDa or 60 kDa protein	viruses as SCMV, SrMV
Nuclear inclusion proteins eg. a or b or Nucleoprotein	viruses as SCMV, SrMV
Pseudoubiquitin	viruses as SCMV, SrMV
Replicase	viruses as SCMV, SrMV
Bacillus thuringiensis toxins, VIP 3, Bacillus cereus toxins, Photorabdus and Xenorhabdus toxins	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
3- Hydroxysteroid oxidase	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
Peroxidase	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
Aminopeptidase inhibitors eg. Leucine aminopeptidase inhibitor	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
Lectines	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
Protease Inhibitors eg cystatin, patatin, CPTI, virgiferin	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer

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Effected target or expressed principle(s)	Crop phenotype / Tolerance to
ribosome inactivating protein	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
stilbene synthase	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
HMG-CoA reductase	lepidoptera, aphids, mites, nematodes, whitefly, beetles eg mexican rice borer
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes

Table A17: Crop Sunflower

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pyrimidylxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
5-Enolpyruvyl-3phosphoshikimate Synthase (EPSPS)	as Bromoxynil and loxynil Glyphosate or sulfosate
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial or fungal pathogens
Metallothionein	bacterial or fungal pathogens
Ribonuclease	bacterial or fungal pathogens
Antifungal polypeptide AlyAFP	bacterial or fungal pathogens
oxalate oxidase	bacterial or fungal pathogens eg 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 eg. Cf 9 Cf5 Cf4 Cf2	bacterial or fungal pathogens
Osmotin	bacterial or fungal pathogens
Alpha Hordothionin	bacterial or fungal pathogens
Systemin	bacterial or fungal pathogens
Polygalacturonase inhibitors	bacterial or fungal pathogens
Prf regulatory 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
Hypersensitive response eliciting polypeptide	bacterial or fungal pathogens

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Systemic acquires resistance (SAR) genes	viral, bacterial, fungal, nematodal pathogens
Lytic protein	bacterial or fungal pathogens
Lysozym	bacterial or fungal pathogens
Chitinases	bacterial or fungal pathogens
Barnase	bacterial or fungal pathogens
Glucanases	bacterial or fungal pathogens
double stranded ribonuclease	viruses as CMV, TMV
Coat proteins	viruses as CMV, TMV
17kDa or 60 kDa protein	viruses as CMV, TMV
Nuclear inclusion proteins eg. a or b or	viruses as CMV, TMV
Nucleoprotein	
Pseudoubiquitin	viruses as CMV, TMV
Replicase	viruses as CMV, TMV
Bacillus thuringiensis toxins, VIP 3,	lepidoptera, aphids, mites, nematodes,
Bacillus cereus toxins, Photorabdus and	whitefly, beetles
Xenorhabdus toxins	
3- Hydroxysteroid oxidase	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles
Peroxidase	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles
Aminopeptidase inhibitors eg. Leucine	lepidoptera, aphids, mites, nematodes,
aminopeptidase inhibitor	whitefly, beetles
Lectines	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles
Protease Inhibitors eg cystatin, patatin,	lepidoptera, aphids, mites, nematodes,
CPTI, virgiferin	whitefly, beetles
ribosome inactivating protein	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles
stilbene synthase	lepidoptera, aphids, mites, nematodes,

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
HMG-CoA reductase	whitefly, beetles lepidoptera, aphids, mites, nematodes, whitefly, beetles
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes

Table A18: Crop Sugarbeet, Beet root

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Acetolactate synthase (ALS)	Sulfonylureas, Imidazolinones, Triazolopyrimidines, Pirimidyloxybenzoates, Phtalides
AcetylCoA Carboxylase (ACCase)	Aryloxyphenoxyalkanecarboxylic acids, cyclohexanediones
Hydroxyphenylpyruvate dioxygenase (HPPD)	Isoxazoles such as Isoxaflutol or Isoxachlortol, Triones such as mesotrione or sulcotrione
Phosphinothricin acetyl transferase	Phosphinothricin
O-Methyl transferase	altered lignin levels
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 catabolism
Nitrilase	3,5-dihalo-4-hydroxy-benzonitriles such as Bromoxynil and Ioxynil
5-Enolpyruvyl-3-phosphoshikimate Synthase (EPSPS)	Glyphosate or sulfosate

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Glyphosate oxidoreductase	Glyphosate or sulfosate
Protoporphyrinogen oxidase (PROTOX)	Diphenylethers, cyclic imides, phenylpyrazoles, pyridin derivatives, phenopylate, oxadiazoles etc.
Cytochrome P450 eg. P450 SU1 or selection	Xenobiotics and herbicides such as Sulfonylureas
Polyphenol oxidase or Polyphenol oxidase antisense	bacterial or fungal pathogens
Metallothionein	bacterial or fungal pathogens
Ribonuclease	bacterial or fungal pathogens
Antifungal polypeptide AlyAFP	bacterial or fungal pathogens
oxalate oxidase	bacterial or fungal pathogens eg 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 eg. Cf 9 Cf5 Cf4 Cf2	bacterial or fungal pathogens
Osmotin	bacterial or fungal pathogens
Alpha Hordothionin	bacterial or fungal pathogens
Systemin	bacterial or fungal pathogens
Polygalacturonase inhibitors	bacterial or fungal pathogens
Prf regulatory gene	bacterial or fungal pathogens
phytoalexins	bacterial or fungal pathogens
B-1,3-glucanase antisense	bacterial or fungal pathogens
AX + WIN proteins	bacterial or fungal pathogens like Cercospora beticola
receptor kinase	bacterial or fungal pathogens
Hypersensitive response eliciting polypeptide	bacterial or fungal pathogens
Systemic acquires resistance (SAR)	viral, bacterial, fungal, nematodal

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
genes	pathogens
Lytic protein	bacterial or fungal pathogens
Lysozym	bacterial or fungal pathogens
Chitinases	bacterial or fungal pathogens
Barnase	bacterial or fungal pathogens
Glucanases	bacterial or fungal pathogens
double stranded ribonuclease	viruses as BNYVV
Coat proteins	viruses as BNYVV
17kDa or 60 kDa protein	viruses as BNYVV
Nuclear inclusion proteins eg. a or b or	viruses as BNYVV
Nucleoprotein	
Pseudoubiquitin	viruses as BNYVV
Replicase	viruses as BNYVV
Bacillus thuringiensis toxins, VIP 3,	lepidoptera, aphids, mites, nematodes,
Bacillus cereus toxins, Photorabdus and	whitefly, beetles, rootflies
Xenorhabdus toxins	
3- Hydroxysteroid oxidase	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles, rootflies
Peroxidase	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles, rootflies
Aminopeptidase inhibitors eg. Leucine	lepidoptera, aphids, mites, nematodes,
aminopeptidase inhibitor	whitefly, beetles, rootflies
Lectines	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles, rootflies
Protease Inhibitors eg cystatin, patatin,	lepidoptera, aphids, mites, nematodes,
CPTI, virgiferin	whitefly, beetles, rootflies
ribosome inactivating protein	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles, rootflies
stilbene synthase	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles, rootflies
HMG-CoA reductase	lepidoptera, aphids, mites, nematodes,
	whitefly, beetles, rootflies

Effected target or expressed principle(s)	Crop phenotype / Tolerance to
Cyst nematode hatching stimulus	cyst nematodes
Barnase	nematodes eg root knot nematodes and cyst nematodes
Beet cyst nematode resistance locus	cyst nematodes
CBI	root knot nematodes
Antifeeding principles induced at a nematode feeding site	nematodes eg root knot nematodes, root cyst nematodes

The abovementioned animal pests which can be controlled by the method according to the invention (A) include, for example, insects, representatives of the order acarina and representatives of the class nematoda; especially

from the order Lepidoptera *Acleris* spp., *Adoxophyes* spp., especially *Adoxophyes reticulana*; *Aegeria* spp., *Agrotis* spp., especially *Agrotis spinifera*; *Alabama argillaceae*, *Amylois* spp., *Anticarsia gemmatilis*, *Archips* spp., *Argyrotaenia* spp., *Autographa* spp., *Busseola fusca*, *Cadra cautella*, *Carposina nipponensis*, *Chilo* spp., *Choristoneura* spp., *Clysia ambiguella*, *Cnaphalocrocis* spp., *Cnephasia* spp., *Cochylis* spp., *Coleophora* spp., *Crocidolomia binotalis*, *Cryptophlebia leucotreta*, *Cydia* spp., especially *Cydia pomonella*; *Diatraea* spp., *Diparopsis castanea*, *Earias* spp., *Ephestia* spp., especially *E. Khüniella*; *Eucosma* spp., *Eupoecilia ambiguella*, *Euproctis* spp., *Euxoa* spp., *Grapholita* spp., *Hedya nubiferana*, *Heliothis* spp., especially *H. virescens* and *H. zea*; *Hellula undalis*, *Hyphantria cunea*, *Keiferia lycopersicella*, *Leucoptera scitella*, *Lithocollethis* spp., *Lobesia* spp., *Lymantria* spp., *Lyonetia* spp., *Malacosoma* spp., *Mamestra brassicae*, *Manduca sexta*, *Operophtera* spp., *Ostrinia nubilalis*, *Pammene* spp., *Pandemis* spp., *Panolis flammea*, *Pectinophora* spp., *Phthorimaea operculella*, *Pieris rapae*, *Pieris* spp., *Plutella xylostella*, *Prays* spp., *Scirpophaga* spp., *Sesamia* spp., *Sparganothis* spp., *Spodopteralittoralis*, *Synanthedon* spp., *Thaumetopoea* spp., *Tortrix* spp., *Trichoplusia ni* and *Yponomeuta* spp.;

from the order Coleoptera, for example *Agriotes* spp., *Anthonomus* spp., *Atomaria linearis*, *Chaetocnema tibialis*, *Cosmopolites* spp., *Curculio* spp., *Dermestes* spp., *Diabrotica* spp., *Epilachna* spp., *Eremnus* spp., *Leptinotarsa decemlineata*, *Lissorhoptrus* spp., *Melolontha* spp., *Oryzaephilus* spp., *Otiorhynchus* spp., *Phlyctinus* spp., *Popillia* spp., *Psylliodes* spp., *Rhizopertha* spp., *Scarabeidae*, *Sitophilus* spp., *Sitotroga* spp., *Tenebrio* spp., *Tribolium* spp. and *Trogoderma* spp.;

from the order Orthoptera, for example *Blatta* spp., *Blattella* spp., *Gryllotalpa* spp., *Leucophaea maderae*, *Locusta* spp., *Periplaneta* spp. and *Schistocerca* spp.;

from the order Isoptera, for example *Reticulitermes* spp.;

from the order Psocoptera, for example *Liposcelis* spp.;

from the order Anoplura, for example *Haematopinus* spp., *Linognathus* spp., *Pediculus* spp., *Pemphigus* spp. and *Phylloxera* spp.;

from the order Mallophaga, for example *Damalinea* spp. and *Trichodectes* spp.;

from the order Thysanoptera, for example *Frankliniella* spp., *Hercinothrips* spp., *Taeniothrips* spp., *Thrips palmi*, *Thrips tabaci* and *Scirtothrips aurantii*;

from the order Heteroptera, for example *Cimex* spp., *Distantiella theobroma*, *Dysdercus* spp., *Euchistus* spp., *Eurygaster* spp., *Leptocorisa* spp., *Nezara* spp., *Piesma* spp., *Rhodnius* spp., *Sahlbergella singularis*, *Scotinophara* spp. and *Triatoma* spp.;

from the order Homoptera, for example *Aleurothrixus floccosus*, *Aleyrodes brassicae*, *Aonidiella aurantii*, *Aphididae*, *Aphiscraccivora*, *A. fabae*, *A. gosypii*; *Aspidiotus* spp., *Bemisia tabaci*, *Ceroplaster* spp., *Chrysomphalus aonidium*, *Chrysomphalus dictyospermi*, *Coccus hesperidum*, *Empoasca* spp., *Eriosoma lanigerum*, *Erythroneura* spp., *Gascardia* spp., *Laodelphax* spp., *Lecanium corni*, *Lepidosaphes* spp., *Macrosiphus* spp., *Myzus* spp., especially *M. persicae*; *Nephotettix* spp., especially *N. cincticeps*; *Nilaparvata* spp., especially *N. lugens*; *Paratoria* spp., *Pemphigus* spp., *Planococcus* spp., *Pseudaulacaspis* spp., *Pseudococcus* spp., especially *P. fragilis*, *P. citriculus* and *P. comstocki*; *Psylla* spp., especially *P. pyri*; *Pulvinaria aethiopica*, *Quadraspidiotus* spp., *Rhopalosiphum* spp., *Saissetia* spp., *Scaphoideus* spp., *Schizaphis* spp., *Sitobion* spp., *Trialeurodes vaporariorum*, *Trioza erytrae* and *Unaspis citri*;

from the order Hymenoptera, for example *Acromyrmex*, *Atta* spp., *Cephus* spp., *Diprion* spp., *Diprionidae*, *Gilpinia polytoma*, *Hoplocampa* spp., *Lasius* spp., *Monomorium pharaonis*, *Neodiprion* spp., *Solenopsis* spp. and *Vespa* spp.;

from the order Diptera, for example *Aedes* spp., *Antherigona soccata*, *Bibio hortulanus*, *Calliphora erythrocephala*, *Ceratitis* spp., *Chrysomya* spp., *Culex* spp., *Cuterebra* spp., *Dacus* spp., *Drosophila melanogaster*, *Fannia* spp., *Gastrophilus* spp., *Glossina* spp., *Hypoderma* spp., *Hyppobosca* spp., *Liriomyza* spp., *Lucilia* spp., *Melanagromyza* spp., *Musca* spp., *Oestrus* spp., *Orseolia* spp., *Oscinella frit*, *Pegomyia hyoscyami*, *Phorbia* spp.,

Rhagoletis pomonella, *Sciara* spp., *Stomoxys* spp., *Tabanus* spp., *Tannia* spp. and *Tipula* spp.;

from the order Siphonaptera, for example *Ceratophyllus* spp. and *Xenopsylla cheopis*;

from the order Thysanura, for example *Lepisma saccharina* and

from the order Acarina, for example *Acarus siro*, *Aceria sheldoni*; *Aculus* spp., especially *A. schlechtendali*; *Amblyomma* spp., *Argas* spp., *Boophilus* spp., *Brevipalpus* spp., especially *B. californicus* and *B. phoenicis*; *Bryobia praetiosa*, *Calipitimerus* spp., *Chorioptes* spp., *Dermanyssus gallinae*, *Eotetranychus* spp., especially *E. carpini* and *E. orientalis*; *Eriophyes* spp., especially *E. vitis*; *Hyalomma* spp., *Ixodes* spp., *Olygonychus pratensis*, *Ornithodoros* spp., *Panonychus* spp., especially *P. ulmi* and *P. citri*; *Phyllocoptruta* spp., especially *P. oleivora*; *Polyphagotarsonemus* spp., especially *P. latus*; *Psoroptes* spp., *Rhipicephalus* spp., *Rhizoglyphus* spp., *Sarcoptes* spp., *Tarsonemus* spp. and *Tetranychus* spp., in particular *T. urticae*, *T. cinnabarinus* and *T. Kanzawai*;

representatives of the class *Nematoda*;

(1) nematodes selected from the group consisting of root knot nematodes, cyst-forming nematodes, stem eelworms and foliar nematodes;

(2) nematodes selected from the group consisting of *Anguina* spp.; *Aphelenchoides* spp.; *Ditylenchus* spp.; *Globodera* spp., for example *Globodera rostochiensis*; *Heterodera* spp., for example *Heterodera avenae*, *Heterodera glycines*, *Heterodera schachtii* or *Heterodera trifolii*; *Longidorus* spp.; *Meloidogyne* spp., for example *Meloidogyne incognita* or *Meloidogyne javanica*; *Pratylenchus*, for example *Pratylenchus neglectans* or *Pratylenchus penetrans*; *Radopholus* spp., for example *Radopholus similis*; *Trichodorus* spp.; *Tylenchulus*, for example *Tylenchulus semipenetrans*; and *Xiphinema* spp.; or

(3) nematodes selected from the group consisting of *Heterodera* spp., for example *Heterodera glycines*; and *Meloidogyne* spp., for example *Meloidogyne incognita*.

The method according to the invention (A) allows pests of the abovementioned type to be controlled, i.e. contained or destroyed, which occur, in particular, on transgenic plants, mainly useful plants and ornamentals in agriculture, in horticulture and in forests, or on parts, such as fruits, flowers, foliage, stalks, tubers or roots, of such plants, the protection against these pests in some cases even extending to plant parts which form at a later point in time.

The method according to the invention (A) can be employed advantageously for controlling pests in rice, cereals such as maize or sorghum; in fruit, for example stone fruit, pome fruit and soft fruit such as apples, pears, plums, peaches, almonds, cherries or berries, for example strawberries, raspberries and blackberries; in legumes such as beans, lentils, peas or soya beans; in oil crops such as oilseed rape, mustard, poppies, olives, sunflowers, coconuts, castor-oil plants, cacao or peanuts; in the marrow family such as pumpkins, cucumbers or melons; in fibre plants such as cotton, flax, hemp or jute; in citrus fruit such as oranges, lemons, grapefruit or tangerines; in vegetables such as spinach, lettuce, asparagus, cabbage species, carrots, onions, tomatoes, potatoes, beet or capsicum; in the laurel family such as avocado, Cinnamomum or camphor; or in tobacco, nuts, coffee, egg plants, sugar cane, tea, pepper, grapevines, hops, the banana family, latex plants or ornamentals, mainly in maize, rice, cereals, soya beans, tomatoes, cotton, potatoes, sugar beet, rice and mustard; in particular in cotton, rice, soya beans, potatoes and maize.

It has emerged that the method according to the invention (A) is valuable preventatively and/or curatively in the field of pest control even at low use concentrations of the pesticidal composition and that a very favourable biocidal spectrum is achieved thereby. Combined with a favourable compatibility of the composition employed with warm-blooded species, fish and plants, the method according to the invention can be employed against all or individual developmental stages of normally-sensitive, but also of normally-resistant, animal pests such as insects and representatives of the order Acarina, depending on the species of the transgenic crop plant to be protected from attack by pests. The insecticidal and/or acaricidal effect of the method according to the invention may become apparent directly, i.e. in a destruction of the pests which occurs immediately or only after some time has elapsed, for example, during ecdysis, or indirectly, for example as a reduced oviposition and/or hatching rate, the good action corresponding to a destruction rate (mortality) of at least 40 to 50%.

Depending on the intended aims and the prevailing circumstances, the pesticides within the scope of invention (A), which are known per se, are emulsifiable concentrates, suspension concentrates, directly sprayable or dilutable solutions, spreadable pastes, dilute emulsions, wettable powders, soluble powders, dispersible powders, wettable powders, dusts, granules or encapsulations in polymeric substances which comprise a macrolide compound.

The active ingredients are employed in these compositions together with at least one of the auxiliaries conventionally used in art of formulation, such as extenders, for example solvents or solid carriers, or such as surface-active compounds (surfactants).

Formulation auxiliaries which are used are, for example, solid carriers, solvents, stabilizers, "slow release" auxiliaries, colourants and, if appropriate, surface-active substances (surfactants). Suitable carriers and auxiliaries are all those substances which are conventionally used for crop protection products. Suitable auxiliaries such as solvents, solid carriers, surface-active compounds, non-ionic surfactants, cationic surfactants, anionic surfactants and other auxiliaries in the compositions employed according to the invention are, for example, those which have been described in EP-A-736 252.

These compositions for controlling pests can be formulated, for example, as wettable powders, dusts, granules, solutions, emulsifiable concentrates, emulsions, suspension concentrates or aerosols. For example, the compositions are of the type described in EP-A-736 252.

The action of the compositions within the scope of invention (A) which comprise a macrolide compound can be extended substantially and adapted to prevailing circumstances by adding other insecticidally, acaricidally and/or fungicidally active ingredients. Suitable examples of added active ingredients are representatives of the following classes of active ingredients: organophosphorous compounds, nitrophenols and derivatives, formamidines, ureas, carbamates, pyrethroids, chlorinated hydrocarbons; especially preferred components in mixtures are, for example, thiamethoxam, pymetrozine, fenoxycarb, imidacloprid, Ti-435, fipronil, pyriproxyfen, emamectin, diazinon or diafenthiuron.

As a rule, the compositions within the scope of invention (A) comprise 0.1 to 99%, in particular 0.1 to 95 %, of a macrolide compound and 1 to 99.9 %, in particular 5 to 99.9 %, of - at least - one solid or liquid auxiliary, it being possible, as a rule, for 0 to 25 %, in particular 0.1 to 20 %, of the compositions to be surfactants (% in each case meaning per cent by weight). While concentrated compositions are more preferred as commercial products, the end user will, as a rule, use dilute compositions which have considerably lower concentrations of active ingredient.

The compositions according to the invention (A) may also comprise other solid or liquid auxiliaries, such as stabilisers, for example epoxidized or unepoxidized vegetable oils (for example epoxidized coconut oil, rapeseed oil or soya bean oil), antifoams, for example

silicone oil, preservatives, viscosity regulators, binders and/or tackifiers, and also fertilizers or other active ingredients for achieving specific effects, for example, bactericides, fungicides, nematocides, molluscicides or herbicides.

The compositions according to the invention (A) are produced in a known manner, for example prior to mixing with the auxiliary/auxiliaries by grinding, screening and/or compressing the active ingredient, for example to give a particular particle size, and by intimately mixing and/or grinding the active ingredient with the auxiliary/auxiliaries.

The method according to the invention for controlling pests of the abovementioned type is carried out in a manner known per se to those skilled in the art, depending on the intended aims and prevailing circumstances, that is to say by spraying, wetting, atomizing, dusting, brushing on, seed dressing, scattering or pouring of the composition. Typical use concentrations are between 0.1 and 1000 ppm, preferably between 0.1 and 500 ppm of active ingredient. The application rate may vary within wide ranges and depends on the soil constitution, the type of application (foliar application; seed dressing; application in the seed furrow), the transgenic crop plant, the pest to be controlled, the climatic circumstances prevailing in each case, and other factors determined by the type of application, timing of application and target crop. The application rates per hectare are generally 1 to 2000 g of macrolide compound per hectare, in particular 10 to 1000 g/ha, preferably 10 to 500 g/ha, especially preferably 10 to 200 g/ha.

A preferred type of application in the field of crop protection within the scope of invention (A) is application to the foliage of the plants (foliar application), it being possible to adapt frequency and rate of application to the risk of infestation with the pest in question.

However, the active ingredient may also enter into the plants via the root system (systemic action), by drenching the site of the plants with a liquid composition or by incorporating the active ingredient in solid form into the site of the plants, for example into the soil, for example in the form of granules (soil application). In the case of paddy rice crops, such granules may be metered into the flooded paddy field.

The compositions according to invention (A) are also suitable for protecting propagation material of transgenic plants, for example seed, such as fruits, tubers or kernels, or plant cuttings, from animal pests, in particular insects and representatives of the order Acarina. The propagation material can be treated with the composition prior to application, for example, seed being dressed prior to sowing. The active ingredient may also be applied to

seed kernels (coating), either by soaking the kernels in a liquid composition or by coating them with a solid composition. The composition may also be applied to the site of application when applying the propagation material, for example into the seed furrow during sowing. These treatment methods for plant propagation material and the plant propagation material treated thus are a further subject of the invention.

Examples of formulations of macrolide compounds which can be used in the method according to the invention (A), for instance solutions, granules, dusts, sprayable powders, emulsion concentrates, coated granules and suspension concentrates, are of the type as has been described in, for example, EP-A-580 553, Examples F1 to F10.

Table B

The following abbreviations are used in the table:

Active Principle of transgenic plant: AP

Photorhabdus luminescens: PL

Xenorhabdus nematophilus: XN

Proteinase Inhibitors: Plnh.

Plant lectins Plec

Agglutinins: Aggl.

3-Hydroxysteroid oxidase: HO

Cholesteroloxidase: CO

Chitinase: CH

Glucanase: GL

Stilbensynthase SS

Table B:

	AP	Control of		AP	Control of
B.1	CryIA(a)	Adoxophyes spp.	B.5	CryIA(a)	Chilo spp.
B.2	CryIA(a)	Agrotis spp.	B.6	CryIA(a)	Clysia ambiguella
B.3	CryIA(a)	Alabama argillaceae	B.7	CryIA(a)	Crocidolomia binotalis
B.4	CryIA(a)	Anticarsia gemmatalis	B.8	CryIA(a)	Cydia spp.
			B.9	CryIA(a)	Diparopsis

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	AP	Control of		AP	Control of
		castanea	B.38	CryIA(a)	Aleyrodes spp.
B.10	CryIA(a)	Earias spp.	B.39	CryIA(a)	Aonidiella spp.
B.11	CryIA(a)	Ephestia spp.	B.40	CryIA(a)	Aphididae spp.
B.12	CryIA(a)	Heliothis spp.	B.41	CryIA(a)	Aphis spp.
B.13	CryIA(a)	Hellula undalis	B.42	CryIA(a)	Bemisia tabaci
B.14	CryIA(a)	Keiferia	B.43	CryIA(a)	Empoasca spp.
		lycopersicella	B.44	CryIA(a)	Mycus spp.
B.15	CryIA(a)	Leucoptera scitella	B.45	CryIA(a)	Nephotettix spp.
B.16	CryIA(a)	Lithocollethis spp.	B.46	CryIA(a)	Nilaparvata spp.
B.17	CryIA(a)	Lobesia botrana	B.47	CryIA(a)	Pseudococcus spp.
B.18	CryIA(a)	Ostrinia nubilalis	B.48	CryIA(a)	Psylla spp.
B.19	CryIA(a)	Pandemis spp.	B.49	CryIA(a)	Quadraspidiotus
B.20	CryIA(a)	Pectinophora			spp.
		gossyp.	B.50	CryIA(a)	Schizaphis spp.
B.21	CryIA(a)	Phyllocnistis citrella	B.51	CryIA(a)	Trialeurodes spp.
B.22	CryIA(a)	Pieris spp.	B.52	CryIA(a)	Lyriomyza spp.
B.23	CryIA(a)	Plutella xylostella	B.53	CryIA(a)	Oscinella spp.
B.24	CryIA(a)	Scirpophaga spp.	B.54	CryIA(a)	Phorbia spp.
B.25	CryIA(a)	Sesamia spp.	B.55	CryIA(a)	Frankliniella spp.
B.26	CryIA(a)	Sparganothis spp.	B.56	CryIA(a)	Thrips spp.
B.27	CryIA(a)	Spodoptera spp.	B.57	CryIA(a)	Scirtothrips aurantii
B.28	CryIA(a)	Tortrix spp.	B.58	CryIA(a)	Aceria spp.
B.29	CryIA(a)	Trichoplusia ni	B.59	CryIA(a)	Aculus spp.
B.30	CryIA(a)	Agriotes spp.	B.60	CryIA(a)	Brevipalpus spp.
B.31	CryIA(a)	Anthonomus	B.61	CryIA(a)	Panonychus spp.
		grandis	B.62	CryIA(a)	Phyllocoptruta spp.
B.32	CryIA(a)	Curculio spp.	B.63	CryIA(a)	Tetranychus spp.
B.33	CryIA(a)	Diabrotica balteata	B.64	CryIA(a)	Heterodera spp.
B.34	CryIA(a)	Leptinotarsa spp.	B.65	CryIA(a)	Meloidogyne spp.
B.35	CryIA(a)	Lissorhoptrus spp.	B.66	CryIA(b)	Adoxophyes spp.
B.36	CryIA(a)	Otiorhynchus spp.	B.67	CryIA(b)	Agrotis spp.
B.37	CryIA(a)	Aleurothrixus spp.	B.68	CryIA(b)	Alabama

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	AP	Control of		AP	Control of
		argillaceae	B.95	CryIA(b)	Agriotes spp.
B.69	CryIA(b)	Anticarsia	B.96	CryIA(b)	Anthonomus
		gemmatalis			grandis
B.70	CryIA(b)	Chilo spp.	B.97	CryIA(b)	Curculio spp.
B.71	CryIA(b)	Clysia ambiguella	B.98	CryIA(b)	Diabrotica balteata
B.72	CryIA(b)	Crocidolomia	B.99	CryIA(b)	Leptinotarsa spp.
		binotalis	B.100	CryIA(b)	Lissorhoptrus spp.
B.73	CryIA(b)	Cydia spp.	B.101	CryIA(b)	Otiorhynchus spp.
B.74	CryIA(b)	Diparopsis	B.102	CryIA(b)	Aleurothrixus spp.
		castanea	B.103	CryIA(b)	Aleyrodes spp.
B.75	CryIA(b)	Earias spp.	B.104	CryIA(b)	Aonidiella spp.
B.76	CryIA(b)	Ephestia spp.	B.105	CryIA(b)	Aphididae spp.
B.77	CryIA(b)	Heliothis spp.	B.106	CryIA(b)	Aphis spp.
B.78	CryIA(b)	Hellula undalis	B.107	CryIA(b)	Bemisia tabaci
B.79	CryIA(b)	Keiferia	B.108	CryIA(b)	Empoasca spp.
		lycopersicella	B.109	CryIA(b)	Mycus spp.
B.80	CryIA(b)	Leucoptera scitella	B.110	CryIA(b)	Nephotettix spp.
B.81	CryIA(b)	Lithocollethis spp.	B.111	CryIA(b)	Nilaparvata spp.
B.82	CryIA(b)	Lobesia botrana	B.112	CryIA(b)	Pseudococcus spp.
B.83	CryIA(b)	Ostrinia nubilalis	B.113	CryIA(b)	Psylla spp.
B.84	CryIA(b)	Pandemis spp.	B.114	CryIA(b)	Quadraspidiotus
B.85	CryIA(b)	Pectinophora			spp.
		gossyp.	B.115	CryIA(b)	Schizaphis spp.
B.86	CryIA(b)	Phyllocnistis citrella	B.116	CryIA(b)	Trialeurodes spp.
B.87	CryIA(b)	Pieris spp.	B.117	CryIA(b)	Lyriomyza spp.
B.88	CryIA(b)	Plutella xylostella	B.118	CryIA(b)	Oscinella spp.
B.89	CryIA(b)	Scirpophaga spp.	B.119	CryIA(b)	Phorbia spp.
B.90	CryIA(b)	Sesamia spp.	B.120	CryIA(b)	Frankliniella spp.
B.91	CryIA(b)	Sparganothis spp.	B.121	CryIA(b)	Thrips spp.
B.92	CryIA(b)	Spodoptera spp.	B.122	CryIA(b)	Scirtothrips aurantii
B.93	CryIA(b)	Tortrix spp.	B.123	CryIA(b)	Aceria spp.
B.94	CryIA(b)	Trichoplusia ni	B.124	CryIA(b)	Aculus spp.

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	AP	Control of		AP	Control of
B.125	CryIA(b)	Brevipalpus spp.	B.151	CryIA(c)	Phyllocnistis citrella
B.126	CryIA(b)	Panonychus spp.	B.152	CryIA(c)	Pieris spp.
B.127	CryIA(b)	Phyllocoptruta spp.	B.153	CryIA(c)	Plutella xylostella
B.128	CryIA(b)	Tetranychus spp.	B.154	CryIA(c)	Scirpophaga spp.
B.129	CryIA(b)	Heterodera spp.	B.155	CryIA(c)	Sesamia spp.
B.130	CryIA(b)	Meloidogyne spp.	B.156	CryIA(c)	Sparganothis spp.
B.131	CryIA(c)	Adoxophyes spp.	B.157	CryIA(c)	Spodoptera spp.
B.132	CryIA(c)	Agrotis spp.	B.158	CryIA(c)	Tortrix spp.
B.133	CryIA(c)	Alabama argillaceae	B.159	CryIA(c)	Trichoplusia ni
B.134	CryIA(c)	Anticarsia gemmatalis	B.160	CryIA(c)	Agriotes spp.
B.135	CryIA(c)	Chilo spp.	B.161	CryIA(c)	Anthonomus grandis
B.136	CryIA(c)	Clysia ambiguella	B.162	CryIA(c)	Curculio spp.
B.137	CryIA(c)	Crocidolomia binotalis	B.163	CryIA(c)	Diabrotica balteata
B.138	CryIA(c)	Cydia spp.	B.164	CryIA(c)	Leptinotarsa spp.
B.139	CryIA(c)	Diparopsis castanea	B.165	CryIA(c)	Lissorhoptrus spp.
B.140	CryIA(c)	Earias spp.	B.166	CryIA(c)	Otiorhynchus spp.
B.141	CryIA(c)	Ephestia spp.	B.167	CryIA(c)	Aleurothrixus spp.
B.142	CryIA(c)	Heliothis spp.	B.168	CryIA(c)	Aleyrodes spp.
B.143	CryIA(c)	Hellula undalis	B.169	CryIA(c)	Aonidiella spp.
B.144	CryIA(c)	Keiferia lycopersicella	B.170	CryIA(c)	Aphididae spp.
B.145	CryIA(c)	Leucoptera scitella	B.171	CryIA(c)	Aphis spp.
B.146	CryIA(c)	Lithocollethis spp.	B.172	CryIA(c)	Bemisia tabaci
B.147	CryIA(c)	Lobesia botrana	B.173	CryIA(c)	Empoasca spp.
B.148	CryIA(c)	Ostrinia nubilalis	B.174	CryIA(c)	Mycus spp.
B.149	CryIA(c)	Pandemis spp.	B.175	CryIA(c)	Nephotettix spp.
B.150	CryIA(c)	Pectinophora gossypiella.	B.176	CryIA(c)	Nilaparvata spp.
			B.177	CryIA(c)	Pseudococcus spp.
			B.178	CryIA(c)	Psylla spp.
			B.179	CryIA(c)	Quadraspidiotus spp.
			B.180	CryIA(c)	Schizaphis spp.

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	AP	Control of		AP	Control of
B.181	CryIA(c)	Trialeurodes spp.	B.209	CryIIA	Keiferia
B.182	CryIA(c)	Lyriomyza spp.			lycopersicella
B.183	CryIA(c)	Oscinella spp.	B.210	CryIIA	Leucoptera scitella
B.184	CryIA(c)	Phorbia spp.	B.211	CryIIA	Lithocollethis spp.
B.185	CryIA(c)	Frankliniella spp.	B.212	CryIIA	Lobesia botrana
B.186	CryIA(c)	Thrips spp.	B.213	CryIIA	Ostrinia nubilalis
B.187	CryIA(c)	Scirtothrips aurantii	B.214	CryIIA	Pandemis spp.
B.188	CryIA(c)	Aceria spp.	B.215	CryIIA	Pectinophora
B.189	CryIA(c)	Aculus spp.			gossyp.
B.190	CryIA(c)	Brevipalpus spp.	B.216	CryIIA	Phyllocnistis citrella
B.191	CryIA(c)	Panonychus spp.	B.217	CryIIA	Pieris spp.
B.192	CryIA(c)	Phyllocoptruta spp.	B.218	CryIIA	Plutella xylostella
B.193	CryIA(c)	Tetranychus spp.	B.219	CryIIA	Scirpophaga spp.
B.194	CryIA(c)	Heterodera spp.	B.220	CryIIA	Sesamia spp.
B.195	CryIA(c)	Meloidogyne spp.	B.221	CryIIA	Sparganothis spp.
B.196	CryIIA	Adoxophyes spp.	B.222	CryIIA	Spodoptera spp.
B.197	CryIIA	Agrotis spp.	B.223	CryIIA	Tortrix spp.
B.198	CryIIA	Alabama	B.224	CryIIA	Trichoplusia ni
		argillaceae	B.225	CryIIA	Agriotes spp.
B.199	CryIIA	Anticarsia	B.226	CryIIA	Anthonomus
		gemmatalis			grandis
B.200	CryIIA	Chilo spp.	B.227	CryIIA	Curculio spp.
B.201	CryIIA	Clysia ambiguella	B.228	CryIIA	Diabrotica balteata
B.202	CryIIA	Crocidolomia	B.229	CryIIA	Leptinotarsa spp.
		binotalis	B.230	CryIIA	Lissorhoptrus spp.
B.203	CryIIA	Cydia spp.	B.231	CryIIA	Otiorhynchus spp.
B.204	CryIIA	Diparopsis	B.232	CryIIA	Aleurothrixus spp.
		castanea	B.233	CryIIA	Aleyrodes spp.
B.205	CryIIA	Earias spp.	B.234	CryIIA	Aonidiella spp.
B.206	CryIIA	Ephestia spp.	B.235	CryIIA	Aphididae spp.
B.207	CryIIA	Heliothis spp.	B.236	CryIIA	Aphis spp.
B.208	CryIIA	Hellula undalis	B.237	CryIIA	Bemisia tabaci

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	AP	Control of		AP	Control of
B.238	CryIIA	Empoasca spp.	B.267	CryIIIA	Crocidolomia
B.239	CryIIA	Mycus spp.			binotalis
B.240	CryIIA	Nephotettix spp.	B.268	CryIIIA	Cydia spp.
B.241	CryIIA	Nilaparvata spp.	B.269	CryIIIA	Diparopsis
B.242	CryIIA	Pseudococcus spp.			castanea
B.243	CryIIA	Psylla spp.	B.270	CryIIIA	Earias spp.
B.244	CryIIA	Quadraspidiotus	B.271	CryIIIA	Ephestia spp.
		spp.	B.272	CryIIIA	Heliothis spp.
B.245	CryIIA	Schizaphis spp.	B.273	CryIIIA	Hellula undalis
B.246	CryIIA	Trialeurodes spp.	B.274	CryIIIA	Keiferia
B.247	CryIIA	Lyriomyza spp.			lycopersicella
B.248	CryIIA	Oscinella spp.	B.275	CryIIIA	Leucoptera scitella
B.249	CryIIA	Phorbia spp.	B.276	CryIIIA	Lithocollethis spp.
B.250	CryIIA	Frankliniella spp.	B.277	CryIIIA	Lobesia botrana
B.251	CryIIA	Thrips spp.	B.278	CryIIIA	Ostrinia nubilalis
B.252	CryIIA	Scirtothrips aurantii	B.279	CryIIIA	Pandemis spp.
B.253	CryIIA	Aceria spp.	B.280	CryIIIA	Pectinophora
B.254	CryIIA	Aculus spp.			gossyp.
B.255	CryIIA	Brevipalpus spp.	B.281	CryIIIA	Phyllocnistis citrella
B.256	CryIIA	Panonychus spp.	B.282	CryIIIA	Pieris spp.
B.257	CryIIA	Phyllocoptruta spp.	B.283	CryIIIA	Plutella xylostella
B.258	CryIIA	Tetranychus spp.	B.284	CryIIIA	Scirpophaga spp.
B.259	CryIIA	Heterodera spp.	B.285	CryIIIA	Sesamia spp.
B.260	CryIIA	Meloidogyne spp.	B.286	CryIIIA	Sparganothis spp.
B.261	CryIIIA	Adoxophyes spp.	B.287	CryIIIA	Spodoptera spp.
B.262	CryIIIA	Agrotis spp.	B.288	CryIIIA	Tortrix spp.
B.263	CryIIIA	Alabama	B.289	CryIIIA	Trichoplusia ni
		argillaceae	B.290	CryIIIA	Agriotes spp.
B.264	CryIIIA	Anticarsia	B.291	CryIIIA	Anthonomus
		gemmatalis			grandis
B.265	CryIIIA	Chilo spp.	B.292	CryIIIA	Curculio spp.
B.266	CryIIIA	Clysia ambiguella	B.293	CryIIIA	Diabrotica balteata

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	AP	Control of		AP	Control of
B.294	CryIIIA	Leptinotarsa spp.	B.325	CryIIIA	Meloidogyne spp.
B.295	CryIIIA	Lissorhoptrus spp.	B.326	CryIIIB2	Adoxophyes spp.
B.296	CryIIIA	Otiorhynchus spp.	B.327	CryIIIB2	Agrotis spp.
B.297	CryIIIA	Aleurothrixus spp.	B.328	CryIIIB2	Alabama
B.298	CryIIIA	Aleyrodes spp.			argillaceae
B.299	CryIIIA	Aonidiella spp.	B.329	CryIIIB2	Anticarsia
B.300	CryIIIA	Aphididae spp.			gemmatalis
B.301	CryIIIA	Aphis spp.	B.330	CryIIIB2	Chilo spp.
B.302	CryIIIA	Bemisia tabaci	B.331	CryIIIB2	Clysia ambiguella
B.303	CryIIIA	Empoasca spp.	B.332	CryIIIB2	Crocidolomia
B.304	CryIIIA	Mycus spp.			binotalis
B.305	CryIIIA	Nephotettix spp.	B.333	CryIIIB2	Cydia spp.
B.306	CryIIIA	Nilaparvata spp.	B.334	CryIIIB2	Diparopsis
B.307	CryIIIA	Pseudococcus spp.			castanea
B.308	CryIIIA	Psylla spp.	B.335	CryIIIB2	Earias spp.
B.309	CryIIIA	Quadraspidiotus	B.336	CryIIIB2	Ephestia spp.
		spp.	B.337	CryIIIB2	Heliothis spp.
B.310	CryIIIA	Schizaphis spp.	B.338	CryIIIB2	Hellula undalis
B.311	CryIIIA	Trialeurodes spp.	B.339	CryIIIB2	Keiferia
B.312	CryIIIA	Lyriomyza spp.			lycopersicella
B.313	CryIIIA	Oscinella spp.	B.340	CryIIIB2	Leucoptera scitella
B.314	CryIIIA	Phorbia spp.	B.341	CryIIIB2	Lithocollethis spp.
B.315	CryIIIA	Frankliniella spp.	B.342	CryIIIB2	Lobesia botrana
B.316	CryIIIA	Thrips spp.	B.343	CryIIIB2	Ostrinia nubilalis
B.317	CryIIIA	Scirtothrips aurantii	B.344	CryIIIB2	Pandemis spp.
B.318	CryIIIA	Aceria spp.	B.345	CryIIIB2	Pectinophora
B.319	CryIIIA	Aculus spp.			gossyp.
B.320	CryIIIA	Brevipalpus spp.	B.346	CryIIIB2	Phyllocnistis citrella
B.321	CryIIIA	Panonychus spp.	B.347	CryIIIB2	Pieris spp.
B.322	CryIIIA	Phyllocoptruta spp.	B.348	CryIIIB2	Plutella xylostella
B.323	CryIIIA	Tetranychus spp.	B.349	CryIIIB2	Scirpophaga spp.
B.324	CryIIIA	Heterodera spp.	B.350	CryIIIB2	Sesamia spp.

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	AP	Control of		AP	Control of
B.351	CryIIIB2	Sparganothis spp.	B.381	CryIIIB2	Thrips spp.
B.352	CryIIIB2	Spodoptera spp.	B.382	CryIIIB2	Scirtothrips aurantii
B.353	CryIIIB2	Tortrix spp.	B.383	CryIIIB2	Aceria spp.
B.354	CryIIIB2	Trichoplusia ni	B.384	CryIIIB2	Aculus spp.
B.355	CryIIIB2	Agriotes spp.	B.385	CryIIIB2	Brevipalpus spp.
B.356	CryIIIB2	Anthonomus grandis	B.386	CryIIIB2	Panonychus spp.
B.357	CryIIIB2	Curculio spp.	B.387	CryIIIB2	Phyllocoptruta spp.
B.358	CryIIIB2	Diabrotica balteata	B.388	CryIIIB2	Tetranychus spp.
B.359	CryIIIB2	Leptinotarsa spp.	B.389	CryIIIB2	Heterodera spp.
B.360	CryIIIB2	Lissorhoptrus spp.	B.390	CryIIIB2	Meloidogyne spp.
B.361	CryIIIB2	Otiorynchus spp.	B.391	CytA	Adoxophyes spp.
B.362	CryIIIB2	Aleurothrixus spp.	B.392	CytA	Agrotis spp.
B.363	CryIIIB2	Aleyrodes spp.	B.393	CytA	Alabama argillaceae
B.364	CryIIIB2	Aonidiella spp.	B.394	CytA	Anticarsia gemmatalis
B.365	CryIIIB2	Aphididae spp.	B.395	CytA	Chilo spp.
B.366	CryIIIB2	Aphis spp.	B.396	CytA	Clysia ambiguella
B.367	CryIIIB2	Bemisia tabaci	B.397	CytA	Crocidolomia binotalis
B.368	CryIIIB2	Empoasca spp.	B.398	CytA	Cydia spp.
B.369	CryIIIB2	Mycus spp.	B.399	CytA	Diparopsis castanea
B.370	CryIIIB2	Nephotettix spp.	B.400	CytA	Earias spp.
B.371	CryIIIB2	Nilaparvata spp.	B.401	CytA	Ephestia spp.
B.372	CryIIIB2	Pseudococcus spp.	B.402	CytA	Heliothis spp.
B.373	CryIIIB2	Psylla spp.	B.403	CytA	Hellula undalis
B.374	CryIIIB2	Quadraspidiotus spp.	B.404	CytA	Keiferia lycopersicella
B.375	CryIIIB2	Schizaphis spp.	B.405	CytA	Leucoptera scitella
B.376	CryIIIB2	Trialeurodes spp.	B.406	CytA	Lithocollethis spp.
B.377	CryIIIB2	Lyriomyza spp.	B.407	CytA	Lobesia botrana
B.378	CryIIIB2	Oscinella spp.			
B.379	CryIIIB2	Phorbia spp.			
B.380	CryIIIB2	Frankliniella spp.			

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	AP	Control of		AP	Control of
B.408	CytA	<i>Ostrinia nubilalis</i>	B.438	CytA	<i>Psylla</i> spp.
B.409	CytA	<i>Pandemis</i> spp.	B.439	CytA	<i>Quadraspidiotus</i>
B.410	CytA	<i>Pectinophora</i>			spp.
		<i>gossyp.</i>	B.440	CytA	<i>Schizaphis</i> spp.
B.411	CytA	<i>Phyllocnistis citrella</i>	B.441	CytA	<i>Trialeurodes</i> spp.
B.412	CytA	<i>Pieris</i> spp.	B.442	CytA	<i>Lyriomyza</i> spp.
B.413	CytA	<i>Plutella xylostella</i>	B.443	CytA	<i>Oscinella</i> spp.
B.414	CytA	<i>Scirpophaga</i> spp.	B.444	CytA	<i>Phorbia</i> spp.
B.415	CytA	<i>Sesamia</i> spp.	B.445	CytA	<i>Frankliniella</i> spp.
B.416	CytA	<i>Sparganothis</i> spp.	B.446	CytA	<i>Thrips</i> spp.
B.417	CytA	<i>Spodoptera</i> spp.	B.447	CytA	<i>Scirtothrips aurantii</i>
B.418	CytA	<i>Tortrix</i> spp.	B.448	CytA	<i>Aceria</i> spp.
B.419	CytA	<i>Trichoplusia ni</i>	B.449	CytA	<i>Aculus</i> spp.
B.420	CytA	<i>Agriotes</i> spp.	B.450	CytA	<i>Brevipalpus</i> spp.
B.421	CytA	<i>Anthonomus</i>	B.451	CytA	<i>Panonychus</i> spp.
		<i>grandis</i>	B.452	CytA	<i>Phyllocoptruta</i> spp.
B.422	CytA	<i>Curculio</i> spp.	B.453	CytA	<i>Tetranychus</i> spp.
B.423	CytA	<i>Diabrotica balteata</i>	B.454	CytA	<i>Heterodera</i> spp.
B.424	CytA	<i>Leptinotarsa</i> spp.	B.455	CytA	<i>Meloidogyne</i> spp.
B.425	CytA	<i>Lissorhoptrus</i> spp.	B.456	VIP3	<i>Adoxophyes</i> spp.
B.426	CytA	<i>Otiorynchus</i> spp.	B.457	VIP3	<i>Agrotis</i> spp.
B.427	CytA	<i>Aleurothrixus</i> spp.	B.458	VIP3	<i>Alabama</i>
B.428	CytA	<i>Aleyrodes</i> spp.			<i>argillaceae</i>
B.429	CytA	<i>Aonidiella</i> spp.	B.459	VIP3	<i>Anticarsia</i>
B.430	CytA	Aphididae spp.			<i>gemmatalis</i>
B.431	CytA	<i>Aphis</i> spp.	B.460	VIP3	<i>Chilo</i> spp.
B.432	CytA	<i>Bemisia tabaci</i>	B.461	VIP3	<i>Clysia ambiguella</i>
B.433	CytA	<i>Empoasca</i> spp.	B.462	VIP3	<i>Crocidolomia</i>
B.434	CytA	<i>Mycus</i> spp.			<i>binotalis</i>
B.435	CytA	<i>Nephotettix</i> spp.	B.463	VIP3	<i>Cydia</i> spp.
B.436	CytA	<i>Nilaparvata</i> spp.	B.464	VIP3	<i>Diparopsis</i>
B.437	CytA	<i>Pseudococcus</i> spp.			<i>castanea</i>

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	AP	Control of		AP	Control of
B.465	VIP3	Earias spp.	B.494	VIP3	Aonidiella spp.
B.466	VIP3	Ephestia spp.	B.495	VIP3	Aphididae spp.
B.467	VIP3	Heliothis spp.	B.496	VIP3	Aphis spp.
B.468	VIP3	Hellula undalis	B.497	VIP3	Bemisia tabaci
B.469	VIP3	Keiferia	B.498	VIP3	Empoasca spp.
		lycopersicella	B.499	VIP3	Mycus spp.
B.470	VIP3	Leucoptera scitella	B.500	VIP3	Nephotettix spp.
B.471	VIP3	Lithocollethis spp.	B.501	VIP3	Nilaparvata spp.
B.472	VIP3	Lobesia botrana	B.502	VIP3	Pseudococcus spp.
B.473	VIP3	Ostrinia nubilalis	B.503	VIP3	Psylla spp.
B.474	VIP3	Pandemis spp.	B.504	VIP3	Quadraspidotus
B.475	VIP3	Pectinophora			spp.
		gossyp.	B.505	VIP3	Schizaphis spp.
B.476	VIP3	Phyllocnistis citrella	B.506	VIP3	Trialeurodes spp.
B.477	VIP3	Pieris spp.	B.507	VIP3	Lyriomyza spp.
B.478	VIP3	Plutella xylostella	B.508	VIP3	Oscinella spp.
B.479	VIP3	Scirpophaga spp.	B.509	VIP3	Phorbia spp.
B.480	VIP3	Sesamia spp.	B.510	VIP3	Frankliniella spp.
B.481	VIP3	Sparganothis spp.	B.511	VIP3	Thrips spp.
B.482	VIP3	Spodoptera spp.	B.512	VIP3	Scirtothrips aurantii
B.483	VIP3	Tortrix spp.	B.513	VIP3	Aceria spp.
B.484	VIP3	Trichoplusia ni	B.514	VIP3	Aculus spp.
B.485	VIP3	Agriotes spp.	B.515	VIP3	Brevipalpus spp.
B.486	VIP3	Anthonomus	B.516	VIP3	Panonychus spp.
		grandis	B.517	VIP3	Phyllocoptruta spp.
B.487	VIP3	Curculio spp.	B.518	VIP3	Tetranychus spp.
B.488	VIP3	Diabrotica balteata	B.519	VIP3	Heterodera spp.
B.489	VIP3	Leptinotarsa spp.	B.520	VIP3	Meloidogyne spp.
B.490	VIP3	Lissorhoptrus spp.	B.521	GL	Adoxophyes spp.
B.491	VIP3	Otiorhynchus spp.	B.522	GL	Agrotis spp.
B.492	VIP3	Aleurothrixus spp.	B.523	GL	Alabama
B.493	VIP3	Aleyrodes spp.			argillaceae

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	AP	Control of		AP	Control of
B.524	GL	Anticarsia gemmatalis	B.551	GL	Anthonomus grandis
B.525	GL	Chilo spp.	B.552	GL	Curculio spp.
B.526	GL	Clysia ambiguella	B.553	GL	Diabrotica balteata
B.527	GL	Crocidolomia binotalis	B.554	GL	Leptinotarsa spp.
B.528	GL	Cydia spp.	B.555	GL	Lissorhoptrus spp.
B.529	GL	Diparopsis castanea	B.556	GL	Otiorhynchus spp.
B.530	GL	Earias spp.	B.557	GL	Aleurothrixus spp.
B.531	GL	Ephestia spp.	B.558	GL	Aleyrodes spp.
B.532	GL	Heliothis spp.	B.559	GL	Aonidiella spp.
B.533	GL	Hellula undalis	B.560	GL	Aphididae spp.
B.534	GL	Keiferia lycopersicella	B.561	GL	Aphis spp.
B.535	GL	Leucoptera scitella	B.562	GL	Bemisia tabaci
B.536	GL	Lithocollethis spp.	B.563	GL	Empoasca spp.
B.537	GL	Lobesia botrana	B.564	GL	Mycus spp.
B.538	GL	Ostrinia nubilalis	B.565	GL	Nephotettix spp.
B.539	GL	Pandemis spp.	B.566	GL	Nilaparvata spp.
B.540	GL	Pectinophora gossyp.	B.567	GL	Pseudococcus spp.
B.541	GL	Phyllocnistis citrella	B.568	GL	Psylla spp.
B.542	GL	Pieris spp.	B.569	GL	Quadraspidiotus spp.
B.543	GL	Plutella xylostella	B.570	GL	Schizaphis spp.
B.544	GL	Scirpophaga spp.	B.571	GL	Trialeurodes spp.
B.545	GL	Sesamia spp.	B.572	GL	Lyriomyza spp.
B.546	GL	Sparganothis spp.	B.573	GL	Oscinella spp.
B.547	GL	Spodoptera spp.	B.574	GL	Phorbia spp.
B.548	GL	Tortrix spp.	B.575	GL	Frankliniella spp.
B.549	GL	Trichoplusia ni	B.576	GL	Thrips spp.
B.550	GL	Agriotes spp.	B.577	GL	Scirtothrips aurantii
			B.578	GL	Aceria spp.
			B.579	GL	Aculus spp.
			B.580	GL	Brevipalpus spp.

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	AP	Control of		AP	Control of
B.581	GL	Panonychus spp.	B.607	PL	Pieris spp.
B.582	GL	Phyllocoptruta spp.	B.608	PL	Plutella xylostella
B.583	GL	Tetranychus spp.	B.609	PL	Scirpophaga spp.
B.584	GL	Heterodera spp.	B.610	PL	Sesamia spp.
B.585	GL	Meloidogyne spp.	B.611	PL	Sparganothis spp.
B.586	PL	Adoxophyes spp.	B.612	PL	Spodoptera spp.
B.587	PL	Agrotis spp.	B.613	PL	Tortrix spp.
B.588	PL	Alabama argillaceae	B.614	PL	Trichoplusia ni
B.589	PL	Anticarsia gemmatalis	B.615	PL	Agriotes spp.
B.590	PL	Chilo spp.	B.616	PL	Anthonomus grandis
B.591	PL	Clysia ambiguella	B.617	PL	Curculio spp.
B.592	PL	Crocidolomia binotalis	B.618	PL	Diabrotica balteata
B.593	PL	Cydia spp.	B.619	PL	Leptinotarsa spp.
B.594	PL	Diparopsis castanea	B.620	PL	Lissorhoptrus spp.
B.595	PL	Earias spp.	B.621	PL	Otiorhynchus spp.
B.596	PL	Ephestia spp.	B.622	PL	Aleurothrixus spp.
B.597	PL	Heliothis spp.	B.623	PL	Aleyrodes spp.
B.598	PL	Hellula undalis	B.624	PL	Aonidiella spp.
B.599	PL	Keiferia lycopersicella	B.625	PL	Aphididae spp.
B.600	PL	Leucoptera scitella	B.626	PL	Aphis spp.
B.601	PL	Lithocollethis spp.	B.627	PL	Bemisia tabaci
B.602	PL	Lobesia botrana	B.628	PL	Empoasca spp.
B.603	PL	Ostrinia nubilalis	B.629	PL	Mycus spp.
B.604	PL	Pandemis spp.	B.630	PL	Nephotettix spp.
B.605	PL	Pectinophora gossyp.	B.631	PL	Nilaparvata spp.
B.606	PL	Phyllocnistis citrella	B.632	PL	Pseudococcus spp.
			B.633	PL	Psylla spp.
			B.634	PL	Quadraspidiotus spp.
			B.635	PL	Schizaphis spp.
			B.636	PL	Trialeurodes spp.

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	AP	Control of		AP	Control of
B.637	PL	Lyriomyza spp.			lycopersicella
B.638	PL	Oscinella spp.	B.665	XN	Leucoptera scitella
B.639	PL	Phorbia spp.	B.666	XN	Lithocollethis spp.
B.640	PL	Frankliniella spp.	B.667	XN	Lobesia botrana
B.641	PL	Thrips spp.	B.668	XN	Ostrinia nubilalis
B.642	PL	Scirtothrips aurantii	B.669	XN	Pandemis spp.
B.643	PL	Aceria spp.	B.670	XN	Pectinophora
B.644	PL	Aculus spp.			gossyp.
B.645	PL	Brevipalpus spp.	B.671	XN	Phyllocnistis citrella
B.646	PL	Panonychus spp.	B.672	XN	Pieris spp.
B.647	PL	Phyllocoptruta spp.	B.673	XN	Plutella xylostella
B.648	PL	Tetranychus spp.	B.674	XN	Scirpophaga spp.
B.649	PL	Heterodera spp.	B.675	XN	Sesamia spp.
B.650	PL	Meloidogyne spp.	B.676	XN	Sparganothis spp.
B.651	XN	Adoxophyes spp.	B.677	XN	Spodoptera spp.
B.652	XN	Agrotis spp.	B.678	XN	Tortrix spp.
B.653	XN	Alabama	B.679	XN	Trichoplusia ni
		argillaceae	B.680	XN	Agriotes spp.
B.654	XN	Anticarsia	B.681	XN	Anthonomus
		gemmatilis			grandis
B.655	XN	Chilo spp.	B.682	XN	Curculio spp.
B.656	XN	Clysia ambiguella	B.683	XN	Diabrotica balteata
B.657	XN	Crocidolomia	B.684	XN	Leptinotarsa spp.
		binotalis	B.685	XN	Lissorhoptrus spp.
B.658	XN	Cydia spp.	B.686	XN	Otiorhynchus spp.
B.659	XN	Diparopsis	B.687	XN	Aleurothrixus spp.
		castanea	B.688	XN	Aleyrodes spp.
B.660	XN	Earias spp.	B.689	XN	Aonidiella spp.
B.661	XN	Ephestia spp.	B.690	XN	Aphididae spp.
B.662	XN	Heliothis spp.	B.691	XN	Aphis spp.
B.663	XN	Hellula undalis	B.692	XN	Bemisia tabaci
B.664	XN	Keiferia	B.693	XN	Empoasca spp.

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	AP	Control of		AP	Control of
B.694	XN	<i>Mycus</i> spp.			<i>binotalis</i>
B.695	XN	<i>Nephotettix</i> spp.	B.723	Plnh.	<i>Cydia</i> spp.
B.696	XN	<i>Nilaparvata</i> spp.	B.724	Plnh.	<i>Diparopsis</i>
B.697	XN	<i>Pseudococcus</i> spp.			<i>castanea</i>
B.698	XN	<i>Psylla</i> spp.	B.725	Plnh.	<i>Earias</i> spp.
B.699	XN	<i>Quadraspidiotus</i>	B.726	Plnh.	<i>Ephestia</i> spp.
		spp.	B.727	Plnh.	<i>Heliothis</i> spp.
B.700	XN	<i>Schizaphis</i> spp.	B.728	Plnh.	<i>Hellula undalis</i>
B.701	XN	<i>Trialeurodes</i> spp.	B.729	Plnh.	<i>Keiferia</i>
B.702	XN	<i>Lyriomyza</i> spp.			<i>lycopersicella</i>
B.703	XN	<i>Oscinella</i> spp.	B.730	Plnh.	<i>Leucoptera scitella</i>
B.704	XN	<i>Phorbia</i> spp.	B.731	Plnh.	<i>Lithocollethis</i> spp.
B.705	XN	<i>Frankliniella</i> spp.	B.732	Plnh.	<i>Lobesia botrana</i>
B.706	XN	<i>Thrips</i> spp.	B.733	Plnh.	<i>Ostrinia nubilalis</i>
B.707	XN	<i>Scirtothrips aurantii</i>	B.734	Plnh.	<i>Pandemis</i> spp.
B.708	XN	<i>Aceria</i> spp.	B.735	Plnh.	<i>Pectinophora</i>
B.709	XN	<i>Aculus</i> spp.			<i>gossyp.</i>
B.710	XN	<i>Brevipalpus</i> spp.	B.736	Plnh.	<i>Phyllocnistis citrella</i>
B.711	XN	<i>Panonychus</i> spp.	B.737	Plnh.	<i>Pieris</i> spp.
B.712	XN	<i>Phyllocoptruta</i> spp.	B.738	Plnh.	<i>Plutella xylostella</i>
B.713	XN	<i>Tetranychus</i> spp.	B.739	Plnh.	<i>Scirpophaga</i> spp.
B.714	XN	<i>Heterodera</i> spp.	B.740	Plnh.	<i>Sesamia</i> spp.
B.715	XN	<i>Meloidogyne</i> spp.	B.741	Plnh.	<i>Sparganothis</i> spp.
B.716	Plnh.	<i>Adoxophyes</i> spp.	B.742	Plnh.	<i>Spodoptera</i> spp.
B.717	Plnh.	<i>Agrotis</i> spp.	B.743	Plnh.	<i>Tortrix</i> spp.
B.718	Plnh.	<i>Alabama</i>	B.744	Plnh.	<i>Trichoplusia ni</i>
		<i>argillaceae</i>	B.745	Plnh.	<i>Agriotes</i> spp.
B.719	Plnh.	<i>Anticarsia</i>	B.746	Plnh.	<i>Anthonomus</i>
		<i>gemmatalis</i>			<i>grandis</i>
B.720	Plnh.	<i>Chilo</i> spp.	B.747	Plnh.	<i>Curculio</i> spp.
B.721	Plnh.	<i>Clysia ambiguella</i>	B.748	Plnh.	<i>Diabrotica balteata</i>
B.722	Plnh.	<i>Crocidolomia</i>	B.749	Plnh.	<i>Leptinotarsa</i> spp.

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	AP	Control of		AP	Control of
B.750	Plnh.	Lissorhoptrus spp.	B.781	Plec	Adoxophyes spp.
B.751	Plnh.	Otiorhynchus spp.	B.782	Plec	Agrotis spp.
B.752	Plnh.	Aleurothrixus spp.	B.783	Plec	Alabama
B.753	Plnh.	Aleyrodes spp.			argillaceae
B.754	Plnh.	Aonidiella spp.	B.784	Plec	Anticarsia
B.755	Plnh.	Aphididae spp.			gemmatalis
B.756	Plnh.	Aphis spp.	B.785	Plec	Chilo spp.
B.757	Plnh.	Bemisia tabaci	B.786	Plec	Clysia ambiguella
B.758	Plnh.	Empoasca spp.	B.787	Plec	Crocidolomia
B.759	Plnh.	Mycus spp.			binotalis
B.760	Plnh.	Nephotettix spp.	B.788	Plec	Cydia spp.
B.761	Plnh.	Nilaparvata spp.	B.789	Plec	Diparopsis
B.762	Plnh.	Pseudococcus spp.			castanea
B.763	Plnh.	Psylla spp.	B.790	Plec	Earias spp.
B.764	Plnh.	Quadraspidiotus	B.791	Plec	Ephestia spp.
		spp.	B.792	Plec	Heliothis spp.
B.765	Plnh.	Schizaphis spp.	B.793	Plec	Hellula undalis
B.766	Plnh.	Trialeurodes spp.	B.794	Plec	Keiferia
B.767	Plnh.	Lyriomyza spp.			lycopersicella
B.768	Plnh.	Oscinella spp.	B.795	Plec	Leucoptera scitella
B.769	Plnh.	Phorbia spp.	B.796	Plec	Lithocollethis spp.
B.770	Plnh.	Frankliniella spp.	B.797	Plec	Lobesia botrana
B.771	Plnh.	Thrips spp.	B.798	Plec	Ostrinia nubilalis
B.772	Plnh.	Scirtothrips aurantii	B.799	Plec	Pandemis spp.
B.773	Plnh.	Aceria spp.	B.800	Plec	Pectinophora
B.774	Plnh.	Aculus spp.			gossyp.
B.775	Plnh.	Brevipalpus spp.	B.801	Plec	Phyllocnistis citrella
B.776	Plnh.	Panonychus spp.	B.802	Plec	Pieris spp.
B.777	Plnh.	Phyllocoptruta spp.	B.803	Plec	Plutella xylostella
B.778	Plnh.	Tetranychus spp.	B.804	Plec	Scirpophaga spp.
B.779	Plnh.	Heterodera spp.	B.805	Plec	Sesamia spp.
B.780	Plnh.	Meloidogyne spp.	B.806	Plec	Sparganothis spp.

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	AP	Control of		AP	Control of
B.807	Plec	Spodoptera spp.	B.837	Plec	Scirtothrips aurantii
B.808	Plec	Tortrix spp.	B.838	Plec	Aceria spp.
B.809	Plec	Trichoplusia ni	B.839	Plec	Aculus spp.
B.810	Plec	Agriotes spp.	B.840	Plec	Brevipalpus spp.
B.811	Plec	Anthonomus grandis	B.841	Plec	Panonychus spp.
B.812	Plec	Curculio spp.	B.842	Plec	Phyllocoptruta spp.
B.813	Plec	Diabrotica balteata	B.843	Plec	Tetranychus spp.
B.814	Plec	Leptinotarsa spp.	B.844	Plec	Heterodera spp.
B.815	Plec	Lissorhoptrus spp.	B.845	Plec	Meloidogyne spp.
B.816	Plec	Otiorhynchus spp.	B.846	Aggl.	Adoxophyes spp.
B.817	Plec	Aleurothrixus spp.	B.847	Aggl.	Agrotis spp.
B.818	Plec	Aleyrodes spp.	B.848	Aggl.	Alabama argillaceae
B.819	Plec	Aonidiella spp.	B.849	Aggl.	Anticarsia gemmatalis
B.820	Plec	Aphididae spp.	B.850	Aggl.	Chilo spp.
B.821	Plec	Aphis spp.	B.851	Aggl.	Clysia ambiguella
B.822	Plec	Bemisia tabaci	B.852	Aggl.	Crocidolomia binotalis
B.823	Plec	Empoasca spp.	B.853	Aggl.	Cydia spp.
B.824	Plec	Mycus spp.	B.854	Aggl.	Diparopsis castanea
B.825	Plec	Nephotettix spp.	B.855	Aggl.	Earias spp.
B.826	Plec	Nilaparvata spp.	B.856	Aggl.	Ephestia spp.
B.827	Plec	Pseudococcus spp.	B.857	Aggl.	Heliothis spp.
B.828	Plec	Psylla spp.	B.858	Aggl.	Hellula undalis
B.829	Plec	Quadraspidiotus spp.	B.859	Aggl.	Keiferia lycopersicella
B.830	Plec	Schizaphis spp.	B.860	Aggl.	Leucoptera scitella
B.831	Plec	Trialeurodes spp.	B.861	Aggl.	Lithocollethis spp.
B.832	Plec	Lyriomyza spp.	B.862	Aggl.	Lobesia botrana
B.833	Plec	Oscinella spp.	B.863	Aggl.	Ostrinia nubilalis
B.834	Plec	Phorbia spp.			
B.835	Plec	Frankliniella spp.			
B.836	Plec	Thrips spp.			

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	AP	Control of		AP	Control of
B.864	Aggl.	Pandemis spp.	B.894	Aggl.	Quadraspidiotus
B.865	Aggl.	Pectinophora			spp.
		gossyp.	B.895	Aggl.	Schizaphis spp.
B.866	Aggl.	Phyllocnistis citrella	B.896	Aggl.	Trialeurodes spp.
B.867	Aggl.	Pieris spp.	B.897	Aggl.	Lyriomyza spp.
B.868	Aggl.	Plutella xylostella	B.898	Aggl.	Oscinella spp.
B.869	Aggl.	Scirpophaga spp.	B.899	Aggl.	Phorbia spp.
B.870	Aggl.	Sesamia spp.	B.900	Aggl.	Frankliniella spp.
B.871	Aggl.	Sparganothis spp.	B.901	Aggl.	Thrips spp.
B.872	Aggl.	Spodoptera spp.	B.902	Aggl.	Scirtothrips aurantii
B.873	Aggl.	Tortrix spp.	B.903	Aggl.	Aceria spp.
B.874	Aggl.	Trichoplusia ni	B.904	Aggl.	Aculus spp.
B.875	Aggl.	Agriotes spp.	B.905	Aggl.	Brevipalpus spp.
B.876	Aggl.	Anthonomus	B.906	Aggl.	Panonychus spp.
		grandis	B.907	Aggl.	Phyllocoptruta spp.
B.877	Aggl.	Curculio spp.	B.908	Aggl.	Tetranychus spp.
B.878	Aggl.	Diabrotica balteata	B.909	Aggl.	Heterodera spp.
B.879	Aggl.	Leptinotarsa spp.	B.910	Aggl.	Meloidogyne spp.
B.880	Aggl.	Lissorhoptrus spp.	B.911	CO	Adoxophyes spp.
B.881	Aggl.	Otiorhynchus spp.	B.912	CO	Agrotis spp.
B.882	Aggl.	Aleurothrixus spp.	B.913	CO	Alabama
B.883	Aggl.	Aleyrodes spp.			argillaceae
B.884	Aggl.	Aonidiella spp.	B.914	CO	Anticarsia
B.885	Aggl.	Aphididae spp.			gemmatalis
B.886	Aggl.	Aphis spp.	B.915	CO	Chilo spp.
B.887	Aggl.	Bemisia tabaci	B.916	CO	Clysia ambiguella
B.888	Aggl.	Empoasca spp.	B.917	CO	Crocidolomia
B.889	Aggl.	Mycus spp.			binotalis
B.890	Aggl.	Nephotettix spp.	B.918	CO	Cydia spp.
B.891	Aggl.	Nilaparvata spp.	B.919	CO	Diparopsis
B.892	Aggl.	Pseudococcus spp.			castanea
B.893	Aggl.	Psylla spp.	B.920	CO	Earias spp.

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	AP	Control of		AP	Control of
B.921	CO	<i>Ephestia</i> spp.	B.950	CO	Aphididae spp.
B.922	CO	<i>Heliothis</i> spp.	B.951	CO	<i>Aphis</i> spp.
B.923	CO	<i>Hellula undalis</i>	B.952	CO	<i>Bemisia tabaci</i>
B.924	CO	<i>Keiferia</i>	B.953	CO	<i>Empoasca</i> spp.
		<i>lycopersicella</i>	B.954	CO	<i>Mycus</i> spp.
B.925	CO	<i>Leucoptera scitella</i>	B.955	CO	<i>Nephotettix</i> spp.
B.926	CO	<i>Lithocollethis</i> spp.	B.956	CO	<i>Nilaparvata</i> spp.
B.927	CO	<i>Lobesia botrana</i>	B.957	CO	<i>Pseudococcus</i> spp.
B.928	CO	<i>Ostrinia nubilalis</i>	B.958	CO	<i>Psylla</i> spp.
B.929	CO	<i>Pandemis</i> spp.	B.959	CO	<i>Quadraspidiotus</i>
B.930	CO	<i>Pectinophora</i>			spp.
		<i>gossyp.</i>	B.960	CO	<i>Schizaphis</i> spp.
B.931	CO	<i>Phyllocnistis citrella</i>	B.961	CO	<i>Trialeurodes</i> spp.
B.932	CO	<i>Pieris</i> spp.	B.962	CO	<i>Lyriomyza</i> spp.
B.933	CO	<i>Plutella xylostella</i>	B.963	CO	<i>Oscinella</i> spp.
B.934	CO	<i>Scirpophaga</i> spp.	B.964	CO	<i>Phorbia</i> spp.
B.935	CO	<i>Sesamia</i> spp.	B.965	CO	<i>Frankliniella</i> spp.
B.936	CO	<i>Sparganothis</i> spp.	B.966	CO	<i>Thrips</i> spp.
B.937	CO	<i>Spodoptera</i> spp.	B.967	CO	<i>Scirtothrips aurantii</i>
B.938	CO	<i>Tortrix</i> spp.	B.968	CO	<i>Aceria</i> spp.
B.939	CO	<i>Trichoplusia ni</i>	B.969	CO	<i>Aculus</i> spp.
B.940	CO	<i>Agriotes</i> spp.	B.970	CO	<i>Brevipalpus</i> spp.
B.941	CO	<i>Anthonomus</i>	B.971	CO	<i>Panonychus</i> spp.
		<i>grandis</i>	B.972	CO	<i>Phyllocoptruta</i> spp.
B.942	CO	<i>Curculio</i> spp.	B.973	CO	<i>Tetranychus</i> spp.
B.943	CO	<i>Diabrotica balteata</i>	B.974	CO	<i>Heterodera</i> spp.
B.944	CO	<i>Leptinotarsa</i> spp.	B.975	CO	<i>Meloidogyne</i> spp.
B.945	CO	<i>Lissorhoptrus</i> spp.	B.976	CH	<i>Adoxophyes</i> spp.
B.946	CO	<i>Otiorynchus</i> spp.	B.977	CH	<i>Agrotis</i> spp.
B.947	CO	<i>Aleurothrixus</i> spp.	B.978	CH	Alabama
B.948	CO	<i>Aleyrodes</i> spp.			argillaceae
B.949	CO	<i>Aonidiella</i> spp.	B.979	CH	<i>Anticarsia</i>

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	AP	Control of		AP	Control of
		gemma ¹ alis			grandis
B.980	CH	Chilo spp.	B.1007	CH	Curculio spp.
B.981	CH	Clysia ambiguella	B.1008	CH	Diabrotica balteata
B.982	CH	Crocidolomia	B.1009	CH	Leptinotarsa spp.
		binotalis	B.1010	CH	Lissorhoptrus spp.
B.983	CH	Cydia spp.	B.1011	CH	Otiorhynchus spp.
B.984	CH	Diparopsis	B.1012	CH	Aleurothrixus spp.
		castanea	B.1013	CH	Aleyrodes spp.
B.985	CH	Earias spp.	B.1014	CH	Aonidiella spp.
B.986	CH	Ephestia spp.	B.1015	CH	Aphididae spp.
B.987	CH	Heliothis spp.	B.1016	CH	Aphis spp.
B.988	CH	Hellula undalis	B.1017	CH	Bemisia tabaci
B.989	CH	Keiferia	B.1018	CH	Empoasca spp.
		lycopersicella	B.1019	CH	Mycus spp.
B.990	CH	Leucoptera scitella	B.1020	CH	Nephotettix spp.
B.991	CH	Lithocollethis spp.	B.1021	CH	Nilaparvata spp.
B.992	CH	Lobesia botrana	B.1022	CH	Pseudococcus spp.
B.993	CH	Ostrinia nubilalis	B.1023	CH	Psylla spp.
B.994	CH	Pandemis spp.	B.1024	CH	Quadraspidiotus
B.995	CH	Pectinophora			spp.
		gossyp.	B.1025	CH	Schizaphis spp.
B.996	CH	Phyllocnistis citrella	B.1026	CH	Trialeurodes spp.
B.997	CH	Pieris spp.	B.1027	CH	Lyriomyza spp.
B.998	CH	Plutella xylostella	B.1028	CH	Oscinella spp.
B.999	CH	Scirpophaga spp.	B.1029	CH	Phorbia spp.
B.1000	CH	Sesamia spp.	B.1030	CH	Frankliniella spp.
B.1001	CH	Sparganothis spp.	B.1031	CH	Thrips spp.
B.1002	CH	Spodoptera spp.	B.1032	CH	Scirtothrips aurantii
B.1003	CH	Tortrix spp.	B.1033	CH	Aceria spp.
B.1004	CH	Trichoplusia ni	B.1034	CH	Aculus spp.
B.1005	CH	Agriotes spp.	B.1035	CH	Brevipalpus spp.
B.1006	CH	Anthonomus	B.1036	CH	Panonychus spp.

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	AP	Control of		AP	Control of
B.1037	CH	Phyllocoptruta spp.	B.1063	SS	Plutella xylostella
B.1038	CH	Tetranychus spp.	B.1064	SS	Scirpophaga spp.
B.1039	CH	Heterodera spp.	B.1065	SS	Sesamia spp.
B.1040	CH	Meloidogyne spp.	B.1066	SS	Sparganothis spp.
B.1041	SS	Adoxophyes spp.	B.1067	SS	Spodoptera spp.
B.1042	SS	Agrotis spp.	B.1068	SS	Tortrix spp.
B.1043	SS	Alabama argillaceae	B.1069	SS	Trichoplusia ni
B.1044	SS	Anticarsia gemmatalis	B.1070	SS	Agriotes spp.
B.1045	SS	Chilo spp.	B.1071	SS	Anthonomus grandis
B.1046	SS	Clysia ambiguella	B.1072	SS	Curculio spp.
B.1047	SS	Crocidolomia binotalis	B.1073	SS	Diabrotica balteata
B.1048	SS	Cydia spp.	B.1074	SS	Leptinotarsa spp.
B.1049	SS	Diparopsis castanea	B.1075	SS	Lissorhoptrus spp.
B.1050	SS	Earias spp.	B.1076	SS	Otiorhynchus spp.
B.1051	SS	Ephestia spp.	B.1077	SS	Aleurothrixus spp.
B.1052	SS	Heliothis spp.	B.1078	SS	Aleyrodes spp.
B.1053	SS	Hellula undalis	B.1079	SS	Aonidiella spp.
B.1054	SS	Keiferia lycopersicella	B.1080	SS	Aphididae spp.
B.1055	SS	Leucoptera scitella	B.1081	SS	Aphis spp.
B.1056	SS	Lithocollethis spp.	B.1082	SS	Bemisia tabaci
B.1057	SS	Lobesia botrana	B.1083	SS	Empoasca spp.
B.1058	SS	Ostrinia nubilalis	B.1084	SS	Mycus spp.
B.1059	SS	Pandemis spp.	B.1085	SS	Nephotettix spp.
B.1060	SS	Pectinophora gossyp.	B.1086	SS	Nilaparvata spp.
B.1061	SS	Phyllocnistis citrella	B.1087	SS	Pseudococcus spp.
B.1062	SS	Pieris spp.	B.1088	SS	Psylla spp.
			B.1089	SS	Quadraspidiotus spp.
			B.1090	SS	Schizaphis spp.
			B.1091	SS	Trialeurodes spp.
			B.1092	SS	Lyriomyza spp.

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	AP	Control of		AP	Control of
B.1093	SS	Oscinella spp.	B.1120	HO	Leucoptera scitella
B.1094	SS	Phorbia spp.	B.1121	HO	Lithocollethis spp.
B.1095	SS	Frankliniella spp.	B.1122	HO	Lobesia botrana
B.1096	SS	Thrips spp.	B.1123	HO	Ostrinia nubilalis
B.1097	SS	Scirtothrips aurantii	B.1124	HO	Pandemis spp.
B.1098	SS	Aceria spp.	B.1125	HO	Pectinophora
B.1099	SS	Aculus spp.			gossypiella
B.1100	SS	Brevipalpus spp.	B.1126	HO	Phyllocnistis citrella
B.1101	SS	Panonychus spp.	B.1127	HO	Pieris spp.
B.1102	SS	Phyllocoptruta spp.	B.1128	HO	Plutella xylostella
B.1103	SS	Tetranychus spp.	B.1129	HO	Scirpophaga spp.
B.1104	SS	Heterodera spp.	B.1130	HO	Sesamia spp.
B.1105	SS	Meloidogyne spp.	B.1131	HO	Sparganothis spp.
B.1106	HO	Adoxophyes spp.	B.1132	HO	Spodoptera spp.
B.1107	HO	Agrotis spp.	B.1133	HO	Tortrix spp.
B.1108	HO	Alabama	B.1134	HO	Trichoplusia ni
		argillaceae	B.1135	HO	Agriotes spp.
B.1109	HO	Anticarsia	B.1136	HO	Anthonomus
		gemmatalis			grandis
B.1110	HO	Chilo spp.	B.1137	HO	Curculio spp.
B.1111	HO	Clysia ambiguella	B.1138	HO	Diabrotica balteata
B.1112	HO	Crocidolomia	B.1139	HO	Leptinotarsa spp.
		binotalis	B.1140	HO	Lissorhoptrus spp.
B.1113	HO	Cydia spp.	B.1141	HO	Otiorhynchus spp.
B.1114	HO	Diparopsis	B.1142	HO	Aleurothrixus spp.
		castanea	B.1143	HO	Aleyrodes spp.
B.1115	HO	Earias spp.	B.1144	HO	Aonidiella spp.
B.1116	HO	Ephestia spp.	B.1145	HO	Aphididae spp.
B.1117	HO	Heliothis spp.	B.1146	HO	Aphis spp.
B.1118	HO	Hellula undalis	B.1147	HO	Bemisia tabaci
B.1119	HO	Keiferia	B.1148	HO	Empoasca spp.
		lycopersicella	B.1149	HO	Mycus spp.

	AP	Control of		AP	Control of
B.1150	HO	Nephotettix spp.	B.1160	HO	Frankliniella spp.
B.1151	HO	Nilaparvata spp.	B.1161	HO	Thrips spp.
B.1152	HO	Pseudococcus spp.	B.1162	HO	Scirtothrips aurantii
B.1153	HO	Psylla spp.	B.1163	HO	Aceria spp.
B.1154	HO	Quadraspidiotus spp.	B.1164	HO	Aculus spp.
B.1155	HO	Schizaphis spp.	B.1165	HO	Brevipalpus spp.
B.1156	HO	Trialeurodes spp.	B.1166	HO	Panonychus spp.
B.1157	HO	Lyriomyza spp.	B.1167	HO	Phyllocoptruta spp.
B.1158	HO	Oscinella spp.	B.1168	HO	Tetranychus spp.
B.1159	HO	Phorbia spp.	B.1169	HO	Heterodera spp.
			B.1170	HO	Meloidogyne spp.

Biological Examples

Table 1: A method of controlling pests comprising the application of Abamectin to transgenic cotton, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 2: A method of controlling pests comprising the application of Abamectin to transgenic rice, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 3: A method of controlling pests comprising the application of Abamectin to transgenic potatoes, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 4: A method of controlling pests comprising the application of Abamectin to transgenic brassica, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 5: A method of controlling pests comprising the application of Abamectin to transgenic tomatoes, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 6: A method of controlling pests comprising the application of Abamectin to transgenic cucurbits, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 7: A method of controlling pests comprising the application of Abamectin to transgenic soybeans, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 8: A method of controlling pests comprising the application of Abamectin to transgenic maize, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 9: A method of controlling pests comprising the application of Abamectin to transgenic wheat, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 10: A method of controlling pests comprising the application of Abamectin to transgenic bananas, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 11: A method of controlling pests comprising the application of Abamectin to transgenic citrus trees, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 12: A method of controlling pests comprising the application of Abamectin to transgenic pome fruit trees, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 13: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic cotton, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 14: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic rice, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 15: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic potatoes, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 16: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic tomatoes, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 17: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic cucurbits, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 18: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic soybeans, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 19: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic maize, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 20: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic wheat, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 21: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic bananas, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 22: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic orange trees, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 23: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic pome fruit, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 24: A method of controlling pests comprising the application of Emamectin-Benzothate to transgenic cucurbits, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 25: A method of controlling pests comprising the application of Spinosad to transgenic cotton, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 26: A method of controlling pests comprising the application of Spinosad to transgenic rice, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 27: A method of controlling pests comprising the application of Spinosad to transgenic potatoes, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 28: A method of controlling pests comprising the application of Spinosad to transgenic brassica, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 29: A method of controlling pests comprising the application of Spinosad to transgenic tomatoes, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 30: A method of controlling pests comprising the application of Spinosad to transgenic cucurbits, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 31: A method of controlling pests comprising the application of Spinosad to transgenic soybeans, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 32: A method of controlling pests comprising the application of Spinosad to transgenic maize, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 33: A method of controlling pests comprising the application of Spinosad to transgenic wheat, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 34: A method of controlling pests comprising the application of Spinosad to transgenic bananas, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 35: A method of controlling pests comprising the application of Spinosad to transgenic citrus trees, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table 36: A method of controlling pests comprising the application of Spinosad to transgenic pome fruit trees, wherein the combination of the active principle expressed by the transgenic plant and the pest to be controlled correspond to a line of the table B.

Table C:

Abbreviations:

Acetyl-CoA Carboxylase: ACCase

Acetolactate Synthase: ALS

Hydroxyphenylpyruvat dioxygenase: HPPD

Inhibition of protein synthesis: IPS

Hormone mimic: HO

Glutamine Synthetase: GS

Protoporphyrinogen oxidase: PROTOX

5-Enolpyruvyl-3-Phosphoshikimate Synthase: EPSPS

	Principle	Tolerant to	Crop
C.1	ALS	Sulfonylureas etc.***	Cotton
C.2	ALS	Sulfonylureas etc. ***	Rice
C.3	ALS	Sulfonylureas etc. ***	Brassica
C.4	ALS	Sulfonylureas etc. ***	Potatoes
C.5	ALS	Sulfonylureas etc. ***	Tomatoes
C.6	ALS	Sulfonylureas etc. ***	Cucurbits
C.7	ALS	Sulfonylureas etc. ***	Soybeans
C.8	ALS	Sulfonylureas etc. ***	Maize
C.9	ALS	Sulfonylureas etc. ***	Wheat
C.10	ALS	Sulfonylureas etc. ***	pome fruit
C.11	ALS	Sulfonylureas etc. ***	stone fruit
C.12	ALS	Sulfonylureas etc. ***	citrus
C.13	ACCase	+++	Cotton
C.14	ACCase	+++	Rice
C.15	ACCase	+++	Brassica
C.16	ACCase	+++	Potatoes
C.17	ACCase	+++	Tomatoes

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	Principle	Tolerant to	Crop
C.18	ACCase	+++	Cucurbits
C.19	ACCase	+++	Soybeans
C.20	ACCase	+++	Maize
C.21	ACCase	+++	Wheat
C.22	ACCase	+++	pome fruit
C.23	ACCase	+++	stone fruit
C.24	ACCase	+++	citrus
C.25	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Cotton
C.26	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Rice
C.27	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Brassica
C.28	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Potatoes
C.29	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Tomatoes
C.30	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Cucurbits
C.31	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Soybeans
C.32	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Maize
C.33	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	Wheat
C.34	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	pome fruit
C.35	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	stone fruit
C.36	HPPD	Isoxaflutol, Isoxachlotol, Sulcotrion, Mesotrion	citrus
C.37	Nitrilase	Bromoxynil, loxynil	Cotton
C.38	Nitrilase	Bromoxynil, loxynil	Rice
C.39	Nitrilase	Bromoxynil, loxynil	Brassica
C.40	Nitrilase	Bromoxynil, loxynil	Potatoes
C.41	Nitrilase	Bromoxynil, loxynil	Tomatoes
C.42	Nitrilase	Bromoxynil, loxynil	Cucurbits
C.43	Nitrilase	Bromoxynil, loxynil	Soybeans
C.44	Nitrilase	Bromoxynil, loxynil	Maize
C.45	Nitrilase	Bromoxynil, loxynil	Wheat
C.46	Nitrilase	Bromoxynil, loxynil	pome fruit
C.47	Nitrilase	Bromoxynil, loxynil	stone fruit
C.48	Nitrilase	Bromoxynil, loxynil	citrus
C.49	IPS	Chloroactanilides &&&	Cotton

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	Principle	Tolerant to	Crop
C.50	IPS	Chloroactanilides &&&	Rice
C.51	IPS	Chloroactanilide &&&s	Brassica
C.52	IPS	Chloroactanilides &&&	Potatoes
C.53	IPS	Chloroactanilides &&&	Tomatoes
C.54	IPS	Chloroactanilides &&&	Cucurbits
C.55	IPS	Chloroactanilides &&&	Soybeans
C.56	IPS	Chloroactanilides &&&	Maize
C.57	IPS	Chloroactanilides &&&	Wheat
C.58	IPS	Chloroactanilides &&&	pome fruit
C.59	IPS	Chloroactanilides &&&	stone fruit
C.60	IPS	Chloroactanilides &&&	citrus
C.61	HOM	2,4-D, Mecoprop-P	Cotton
C.62	HOM	2,4-D, Mecoprop-P	Rice
C.63	HOM	2,4-D, Mecoprop-P	Brassica
C.64	HOM	2,4-D, Mecoprop-P	Potatoes
C.65	HOM	2,4-D, Mecoprop-P	Tomatoes
C.66	HOM	2,4-D, Mecoprop-P	Cucurbits
C.67	HOM	2,4-D, Mecoprop-P	Soybeans
C.68	HOM	2,4-D, Mecoprop-P	Maize
C.69	HOM	2,4-D, Mecoprop-P	Wheat
C.70	HOM	2,4-D, Mecoprop-P	pome fruit
C.71	HOM	2,4-D, Mecoprop-P	stone fruit
C.72	HOM	2,4-D, Mecoprop-P	citrus
C.73	PROTOX	Protox inhibitors ///	Cotton
C.74	PROTOX	Protox inhibitors ///	Rice
C.75	PROTOX	Protox inhibitors ///	Brassica
C.76	PROTOX	Protox inhibitors ///	Potatoes
C.77	PROTOX	Protox inhibitors ///	Tomatoes
C.78	PROTOX	Protox inhibitors ///	Cucurbits
C.79	PROTOX	Protox inhibitors ///	Soybeans
C.80	PROTOX	Protox inhibitors ///	Maize
C.81	PROTOX	Protox inhibitors ///	Wheat

	Principle	Tolerant to	Crop
C.82	PROTOX	Protox inhibitors ///	pome fruit
C.83	PROTOX	Protox inhibitors ///	stone fruit
C.84	PROTOX	Protox inhibitors ///	citrus
C.85	EPSPS	Glyphosate and /or Sulphosate	Cotton
C.86	EPSPS	Glyphosate and /or Sulphosate	Rice
C.87	EPSPS	Glyphosate and /or Sulphosate	Brassica
C.88	EPSPS	Glyphosate and /or Sulphosate	Potatoes
C.89	EPSPS	Glyphosate and /or Sulphosate	Tomatoes
C.90	EPSPS	Glyphosate and /or Sulphosate	Cucurbits
C.91	EPSPS	Glyphosate and /or Sulphosate	Soybeans
C.92	EPSPS	Glyphosate and /or Sulphosate	Maize
C.93	EPSPS	Glyphosate and /or Sulphosate	Wheat
C.94	EPSPS	Glyphosate and /or Sulphosate	pome fruit
C.95	EPSPS	Glyphosate and /or Sulphosate	stone fruit
C.96	EPSPS	Glyphosate and /or Sulphosate	citrus
C.97	GS	Gluphosinate and /or Bialaphos	Cotton
C.98	GS	Gluphosinate and /or Bialaphos	Rice
C.99	GS	Gluphosinate and /or Bialaphos	Brassica
C.100	GS	Gluphosinate and /or Bialaphos	Potatoes
C.101	GS	Gluphosinate and /or Bialaphos	Tomatoes
C.102	GS	Gluphosinate and /or Bialaphos	Cucurbits
C.103	GS	Gluphosinate and /or Bialaphos	Soybeans
C.104	GS	Gluphosinate and /or Bialaphos	Maize
C.105	GS	Gluphosinate and /or Bialaphos	Wheat
C.106	GS	Gluphosinate and /or Bialaphos	pome fruit
C.107	GS	Gluphosinate and /or Bialaphos	stone fruit
C.108	GS	Gluphosinate and /or Bialaphos	citrus

*** Included are Sulfonylureas, Imidazolinones, Triazolopyrimidines, Dimethoxypyrimidines and N-Acylsulfonamides:

Sulfonylureas such as Chlorsulfuron, Chlorimuron, Ethamethsulfuron, Metsulfuron, Primisulfuron, Prosulfuron, Triasulfuron, Cinosulfuron, Trifusulfuron, Oxasulfuron,

Bensulfuron, Tribenuron, ACC 322140, Fluzasulfuron, Ethoxysulfuron, Fluzasulfuron, Nicosulfuron, Rimsulfuron, Thifensulfuron, Pyrazosulfuron, Clopyrasulfuron, NC 330, Azimsulfuron, Imazosulfuron, Sulfosulfuron, Amidosulfuron, Flupyrasulfuron, CGA 362622

Imidazolinones such as Imazamethabenz, Imazaquin, Imazamethypyr, Imazethapyr, Imazapyr and Imazamox;

Triazolopyrimidines such as DE 511, Flumetsulam and Chloransulam;

Dimethoxypyrimidines such as Pyriothiac, Pyriminobac, Bispyribac and Pyribenzoxim.

+++ Tolerant to Diclofop-methyl, Fluazifop-P-butyl, Haloxypop-P-methyl, Haloxypop-P-ethyl, Quizalafop-P-ethyl, clodinafop propargyl, fenoxaprop - -ethyl, - Tepraloxym, Alloxym, Sethoxym, Cycloxydim, Cloproxydim, Tralkoxydim, Butoxydim, Caloxydim, Clefoxydim, Clethodim.

&&& Chloroacetanilides such as Alachlor Acetochlor, Dimethenamid

/// Protox inhibitors: For instance diphenylethers such as Acifluorfen, Aclonifen, Bifenox, Chlornitrofen, Ethoxyfen, Fluoroglycofen, Fomesafen, Lactofen, Oxyfluorfen; Imides such as Azafenidin, Carfentrazone-ethyl, Cinidon-ethyl, Flumiclorac-pentyl, Flumioxazin, Fluthiacet-methyl, Oxadiargyl, Oxadiazon, Pentoxazone, Sulfentrazone, Imides and others, such as Flumipropyn, Flupropacil, Nipyraclofen and Thidiazimin; and further Fluazolate and Pyraflufen-ethyl

Biological Examples

Table 39: A method of controlling representatives of the genus *Adoxophyes* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 40: A method of controlling representatives of the genus *Agrotis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 41: A method of controlling *Alabama argillaceae* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active

principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 42: A method of controlling *Anticarsia gemmatalis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 43: A method of controlling representatives of the genus *Chilo* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 44: A method of controlling *Clysia ambiguella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 45: A method of controlling representatives of the genus *Cnephalocrocis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 46: A method of controlling *Crocidolomia binotalis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 47: A method of controlling representatives of the genus *Cydia* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 48: A method of controlling *Diparopsis castanea* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 49: A method of controlling representatives of the genus *Earias* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 50: A method of controlling representatives of the genus *Ephestia* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 51: A method of controlling representatives of the genus *Heliothis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 52: A method of controlling *Hellula undalis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 53: A method of controlling *Keiferia lycopersicella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 54: A method of controlling *Leucoptera scitella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 55: A method of controlling representatives of the genus *Lithocollethis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 56: A method of controlling *Lobesia botrana* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle

expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 57: A method of controlling *Ostrinia nubilalis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 58: A method of controlling representatives of the genus *Pandemis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 59: A method of controlling *Pectinophora gossypiella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 60: A method of controlling *Phyllocnistis citrella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 61: A method of controlling representatives of the genus *Pieris* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 62: A method of controlling *Plutella xylostella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 63: A method of controlling representatives of the genus *Scirpophaga* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 64: A method of controlling representatives of the genus *Sesamia* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 65: A method of controlling representatives of the genus *Sparganothis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 66: A method of controlling representatives of the genus *Spodoptera* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 67: A method of controlling representatives of the genus *Tortrix* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 68: A method of controlling *Trichoplusia ni* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 69: A method of controlling representatives of the genus *Agriotes* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 70: A method of controlling *Anthonomus grandis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 71: A method of controlling representatives of the genus *Curculio* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination

of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 72: A method of controlling *Diabrotica balteata* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 73: A method of controlling representatives of the genus *Leptinotarsa* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 74: A method of controlling representatives of the genus *Lissorhoptrus* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 75: A method of controlling representatives of the genus *Otiorhynchus* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 76: A method of controlling representatives of the genus *Aleurothrixus* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 77: A method of controlling representatives of the genus *Aleyrodes* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 78: A method of controlling representatives of the genus *Aonidiella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 79: A method of controlling representatives of the family Aphididae comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 80: A method of controlling representatives of the genus Aphis comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 81: A method of controlling Bemisia tabaci comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 82: A method of controlling representatives of the genus Empoasca comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 83: A method of controlling representatives of the genus Mycus comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 84: A method of controlling representatives of the genus Nephotettix comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 85: A method of controlling representatives of the genus Nilaparvata comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 86: A method of controlling representatives of the genus Pseudococcus comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 87: A method of controlling representatives of the genus *Psylla* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 88: A method of controlling representatives of the genus *Quadraspidiotus* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 89: A method of controlling representatives of the genus *Schizaphis* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 90: A method of controlling representatives of the genus *Trialeurodes* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 91: A method of controlling representatives of the genus *Lyriomyza* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 92: A method of controlling representatives of the genus *Oscinella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 93: A method of controlling representatives of the genus *Phorbia* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 94: A method of controlling representatives of the genus *Frankliniella* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 95: A method of controlling representatives of the genus *Thrips* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 96: A method of controlling *Scirtothrips aurantii* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 97: A method of controlling representatives of the genus *Aceria* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 98: A method of controlling representatives of the genus *Aculus* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 99: A method of controlling representatives of the genus *Brevipalpus* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 100: A method of controlling representatives of the genus *Panonychus* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 101: A method of controlling representatives of the genus *Phyllocoptruta* comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 102: A method of controlling representatives of the genus Tetranychus comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 103: A method of controlling representatives of the genus Heterodera comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 104: A method of controlling representatives of the genus Meloidogyne comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 105: A method of controlling Mamestra brassica comprising the application of Abamectin to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 106: A method of controlling representatives of the genus Adoxophyes comprising the application of Eamectin-Benzozate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 107: A method of controlling representatives of the genus Agrotis comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 108: A method of controlling Alabama argillaceae comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 109: A method of controlling *Anticarsia gemmatalis* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 110: A method of controlling representatives of the genus *Chilo* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 111: A method of controlling *Clysia ambiguella* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 112: A method of controlling representatives of the genus *Cnephalocrocis* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 113: : A method of controlling *Crocidolomia binotalis* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 114: A method of controlling representatives of the genus *Cydia* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 115: A method of controlling *Diparopsis castanea* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 116: A method of controlling representatives of the genus *Earias* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 117: A method of controlling representatives of the genus *Ephestia* comprising the application of Enamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 118: A method of controlling representatives of the genus *Heliothis* of Enamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 119: A method of controlling *Hellula undalis* comprising the application of Enamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 120: A method of controlling *Keiferia lycopersicella* comprising the application of Enamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 121: A method of controlling *Leucoptera scitella* comprising the application of Enamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 122: A method of controlling representatives of the genus *Lithocollethis* comprising the application of Enamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 123: A method of controlling *Lobesia botrana* comprising the application of Enamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 124: A method of controlling *Ostrinia nubilalis* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 125: A method of controlling representatives of the genus *Pandemis* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 126: A method of controlling *Pectinophora gossypiella* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 127: A method of controlling *Phyllocnistis citrella* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 128: A method of controlling representatives of the genus *Pieris* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 129: A method of controlling *Plutella xylostella* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 130: A method of controlling representatives of the genus *Scirpophaga* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 131: A method of controlling representatives of the genus *Sesamia* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 132: A method of controlling representatives of the genus *Sparganothis* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 133: A method of controlling representatives of the genus *Spodoptera* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 134: A method of controlling representatives of the genus *Tortrix* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 135: A method of controlling *Trichoplusia ni* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 136: A method of controlling representatives of the genus *Agriotes* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 137: A method of controlling *Anthonomus grandis* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 138: A method of controlling representatives of the genus *Curculio* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 139: A method of controlling *Diabrotica balteata* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 140: A method of controlling representatives of the genus *Leptinotarsa* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 141: A method of controlling representatives of the genus *Lissorhoptrus* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 142: A method of controlling representatives of the genus *Otiorhynchus* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 143: A method of controlling representatives of the genus *Aleurothrixus* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 144: A method of controlling representatives of the genus *Aleyrodes* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 145: A method of controlling representatives of the genus *Aonidiella* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 146: A method of controlling representatives of the family *Aphididae* comprising the application of Emamectin-benzoate to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 147: A method of controlling representatives of the genus *Aphis* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 148: A method of controlling *Bemisia tabaci* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 149: A method of controlling representatives of the genus *Empoasca* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 150: A method of controlling representatives of the genus *Mycus* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 151: A method of controlling representatives of the genus *Nephotettix* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 152: A method of controlling representatives of the genus *Nilaparvata* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 153: A method of controlling representatives of the genus *Pseudococcus* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 154: A method of controlling representatives of the genus *Psylla* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 155: A method of controlling representatives of the genus *Quadraspidiotus* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 156: A method of controlling representatives of the genus *Schizaphis* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 157: A method of controlling representatives of the genus *Trialeurodes* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 158: A method of controlling representatives of the genus *Lyriomyza* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 159: A method of controlling representatives of the genus *Oscinella* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 160: A method of controlling representatives of the genus *Phorbia* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 161: A method of controlling representatives of the genus *Frankliniella* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 162: A method of controlling representatives of the genus Thrips comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 163: A method of controlling Scirtothrips aurantii comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 164: A method of controlling representatives of the genus Aceria comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 165: A method of controlling representatives of the genus Aculus comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 166: A method of controlling representatives of the genus Brevipalpus comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 167: A method of controlling representatives of the genus Panonychus comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 168: A method of controlling representatives of the genus Phyllocoptruta comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 169: A method of controlling representatives of the genus *Tetranychus* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 170: A method of controlling representatives of the genus *Heterodera* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 171: A method of controlling representatives of the genus *Meloidogyne* comprising the application of Eamectin-benzoate to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 172: A method of controlling representatives of the genus *Adoxophyes* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 173: A method of controlling representatives of the genus *Agrotis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 174: A method of controlling *Alabama argillaceae* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 175: A method of controlling *Anticarsia gemmatalis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 176: A method of controlling representatives of the genus *Chilo* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination

of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 177: A method of controlling *Clysia ambiguella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 178: A method of controlling *Crocidolomia binotalis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 179: A method of controlling representatives of the genus *Cydia* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 180: A method of controlling *Diparopsis castanea* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 181: A method of controlling representatives of the genus *Earias* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 182: A method of controlling representatives of the genus *Ephestia* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 183: A method of controlling representatives of the genus *Heliothis* of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 184: A method of controlling *Hellula undalis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 185: A method of controlling *Keiferia lycopersicella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 186: A method of controlling *Leucoptera scitella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 187: A method of controlling representatives of the genus *Lithocollethis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 188: A method of controlling *Lobesia botrana* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 189: A method of controlling *Ostrinia nubilalis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 190: A method of controlling representatives of the genus *Pandemis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 191: A method of controlling *Pectinophora gossypiella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active

principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 192: A method of controlling *Phyllocnistis citrella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 193: A method of controlling representatives of the genus *Pieris* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 194: A method of controlling *Plutella xylostella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 195: A method of controlling representatives of the genus *Scirpophaga* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 196: A method of controlling representatives of the genus *Sesamia* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 197: A method of controlling representatives of the genus *Sparganothis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 198: A method of controlling representatives of the genus *Spodoptera* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 199: A method of controlling representatives of the genus *Tortrix* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 200: A method of controlling *Trichoplusia ni* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 201: A method of controlling representatives of the genus *Agriotes* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 202: A method of controlling *Anthonomus grandis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 203: A method of controlling representatives of the genus *Curculio* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 204: A method of controlling *Diabrotica balteata* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 205: A method of controlling representatives of the genus *Leptinotarsa* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 206: A method of controlling representatives of the genus *Lissorhoptrus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 207: A method of controlling representatives of the genus *Otiorhynchus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 208: A method of controlling representatives of the genus *Aleurothrixus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 209: A method of controlling representatives of the genus *Aleyrodes* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 210: A method of controlling representatives of the genus *Aonidiella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 211: A method of controlling representatives of the family *Aphididae* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 212: A method of controlling representatives of the genus *Aphis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 213: A method of controlling *Bemisia tabaci* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 214: A method of controlling representatives of the genus *Empoasca* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 215: A method of controlling representatives of the genus *Mycus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 216: A method of controlling representatives of the genus *Nephotettix* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 217: A method of controlling representatives of the genus *Nilaparvata* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 218: A method of controlling representatives of the genus *Pseudococcus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 219: A method of controlling representatives of the genus *Psylla* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 220: A method of controlling representatives of the genus *Quadraspidiotus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 221: A method of controlling representatives of the genus *Schizaphis* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination

of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 222: A method of controlling representatives of the genus *Trialeurodes* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 223: A method of controlling representatives of the genus *Lyriomyza* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 224: A method of controlling representatives of the genus *Oscinella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 225: A method of controlling representatives of the genus *Phorbia* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 226: A method of controlling representatives of the genus *Frankliniella* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 227: A method of controlling representatives of the genus *Thrips* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 228: A method of controlling *Scirtothrips aurantii* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 229: A method of controlling representatives of the genus *Aceria* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 230: A method of controlling representatives of the genus *Aculus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 231: A method of controlling representatives of the genus *Brevipalpus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 232: A method of controlling representatives of the genus *Panonychus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 233: A method of controlling representatives of the genus *Phyllocoptruta* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 234: A method of controlling representatives of the genus *Tetranychus* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 235: A method of controlling representatives of the genus *Heterodera* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 236: A method of controlling representatives of the genus *Meloidogyne* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the

combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Table 237: A method of controlling *Mamestra brassica* comprising the application of Spinosad to a herbicidally resistant transgenic crop, wherein the combination of the active principle expressed by the transgenic plant and the crop to be protected against the pest correspond to a line of the table C.

Example B1: Action against *Anthonomus grandis* adults, *Spodoptera littoralis* or *Heliothis virescens*

Young transgenic cotton plants which express the δ -endotoxin CryIIIA are sprayed with an aqueous emulsion spray mixture comprising 100, 50, 10, 5, 1 ppm of emamectin-benzoate respectively. After the spray coating has dried on, the cotton plants are populated with 10 adult *Anthonomus grandis*, 10 *Spodoptera littoralis* larvae or 10 *Heliothis virescens* larvae respectively and introduced into a plastic container. Evaluation takes place 3 to 10 days later. The percentage reduction in population, or the percentage reduction in feeding damage (% action), is determined by comparing the number of dead beetles and the feeding damage on the transgenic cotton plants with that of non-transgenic cotton plants which have been treated with an emulsion spray mixture comprising emamectin-benzoate and conventional CryIIIA-toxin at a concentration of in each case 100, 50, 10, 5, 1 ppm respectively..

In this test, the control of the tested insects in the transgenic plant is superior, while it is insufficient in the non-transgenic plant.

Example B2: Action against *Anthonomus grandis* adults, *Spodoptera littoralis* or *Heliothis virescens*

Young transgenic cotton plants which express the δ -endotoxin CryIIIA are sprayed with an aqueous emulsion spray mixture comprising 100, 50, 10, 5, 1 ppm of abamectin respectively. After the spray coating has dried on, the cotton plants are populated with 10 adult *Anthonomus grandis*, 10 *Spodoptera littoralis* larvae or 10 *Heliothis virescens* larvae respectively and introduced into a plastic container. Evaluation takes place 3 to 10 days later. The percentage reduction in population, or the percentage reduction in feeding damage (% action), is determined by comparing the number of dead beetles and the feeding damage on the transgenic cotton plants with that of non-transgenic cotton plants

which have been treated with an emulsion spray mixture comprising abamectin and conventional CryIIIA-toxin at a concentration of in each case 100, 50, 10, 5, 1 ppm respectively.

In this test, the control of the tested insects in the transgenic plant is superior, while it is insufficient in the non-transgenic plant.

Example B3: Action against *Anthonomus grandis* adults, *Spodoptera littoralis* or *Heliothis virescens*

Young transgenic cotton plants which express the δ -endotoxin CryIIIA are sprayed with an aqueous emulsion spray mixture comprising 100, 50, 10, 5, 1 ppm of spinosad respectively. After the spray coating has dried on, the cotton plants are populated with 10 adult *Anthonomus grandis*, 10 *Spodoptera littoralis* larvae or 10 *Heliothis virescens* larvae respectively and introduced into a plastic container. Evaluation takes place 3 to 10 days later. The percentage reduction in population, or the percentage reduction in feeding damage (% action), is determined by comparing the number of dead beetles and the feeding damage on the transgenic cotton plants with that of non-transgenic cotton plants which have been treated with an emulsion spray mixture comprising spinosad and conventional CryIIIA-toxin at a concentration of in each case 100, 50, 10, 5, 1 ppm respectively.

In this test, the control of the tested insects in the transgenic plant is superior, while it is insufficient in the non-transgenic plant.

Example B4: Action against *Anthonomus grandis* adults, *Spodoptera littoralis* or *Heliothis virescens*

Young transgenic cotton plants which express the δ -endotoxin CryIa(c) are sprayed with an aqueous emulsion spray mixture comprising 100, 50, 10, 5, 1 ppm of spinosad respectively. After the spray coating has dried on, the cotton plants are populated with 10 adult *Anthonomus grandis*, 10 *Spodoptera littoralis* larvae or 10 *Heliothis virescens* larvae respectively and introduced into a plastic container. Evaluation takes place 3 to 10 days later. The percentage reduction in population, or the percentage reduction in feeding damage (% action), is determined by comparing the number of dead beetles and the feeding damage on the transgenic cotton plants with that of non-transgenic cotton plants which have been treated with an emulsion spray mixture comprising spinosad and conventional CryIIIA-toxin at a concentration of in each case 100, 50, 10, 5, 1 ppm respectively.

In this test, the control of the tested insects in the transgenic plant is superior, while it is insufficient in the non-transgenic plant.

Example B5: Action against Anthonomus grandis adults, Spodoptera littoralis or Heliothis virescens

Young transgenic cotton plants which express the δ -endotoxin CryIa(c) are sprayed with an aqueous emulsion spray mixture comprising 100, 50, 10, 5, 1 ppm of abamectin respectively. After the spray coating has dried on, the cotton plants are populated with 10 adult *Anthonomus grandis*, 10 *Spodoptera littoralis* larvae or 10 *Heliothis virescens* larvae respectively and introduced into a plastic container. Evaluation takes place 3 to 10 days later. The percentage reduction in population, or the percentage reduction in feeding damage (% action), is determined by comparing the number of dead beetles and the feeding damage on the transgenic cotton plants with that of non-transgenic cotton plants which have been treated with an emulsion spray mixture comprising abamectin and conventional CryIIIA-toxin at a concentration of in each case 100, 50, 10, 5, 1 ppm respectively. In this test, the control of the tested insects in the transgenic plant is superior, while it is insufficient in the non-transgenic plant.

Example B6: Action against Anthonomus grandis adults, Spodoptera littoralis or Heliothis virescens

Young transgenic cotton plants which express the δ -endotoxin CryIa(c) are sprayed with an aqueous emulsion spray mixture comprising 100, 50, 10, 5, 1 ppm of emamectin benzoate respectively. After the spray coating has dried on, the cotton plants are populated with 10 adult *Anthonomus grandis*, 10 *Spodoptera littoralis* larvae or 10 *Heliothis virescens* larvae respectively and introduced into a plastic container. Evaluation takes place 3 to 10 days later. The percentage reduction in population, or the percentage reduction in feeding damage (% action), is determined by comparing the number of dead beetles and the feeding damage on the transgenic cotton plants with that of non-transgenic cotton plants which have been treated with an emulsion spray mixture comprising emamectin benzoate and conventional CryIIIA-toxin at a concentration of in each case 100, 50, 10, 5, 1 ppm respectively.

In this test, the control of the tested insects in the transgenic plant is superior, while it is insufficient in the non-transgenic plant.

Example B7: Action against Ostrinia nubilalis, Spodoptera spp. or Heliothis spp.

A plot (a) planted with maize cv. KnockOut® and an adjacent plot (b) of the same size which is planted with conventional maize, both showing natural infestation with *Ostrinia*

nubilalis, Spodoptera sp or Heliothis, are sprayed with an aqueous emulsion spray mixture comprising 200, 100, 50, 10, 5, 1ppm of spinosad. Immediately afterwards, plot (b) is treated with an emulsion spray mixture comprising 200, 100, 50, 10, 5, 1 ppm of the endotoxin expressed by KnockOut®. Evaluation takes place 6 days later. The percentage reduction in population (% action) is determined by comparing the number of dead pests on the plants of plot (a) with that on the plants of plot (b).

Improved control of Ostrinia nubilalis, Spodoptera sp or Heliothis is observed on the plants of plot (a), while plot (b) shows a control level of not over 80%.

Example B8: Action against Ostrinia nubilalis, Spodoptera sp or Heliothis sp

A plot (a) planted with maize cv. KnockOut® and an adjacent plot (b) of the same size which is planted with conventional maize, both showing natural infestation with Ostrinia nubilalis, Spodoptera sp or Heliothis, are sprayed with an aqueous emulsion spray mixture comprising 200, 100, 50, 10, 5, 1ppm of abamectin. Immediately afterwards, plot (b) is treated with an emulsion spray mixture comprising 200, 100, 50, 10, 5, 1 ppm of the endotoxin expressed by KnockOut®. Evaluation takes place 6 days later. The percentage reduction in population (% action) is determined by comparing the number of dead pests on the plants of plot (a) with that on the plants of plot (b).

Improved control of Ostrinia nubilalis, Spodoptera sp or Heliothis is observed on the plants of plot (a), while plot (b) shows a control level of not over 80%.

Example B9: Action against Ostrinia nubilalis, Spodoptera sp or Heliothis sp

A plot (a) planted with maize cv. KnockOut® and an adjacent plot (b) of the same size which is planted with conventional maize, both showing natural infestation with Ostrinia nubilalis, Spodoptera sp or Heliothis, are sprayed with an aqueous emulsion spray mixture comprising 200, 100, 50, 10, 5, 1ppm of emamectin benzoate. Immediately afterwards, plot (b) is treated with an emulsion spray mixture comprising 200, 100, 50, 10, 5, 1 ppm of the endotoxin expressed by KnockOut®. Evaluation takes place 6 days later. The percentage reduction in population (% action) is determined by comparing the number of dead pests on the plants of plot (a) with that on the plants of plot (b).

Improved control of Ostrinia nubilalis, Spodoptera sp or Heliothis is observed on the plants of plot (a), while plot (b) shows a control level of not over 80%.

The invention further relates to

(B) A method of protecting plant propagation material and plant organs formed at a later point in time from attack by pests, characterized in that

a pesticide comprising, as pesticidally active compound, at least one macrolide compound, especially abamectin, emamectin or spinosad in free form or in agrochemically utilizable salt form as active ingredient and at least one auxiliary in close spatial proximity to, or spatially together with, planting or applying the propagation material is employed to the site of planting or sowing;

the corresponding use of these compounds, corresponding pesticides whose active ingredient is selected from amongst these compounds, a method of producing and using these compositions, and plant propagation material thus protected against attack by pests.

The macrolides used according to the invention are known to those skilled in the art. They are the classes of substances as mentioned under invention part (A). Abamectin and emamectin are preferred.

Agrochemically utilizable salts of the macrolides according to the invention are, for example, the same as under invention part (A).

In the case of abamectin, the free form is preferred in the frame of invention part (B). Especially preferred within the scope of the invention part (B) is a method in which emamectin is employed in free form or as agrochemically acceptable salt; especially as salt; in particular as the benzoate, substituted benzoate, benzenesulphonate, citrate, phosphate, tartrate or maleate; preferably as the benzoate or benzenesulphonate, especially preferably as the benzoate.

The scope of the subject-matter of the invention (B) extends in particular to representatives of the classes Insecta, Arachnida and Nematoda.

These are mainly insects of the order Lepidoptera, for example

Acleris spp., Adoxophyes spp., Aegeria spp., Agrotis spp., Alabama argillaceae, Amylois spp., Anticarsia gemmatilis, Archips spp., Argyrotaenia spp., Astylus atromaculatus, Autographa spp., Busseola fusca, Cadra cautella, Carposina nipponensis, Chilo spp., Choristoneura spp., Clysia ambiguella, Cnaphalocrocis spp., Cnephasia spp., Cochylis spp.,

Coleophora spp., *Crociodolomia binotalis*, *Cryptophlebia leucotreta*, *Cydia* spp., *Diatraea* spp., *Diparopsis castanea*, *Earias* spp., *Ephestia* spp., *Eucosma* spp., *Eupoecilia ambiguella*, *Euproctis* spp., *Euxoa* spp., *Grapholita* spp., *Hedya nubiferana*, *Heliothis* spp., *Hellula undalis*, *Heteronychus arator*, *Hyphantria cunea*, *Keiferia lycopersicella*, *Leucoptera scitella*, *Lithocollethis* spp., *Lobesia botrana*, *Lymantria* spp., *Lyonetia* spp., *Malacosoma* spp., *Mamestra brassicae*, *Manduca sexta*, *Operophtera* spp., *Ostrinia nubilalis*, *Pammene* spp., *Pandemis* spp., *Panolis flammea*, *Pectinophora gossypiella*, *Phthorimaea operculella*, *Pieris rapae*, *Pieris* spp., *Plutella xylostella*, *Prays* spp., *Scirpophaga* spp., *Sesamia* spp., *Sparganothis* spp., *Spodoptera* spp., *Synanthedon* spp., *Thaumetopoea* spp., *Tortrix* spp., *Trichoplusia ni* and *Yponomeuta* spp.;

of the order Coleoptera, for example

Agriotes spp., *Anthonomus* spp., *Atomaria linearis*, *Chaetocnema tibialis*, *Cosmopolites* spp., *Curculio* spp., *Dermestes* spp., *Diabrotica* spp., *Epilachna* spp., *Eremnus* spp., *Leptinotarsa decemlineata*, *Lissorhoptrus* spp., *Melolontha* spp., *Orycaephilus* spp., *Otiorhynchus* spp., *Phlyctinus* spp., *Popillia* spp., *Psylliodes* spp., *Rhizopertha* spp., *Scarabeidae*, *Sitophilus* spp., *Sitotroga* spp., *Tenebrio* spp., *Tribolium* spp. and *Trogoderma* spp.;

of the order Orthoptera, for example

Blatta spp., *Blattella* spp., *Gryllotalpa* spp., *Leucophaea maderae*, *Locusta* spp., *Periplaneta* spp. and *Schistocerca* spp.;

of the order Psocoptera, for example *Liposcelis* spp.;

of the order Anoplura, for example

Haematopinus spp., *Linognathus* spp., *Pediculus* spp., *Pemphigus* spp. und *Phylloxera* spp.;

of the order Mallophaga, for example *Damalinea* spp. and *Trichodectes* spp.;

of the order Thysanoptera, for example *Frankliniella* spp., *Hercinothrips* spp., *Taeniothrips* spp., *Thrips palmi*, *Thrips tabaci* and *Scirtothrips aurantii*;

of the order Heteroptera, for example *Cimex* spp., *Distantiella theobroma*, *Dysdercus* spp., *Euchistus* spp., *Eurygaster* spp., *Leptocorisa* spp., *Nezara* spp., *Piesma* spp., *Rhodnius* spp., *Sahlbergella singularis*, *Scotinophara* spp. and *Triatoma* spp.;

of the order Homoptera, for example *Aleurothrixus floccosus*, *Aleyrodes brassicae*,

Aonidiella spp., *Aphididae*, *Aphis* spp., *Aspidiotus* spp., *Bemisia tabaci*, *Ceroplaster* spp., *Chrysomphalus aonidium*, *Chrysomphalus dictyospermi*, *Coccus hesperidum*, *Empoasca* spp., *Eriosoma larigerum*, *Erythroneura* spp., *Gascardia* spp., *Laodelphax* spp., *Lecanium*

corni, *Lepidosaphes* spp., *Macrosiphus* spp., *Myzus* spp., *Nephotettix* spp., *Nilaparvata* spp., *Paratoria* spp., *Pemphigus* spp., *Planococcus* spp., *Pseudaulacaspis* spp., *Pseudococcus* spp., *Psylla* spp., *Pulvinaria aethiopica*, *Quadraspidotus* spp., *Rhopalosiphum* spp., *Saissetia* spp., *Scaphoideus* spp., *Schizaphis* spp., *Sitobion* spp., *Trialeurodes vaporariorum*, *Trioza erytrae* and *Unaspis citri*;

of the order Hymenoptera, for example *Acromyrmex*, *Atta* spp., *Cephus* spp., *Diprion* spp., *Diprionidae*, *Gilpinia polytoma*, *Hoplocampa* spp., *Lasius* spp., *Monomorium pharaonis*, *Neodiprion* spp., *Solenopsis* spp. and *Vespa* spp.;

of the order Diptera, for example *Aedes* spp., *Antherigona soccata*, *Bibio hortulanus*, *Calliphora erythrocephala*, *Ceratitis* spp., *Chrysomyia* spp., *Culex* spp., *Cuterebra* spp., *Dacus* spp., *Drosophila melanogaster*, *Fannia* spp., *Gastrophilus* spp., *Glossina* spp., *Hypoderma* spp., *Hyppobosca* spp., *Liriomyza* spp., *Lucilia* spp., *Melanagromyza* spp., *Musca* spp., *Oestrus* spp., *Orseolia* spp., *Oscinella frit*, *Pegomyia hyoscyami*, *Phorbia* spp., *Rhagoletis pomonella*, *Sciara* spp., *Stomoxys* spp., *Tabanus* spp., *Tannia* spp. and *Tipula* spp.;

of the order Siphonaptera, for example *Ceratophyllus* spp. and *Xenopsylla cheopis*; or
of the order Thysanura, for example *Lepisma saccharina*.

Amongst the class Arachnida, they are preferably representatives of the order Acarina, for example

Acarus siro, *Aceria sheldoni*, *Aculus schlechtendali*, *Amblyomma* spp., *Argas* spp., *Boophilus* spp., *Brevipalpus* spp., *Bryobia praetiosa*, *Calipitimerus* spp., *Chorioptes* spp., *Dermanyssus gallinae*, *Eotetranychus carpini*, *Eriophyes* spp., *Hyalomma* spp., *Ixodes* spp., *Olygonychus pratensis*, *Ornithodoros* spp., *Panonychus* spp., *Phyllocoptruta oleivora*, *Polyphagotarsonemus latus*, *Psoroptes* spp., *Rhipicephalus* spp., *Rhizoglyphus* spp., *Sarcoptes* spp., *Tarsonemus* spp. and *Tetranychus* spp..

Especially preferred is the control of insects of the orders Coleoptera and Lepidoptera;

in the order Coleoptera especially the genera and species *Agriotes* spp., *Anthonomus* spp., *Atomaria linearis*, *Chaetocnema tibialis*, *Diabrotica* spp. and *Leptinotarsa decemlineata*;

in the order Lepidoptera the genera and species *Adoxophyes* spp., *Agrotis* spp., *Alabama argillaceae*, *Anticarsia gemmatilis*, *Chilo* spp., *Cydia* spp., *Ephestia* spp., *Heliothis* spp., *Keiferia lycopersicella*, *Mamestra brassicae*, *Pectinophora gossypiella*, *Plutella xylostella*, *Sesamia* spp., *Spodoptera* spp., *Tortrix* spp., and *Trichoplusia*.

A further preferred subject according to the invention part (B) is the control of representatives of the class Nematoda, such as root knot nematodes, stem eelworms and foliar nematodes;

especially *Heterodera* spp., for example *Heterodera schachtii*, *Heterodera avenae* and *Heterodera trifolii*; *Globodera* spp., for example *Globodera rostochiensis*; *Meloidogyne* spp., for example *Meloidogyne incognita* and *Meloidogyne javanica*; *Radopholus* spp., for example *Radopholus similis*; *Pratylenchus*, for example *Pratylenchus neglectans* and *Pratylenchus penetrans*; *Tylenchulus*, for example *Tylenchulus semipenetrans*; *Longidorus*, *Trichodorus*, *Xiphinema*, *Ditylenchus*, *Aphelenchoides* and *Anguina*, in particular *Meloidogyne*, for example *Meloidogyne incognita*, and *Heterodera*, for example *Heterodera glycines*.

The macrolides used according to the invention (B) are preventatively and/or curatively valuable active ingredients in the fields of insect control, even at low application rates, while being well tolerated by warm-blooded species, fish, beneficials and plants. The active ingredients used according to the invention are effective against all or individual development stages of normally sensitive, but also resistant, pests. The action of the active ingredients used according to the invention may become apparent directly, i.e. in the form of destruction of the pests, which occurs immediately or only after some time has elapsed, for example during ecdysis, or indirectly, for example as a reduced oviposition and/or hatching rate, the good action corresponding to a destruction rate (mortality) of at least 50 to 60%.

With the aid of the active ingredients used in accordance with the invention part (B), it is possible to control, i.e. contain or destroy, pests which occur on plant propagation material, mainly on propagation material of useful plants and ornamentals in agriculture, in horticulture and in forests, and even plant organs which grow at a later point in time are still protected from these pests, that is to say the protection lasts, for example, until resistant mature plants have developed, and where the propagation material, or the plants developing therefrom, are protected not only from pests which attack the aerial plant organs, but also from soil-dwelling pests.

Suitable plant propagation material in the invention part (B), that is, for example, seedlings, rhizomes, nursery plants, cuttings or, in particular seed (seeds), such as fruit, tubers, kernels or bulbs, are, in particular, propagation material of cereals, such as wheat, barley, rye, oats, rice, maize or sorghum; beet, such as sugar or fodder beet; fruit, for example

pome fruit, stone fruit and soft fruit, for example apples, pears, plums, peaches, almonds, cherries or berries, for example strawberries, raspberries and blackberries; legumes, such as beans, lentils, peas or soya beans, oil crops, such as oilseed rape, mustard, poppies, olives, sunflowers, coconut, castor-oil plants, cacao or peanuts; cucurbits, such as pumpkins, cucumbers or melons; fibre plants, such as cotton, flax, hemp or jute; citrus fruit, such as oranges, lemons, grapefruit or mandarins; vegetables, such as spinach, lettuce, asparagus, cabbage species, carrots, onions, tomatoes, potatoes or capsicums; Lauraceae, such as avocado, Cinnamomum or camphor; or tobacco, nuts, coffee, egg plants, sugar cane, tea, pepper, grapevines, hops, Musaceae, latex plants or ornamentals; especially of cereals, rice, cotton, maize, soya beans, oilseed rape, vegetables, potatoes, sunflowers, sugar beet and sorghum.

The genetically modified propagation material is preferably propagation material, in particular seed, which contains one or more genes expressing a pesticidal resistance, in particular an insecticidal or acaricidal, but also a fungicidal or nematocidal, resistance, which make the plant resistant to herbicides, which lead to increased resistance to plant diseases or which introduce other agronomically advantageous properties into the plant. Such plants, or their propagation material, are in particular those which contain a gene derived from a *Bacillus thuringiensis* and which encode an insecticidally active protein or contain a gene. These are, especially, genetically modified plant propagation materials of potatoes, alfalfa, cereals, such as wheat, barley, rye, oats, rice, maize or sorghum; legumes, such as beans, lentils, peas or soya beans; beet such as sugar or fodder beet; oil crops, such as oilseed rape, mustard, poppies, olives, sunflowers, coconut, castor-oil plant, cacao or peanuts; cucurbits, such as pumpkins, cucumbers or melons; fibre plants, such as cotton, flax, hemp or jute; citrus fruit, such as oranges, lemons, grapefruit or mandarins; vegetables, such as spinach, lettuce, asparagus, cabbage species, carrots, onions or tomatoes.

Examples of the genetically modified plant propagation material mentioned are, for example, the commercially available products Maximizer® (KnockOut®), Yieldgard®, Roundup Ready Soybeans®, TC Blend® or NuCOTN 33B®, all of which are known to those skilled in the art.

Other fields of application for the active ingredients used in accordance with the invention part (B) are, for example, the protection of stored products or stores or in the hygiene sector; in particular the protection of domestic animals or productive livestock from pests.

The invention of subject-matter (B) therefore also relates to corresponding pesticides for use, to be selected depending on the intended aims and the prevailing circumstances, such as emulsifiable concentrates, suspension concentrates, directly sprayable or dilutable solutions, spreadable pastes, dilute emulsions, sprayable powders, soluble powders, dispersible powders, wettable powders, dusts, granules or encapsulations in polymeric substances which comprise - at least - one of the active ingredients used in accordance with the invention, and to the use of these insecticidal compositions for use in a method. Preferred is a composition which comprises only one macrolide compound, especially emamectin or a salt thereof.

In these compositions, the active ingredient is employed in pure form, for example a solid active ingredient in a particular particle size or, preferably, together with - at least - one of the auxiliaries conventionally used in the art of formulation, such as extenders, for example solvents or solid carriers, or such as surface-active compounds (surfactants).

Suitable auxiliaries such as solvents, solid carriers, surface-active compounds, non-ionic surfactants, cationic surfactants and anionic surfactants in the compositions employed in accordance with the invention are, for example, those which have been described in EP-A-736 252.

Liquid formulations for the treatment of plant propagation material according to invention part (B), especially of seed, comprise, for example, surface-active substances (1 - 15% by weight), such as ethoxylated tristyrenephenols and their salts, alkyl polyglycol ether ethoxylates, polyoxypropylene/polyoxyethylene copolymers, the sodium salt of lignosulphonic acid, salts of polynaphthalenesulphonic acid and alkylbenzenesulphonic acid triethanolamine salt; antifreeze agents (5 - 15%), such as, for example, DL-propane-1,2-diol or propane-1,2,3-triol; colourants (1 - 10%), such as pigments or water-soluble dyes; antifoams (0.05 - 1%), such as polydimethylsiloxane; coatings (1 - 10%), such as polyethylene glycol, polyvinyl acetate, polyvinylpyrrolidone, polyacrylate;

preservatives (0.1 - 1%), such as 1,2-benzothiazol-3-one;
thickeners (0.1 - 1%), such as heteropolysaccharide; and
solvents, such as water.

Solid formulations for the treatment of plant propagation material, especially of seed, comprise, for example:

surface-active substances (1- 10%), such as alkyl polyglycol ether ethoxylate, polyoxypropylene/polyoxyethylene copolymers, the sodium salt of lignosulphonic acid, salts of polynaphthalenesulphonic acid;
colourants (1 - 10%), such as pigments or water-soluble dyes;
antifoams (0.05 - 1%), such as polydimethylsiloxane;
coatings (1 - 10%), such as polyethylene glycol or cellulose; and
carriers (to 100% w/w), such as silica powder, talc powder, clays and the like.

As a rule, the compositions comprise 0.1 to 99%, in particular 0.1 to 95%, of active ingredient and 1 to 99.9%, in particular 5 to 99.9%, of - at least - one solid or liquid auxiliary, it being possible, as a rule, for 0 to 25%, in particular 0.1 to 20%, of the compositions to be surfactants (% is in each case per cent by weight). While concentrated compositions are more preferred as commercially available goods, the end consumer will use, as a rule, dilute compositions having much lower concentrations of active ingredient.

Preferred compositions, such as emulsifiable concentrations, dusts, suspension concentrates, wettable powders and granules have, for example, those compositions which are mentioned in EP-A-736 252.

The compositions according to the invention part (B) can also comprise other solid or liquid auxiliaries, such as stabilizers, for example unepoxidized or epoxidized vegetable oils (for example epoxidized coconut oil, rapeseed oil or soya oil), antifoams, for example silicone oil, preservatives, viscosity regulators, binders and/or tackifiers, and also fertilizers or other active ingredients for achieving specific effects, for example bactericides, nematocides, molluscides or selective herbicides.

The action of the compositions according to the invention part (B) can be broadened considerably by adding other, for example insecticidally, acaricidally and/or fungicidally active, ingredients and adapted to prevailing circumstances. Suitable additions of insecticidally and acaricidally active ingredients are, for example, representatives of the following classes of active ingredients: organophosphorus compounds, nitrophenols and

derivatives, formamidines, triazine derivatives, nitroenamine derivatives, nitro- and cyanoguanidine derivatives, ureas, benzoylureas, carbamates, pyrethroids, chlorinated hydrocarbons and *Bacillus thuringiensis* products. Especially preferred components in mixtures are NI-25, TI-304, TI-435, MTI-446, fipronil, lufenuron, pyriproxyfen, thiacloprid, fluxofenime; imidacloprid, thiamethoxam, fenoxycarb, diafenthiuron, pymetrozine, diazinon, disulphoton; profenofos, furathiocarb, cyromazin, cypermethrin, tau-fluvalinate, tefluthrin or *Bacillus thuringiensis* products, very especially NI-25, TI-304, TI-435, MTI-446, fipronil, thiacloprid, imidacloprid, thiamethoxam and tefluthrin.

Examples of suitable additions of fungicidally active ingredients are the following compounds: azoxystrobin; bitertanol; carboxin; Cu_2O ; cymoxanil; cyproconazole; cyprodinil; dichlofluamid; difenoconazole; diniconazole; epoxiconazole; fenpiclonil; fludioxonil; fluquiconazole; flusilazole; flutriafol; furalaxyl; guazatin; hexaconazole; hymexazol; imazalil; imibenconazole; ipconazole; kresoxim-methyl; mancozeb; metalaxyl; R-metalaxyl; metconazole; oxadixyl, pefurazoate; penconazole; pencycuron; prochloraz; propiconazole; pyroquilon; SSF-109; spiroxamin; tebuconazole; teflutrin; thiabendazole; tolifluamide; triazoxide; triadimefon; triadimenol; triflumizole; triticonazole and uniconazole.

The compositions to be used according to the invention part (B) are prepared in a known manner, for example in the absence of auxiliaries by grinding and/or screening, for example to a particular particle size, or by compressing a solid active ingredient, and in the presence of at least one auxiliary, for example by intimately mixing and/or grinding the active ingredient with the auxiliary/auxiliaries. These methods for preparing the compositions according to the invention and the use of macrolides for preparing these compositions are also subjects of the invention.

The application methods according to the invention part (B) for the protection of plant propagation material, which, in accordance with the invention, is any plant material capable of developing complete plants after planting or sowing to the site of planting or sowing, for example seedlings, rhizomes, nursery plants, cuttings or, in particular, seed (seeds), such as fruits, tubers, kernels or bulbs, against attack by pests are characterized in that, for example, suitable compositions are applied in such a manner that they are applied in close spatial proximity to, or spatially together with, planting or sowing the propagation material to the site of planting or sowing. Application of these compositions in close spatial proximity to planting or sowing the propagation material to the site of planting or sowing takes place in accordance with the invention, preferably prior to planting or sowing the propagation

material, by applying the compositions by soil application directly to the site where the propagation material has been planted or sown, for example preferably prior to sowing into the seed furrow or to a closely delimited area around the site of planting or sowing the propagation material. Application of such compositions, which takes place spatially together with planting or applying the propagation material to the site of planting or sowing is to be understood as meaning that propagation material which has been pretreated with these compositions is planted or sown at the site of planting or sowing, it being possible, depending on the intended aims and prevailing circumstances, for the pretreatment of the propagation material to be effected for example by spraying, atomizing, dusting or scattering the compositions over the propagation material or brushing or pouring the compositions over the propagation material or, in the event of seed, in particular also by dressing the seed. When carrying out seed dressing, which is preferred according to the invention, i.e. dry seed, wet seed-dressing, liquid seed-dressing or slurry dressing, a suitable pesticide is added to the seed prior to sowing in a seed-dressing apparatus and the composition is distributed uniformly over the seed, for example by stirring the contents of the seed-dressing apparatus and/or by rotating and/or shaking the entire seed-dressing apparatus. Particular embodiments of such a seed-dressing treatment comprise, for example, immersing the seed in a liquid composition, coating the seed with a solid composition (seed coating) or by achieving penetration of the active ingredient into the seed by adding the composition to the water used for pre-soaking the seed (seed soaking). Typical application rates for the compositions used in the seed-dressing treatment according to the invention are, for example, between 0.1 and 100 g of active ingredient per 100 kg of seed, in particular between 1 and 60 g / 100 kg of seed, preferably between 4 and 40g / 100 kg of seed.

The seed-dressing treatment according to invention part (B) comprises, in particular, that due to the low toxicity of the active ingredient used, good tolerance by birds of the dressed seed is observed, for example, in the case of birds which, being seed-eaters in the open countryside, tend to take seed from freshly seeded fields, such as buntings, blackbirds, thrushes, ducks, pheasants, finches, geese, linnets, chickens, crows, skylarks, tits, seagulls, ravens, partridges, wood pigeons, goldfinches, pigeons or siskins. The seed-dressing treatment according to the invention also extends to the dressing of stored seed.

The commercial plant propagation material which has been pretreated according to invention part (B) is another subject of the invention.

Examples of formulations of macrolide compounds which can be used in the method according to the invention (B), that is to say solutions, granules, dusts, sprayable powders, emulsion concentrates, coated granules and suspension concentrates, are of the type as has been described in, for example, EP-A-580 553, Examples F1 to F10.

Example F1: General procedure for liquid seed dressing

The required amount of liquid formulation is placed into an Erlenmeyer flask. The flask is shaken to distribute the liquid on the entire bottom of the vessel. The required amount of seed is introduced into the flask immediately thereafter. The flask is shaken vigorously by hand for approximately one minute so that all the seed is covered with liquid. The contents of the flask are turned out onto a drying rack and dried in an oven.

Example F2: General procedure for dry seed dressing

Various wide-necked flasks are each filled with the same number of seed kernels, and each flask is charged with such an amount of wettable powder that the desired amount of active ingredient per seed kernel (for example 0.03, 0.1 or 0.3 mg per kernel) is obtained. The flasks are placed on a roller and rotated for three minutes at 80 rotations/minute. The seed kernels which are attached to the walls of the flasks are then disengaged by shaking by hand, and the flasks are rotated in the opposite direction for three minutes.

Biological examples (% = per cent by weight, unless otherwise specified)

Example B4: Seed-dressing action against first-instar larvae of *Spodoptera littoralis* on maize leaves

Maize seeds which have been dressed as described in procedure F1 are sown. 12, 19, 26, 33, 40 and 47 days after sowing, sections 5 to 8 cm in length of the top-most leaves of the plants are placed in glass beakers and infested with a predetermined quantity of a suspension of freshly hatched L1 larvae of *Spodoptera littoralis*. The beakers are closed with a lid and kept at 25°C, a relative atmospheric humidity of 60% and a day-light cycle of 16 hours. Evaluation takes place three to five days after infestation. The percentage reduction in population (% action) is determined by comparing the number of surviving larvae on the plants grown from dressed seeds and from untreated seeds.

Example B5: Seed-dressing action against adult *Diabrotica balteata* on sugar beet leaves

Seeds of sugar beet which have been dressed as described in procedure F1 are sown. 33, 40, 47, 54 and 61 days after sowing, the leaves of in each case three to 5 plants are placed

in a glass beaker and infested with a predetermined number of young adult *Diabrotica balteata*. The beakers are closed with a lid and kept at 25°C, a relative atmospheric humidity of 60% and 16 hours of daylight. Evaluation takes place three to five days after infestation. The percentage reduction in population (% action) is determined by comparing the number of surviving *Diabrotica* adults on the plants grown from dressed seeds and from untreated seeds.

Example B6: Seed-dressing action against third-instar larvae of *Diabrotica balteata* on maize roots

Maize seeds which have been treated as described in procedure F1 are sown. 14, 21 and 28 days after sowing, in each case five third-instar larvae of *Diabrotica balteata* are placed on the bottom of each plant pot. Evaluation takes place 6 days after infestation. The data registered are the number of surviving instars (larvae and pupae) in the stem of the plants, on the soil surface and in the soil. The percentage reduction in population (% action) is determined by comparing the number of surviving larvae and pupae on the plants grown from dressed seeds and from untreated seeds and their environment.

Example B7: Seed-dressing action against *Aphis fabae*

A glass flask or a plastic container is filled with 100 g of bean seeds and such an amount of a formulation of the active ingredient that a ratio of 0.1, 1 or 10 g of active ingredient per kg of seed is achieved. The active ingredient is distributed uniformly on the seed surface by rotating and/or shaking the container. The seeds which have been dressed in this way are sown in flowerpots (3 seeds per pot). The plantlets are grown in a greenhouse at 25 to 30°C until they have reached the 2-leaf stage and then populated with *Aphis fabae*. 6 days after population, the test is evaluated. The percentage reduction in population (% action) is determined by comparing the number of surviving individuals on the plants grown from dressed seeds and from untreated seeds.

In this test, a good action is shown by abamectin, emamectin and spinosad.

Example B8: Seed-dressing action against *Myzus persicae*

A glass flask or a plastic container is filled with 100 g of sugar beet seeds and such an amount of a pasty formulation of the active ingredient, prepared with a sprayable powder and a little water, that a ratio of 0.1, 1 or 10 g of active ingredient per kg of seed is achieved. The closed seed-dressing container is agitated on a roller until the paste is distributed uniformly on the seed surface. The seeds which have been dressed (coated) in

this way are dried and sown into loess soil in plastic pots. The seedlings are grown in a greenhouse at 24 to 26°C, a relative atmospheric humidity of 50 to 60% and a daily illumination time of 14 hours. 4 weeks after germination, the plants, which are 10 cm high, are populated with a mixed population of *Myzus persicae*. Evaluation takes place 2 and 7 days after the plants have been populated. The percentage reduction in population (% action) is determined by comparing the number of surviving individuals on the plants grown from dressed seeds and from untreated seeds.

In this test, a good action is shown by abamectin, emamectin and spinosad.

The invention further relates to

(C) A method of controlling wood pests and molluscs, characterized in that

a pesticidally active amount of a pesticide comprising, as pesticidally active compound, at least one macrolide, preferably abamectin, emamectin or spinosad, in free form or agrochemically utilizable salt form, as active ingredient and at least one auxiliary is applied to the pests or their environment;

to the corresponding use of these compounds, to corresponding pesticides whose active ingredient is selected from amongst these compounds, to a process for the preparation of and to the use of these compositions, and to plant propagation material thus protected from attack by pests.

The macrolides used in accordance with the invention are the same as mentioned under the aspect (A) of the invention. Also the salt are as mentioned under invention part (A). In the case of abamectin, the free form is preferred in accordance with the invention. Especially preferred for the purposes of the present invention is a composition which comprises emamectin in free form or as an agrochemically tolerated salt as the only pesticidally active component; especially as the salt; more especially as the benzoate, substituted benzoate, benzenesulphonate, citrate, phosphate, tartrate or maleate; preferably as the benzoate or benzenesulphonate, especially preferably as the benzoate.

A larger number of different classes of active ingredient are mentioned in the literature as arthropodecidally acting active ingredients for controlling gastropods and termites.

Surprisingly, it has now been found that the compounds known under the collective term

macrolides, too, exhibit an important molluscicidal and termiticidal activity, specifically against gastropods, such as slugs and snails, and against wood pests, in particular representatives of the order of Isoptera.

The molluscs include, for example,

Ampullariidae; Arion (A. ater, A. circumscriptus, A. hortensis, A. rufus); Bradybaenidae (Bradybaena fruticum); Cepaea (C. hortensis, C. Nemoralis); Cochlodina; Deroceras (D. agrestis, D. empiricorum, D. laeve, D. reticulatum); Discus (D. rotundatus); Euomphalia; Galba (G. trunculata); Helicella (H. itala, H. obvia); Helicidae (Helicigona arbustorum); Helicodiscus; Helix (H. aperta); Limax (L. cinereoniger, L. flavus, L. marginatus, L. maximus, L. tenellus); Lymnaea; Milax (M. gagates, M. marginatus, M. sowerbyi); Opeas; Pomacea (P. canaticulata); Vallonia and Zonitoides.

The termites include, in particular, the families Hodotermitidae, Kalotermitidae, Rhinotermitidae and Termitidae. Other pests which damage wood by feeding on wood, using it as a substrate or reproducing on wood, are to be understood as meaning, for example, wood-boring insects such as representatives of the family Lyctidae, the family Apidae, for example *Xylocopa virginica*, and of the family Anobiidae, such as *Anobium punctatum*.

Slugs and snails as pests in horticulture and agriculture are a massively increasing problem. They can cause severe plant damage by feeding, and can also bring about undesirable soiling by slug and snail mucus and faeces. Novel changes in the management of crops have led to an increased number in varieties of plant species which are sensitive to slugs and snails, and the obligation to dispense with burning stubble fields - which is based on an ecological approach - and to plough in the straw instead suggests that the existing mollusc problems, especially slug problems, will be made worse.

Termites are capable of inflicting substantial damage to buildings in particular at geographical latitudes of between 42° N and 42° S. In principle, two types of termites can be distinguished:

Termites which live in the subsoil - the most widely distributed type - require warm air and a moist environment. In order always to have available the necessary moisture, these termites must have direct access to the moist soil. Damage caused by subterranean termites is virtually always associated with damage to wood.

Termites which use dry wood as their substrate represent - even though less frequently - a large problem since they do not require contact with the moist soil. They penetrate into

buildings underneath roof shingles, through gaps and through ventilation holes. Others are brought into households with items of furniture which are already infested. Pretreatment of the wood is considered the most efficient method of controlling such termites. The damages of termites living on dry wood are caused more slowly than damages of termites living in a moist environment, therefore, damage caused by termites of the first-mentioned type is found predominantly in old buildings.

Damage caused by termites living subterraneously in a humid environment can be prevented by the application of insecticidally active substances to the termites or their environment. Such compounds are conventionally employed mainly for application to the soil around the buildings.

Gastropodocides which are currently commercially available comprise metaldehyde and carbamates such as, for example, methiocarb. Carbamates are highly effective as molluscicides, but exhibit the serious disadvantage of being highly toxic to mammals such as, for example, cats, dogs and hedgehogs, and other organisms such as, for example, earthworms, which should be left unharmed. While the metaldehyde molluscicides exhibit a lower toxicity, they are not lethal to molluscs but have an anaestheticizing or dehydrating effect, thus immobilizing the pests. There is therefore a demand for a useful molluscicide which is highly effective against, for example, slugs and snails, but has no, or a very low, toxic effect on beneficials such as, for example, earthworms, and mammals. This object is achieved with the macrolides of the present invention.

Also, the currently available compositions for controlling termites are not satisfactory in all respects since generally relatively large zones around building constructions, or these buildings themselves, must be treated with large amounts of insecticide. This can lead to secondary problems, in particular in the case of persistent pesticides, especially in houses. Here too, there is therefore a further demand for improved solutions, in particular by applying active ingredients which can be employed in particularly low quantities and which have low volatility.

The invention part (C) therefore also relates to pesticides such as emulsifiable concentrates, suspension concentrates, directly sprayable or dilutable solutions, spreadable pastes, dilute emulsions, sprayable powders, soluble powders, dispersible powders, wettable powders, dusts, granules, pellets or encapsulations in polymeric substances, all of

which are to be chosen to suit the intended aims and the prevailing circumstances and which comprise - at least - one of the active ingredients according to the invention.

The active ingredient is employed in these compositions in pure form, for example a solid active ingredient in a particular particle size, or, preferably, together with - at least - one of the auxiliaries or carriers conventionally used in formulation technology.

Examples of formulation auxiliaries are solid carriers, solvents, stabilizers, slow-release auxiliaries, colorants and, if appropriate, surface-active substances (surfactants). Suitable carriers and auxiliaries are all substances conventionally used in crop protection products, in particular in gastropodocides. Suitable auxiliaries such as solvents, solid carriers, surface-active compounds, non-ionic surfactants, cationic surfactants, anionic surfactants and other auxiliaries in the compositions employed in accordance with the invention are, for example, those which have been described in EP-A-736'252.

Other suitable substances which can be used as carriers for molluscicides are phagostimulants, that is to say the attractants and/or food (that is to say substances which can be utilized physiologically by slugs and snails) usually contained in slug and snail bait formulations. Mixtures of phagostimulants with other suitable organic and/or inorganic carriers may also be used.

Suitable phagostimulants for molluscicides are preferably: ground cereals, such as, for example, wheat flour, barley flour, rye flour, and also rice starch, crushed soya beans, fish meal, molasses, crushed rapeseed and the like. It is possible to employ either only one phagostimulant or else a mixture of phagostimulants.

To make the bait more palatable for the molluscs, one or more of the following substances can be used as additive for slug and snail baits:

- a) a vitamin B, in particular B1, B2, nicotinic acid or nicotinamide;
- b) vitamin E;
- c) animal or vegetable proteinaceous material, for example albumins and their hydrolytic degradation products, in particular those obtained by enzymatic hydrolysis by, for example, pepsin, such as metaproteins, proteoses, peptones, polypeptides, peptides, diketopiperazines and amino acids;
- d) one or more amino acids or salts or amides thereof, which may also be synthetic products;

- e) a nucleic acid or a hydrolytic degradation product thereof, such as a nucleotide, a nucleoside, adenine, guanine, cytosine, uracile or thymine;
- f) urea, carbamic acid;
- g) an ammonium salt, for example ammonium acetate;
- h) an amino sugar, for example, glucosamine or galactosamine;
- i) compounds of sodium, potassium, calcium or magnesium, or traces of compounds of manganese, copper, iron, cobalt, zinc, aluminium, boron or molybdenum, in particular chelates of these, such as Versene®;
- j) phosphoric acid, or glyceryl or sugar phosphates;
- k) water.

Stabilizers may be all known food stabilizers which have a fungistatic, fungicidal, bacteriostatic and/or bactericidal action, such as sodium benzoate, methyl p-hydroxybenzoate, cetyltrimethylammonium bromide, citric acid, tartaric acid, sorbic acid, phenols, alkylphenols or chlorinated phenols.

Slow-release auxiliaries which may be employed include, in addition to the substances mentioned as solid carriers, resins such as urea/formaldehyde resins, soya-bean meal, waxes, stearates and oils such as castor oil.

Substances which can be employed as auxiliaries for molluscicides according to part (C) of the invention are, for example, binders such as methylcellosolve, polyvinylpyrrolidone, polyvinyl alcohol, polyacrylates, polymethacrylates, natural waxes, chemically modified waxes and synthetic waxes, sugars, starch, alginates, agar, lignosulphonates and gum arabic, humectants such as polyalcohols, for example sugars or glycerol, preservatives, colorants, snail and slug attractants, repellents for warm-blooded species and/or other formulation auxiliaries. Combinations with known molluscicidally active ingredients, for example metaldehyde or mercaptodimethur, are also possible.

The formulation steps can be complemented by kneading, granulating (granules) and, if appropriate, compressing (pills, tablets, pellets).

The molluscicidal compositions which preferably comprise, other carriers and/or auxiliaries in addition to the active ingredient are preferably present in the ready-to-use form as sprayable powders, tracking powders, as granules (the active ingredient being present as a

mixture with the carrier material), or as pellets. Especially preferred formulations are tracking powders, granules or pellets.

Formulations which are specifically suitable for controlling molluscs according to part (C) of the invention are granules or pellets which comprise, as a rule, 0 to 90%, preferably 0 to 70%, of carrier material, 0.1 to 10%, preferably 1 to 5%, of active ingredient, 10 to 95%, preferably 25 to 90%, of phagostimulant, 0.5 to 25%, preferably 5 to 20%, of binder and, if appropriate, 0 to 15% of other auxiliaries (% is in each case per cent by weight).

The amount to be applied in each case as gastropodicide is not critical, due to the lack of, or low, toxicity to warm-blooded species and depends on the prevailing circumstances, such as severity of infestation, climatic conditions and the plants to be protected. The application rate of bait types according to the invention can be varied within a substantial range. In general, between 3 and 15 kg of snail and slug bait are used per hectare, preferably between 5 and 10 kg per hectare. Expediently, the gastropodicides are distributed as uniformly as possible between the crop plants by spraying an aqueous suspension or by spreading the powders, granules or pellets on the soil. If the plant canopy is not dense, it may also be expedient to establish "trapping strips" around the plants to be protected.

Since the gastropodicides according to the invention are outstandingly well tolerated by plants, no limitations apply to the plants to be protected. Thus, all ornamentals and crop plants in agriculture, forests and horticulture (also in greenhouses) in all growth stages can be protected from slug and snail damage.

The formulation and the use of the slug and snail baits according to the invention and of the compositions for controlling wood pests can be seen from the examples which follow.

The compositions to be used according to the invention part (C) for controlling gastropods and wood pests are prepared in the known manner, in the absence of auxiliaries for example by grinding and/or straining, for example to obtain a particular particle size, or by compressing a solid active ingredient, and in the presence of at least one auxiliary for example by intimately mixing and/or grinding the active ingredient with the auxiliary / auxiliaries. These processes for the preparation of the compositions according to the invention and the use of the macrolides for the preparation of these compositions are also the subject of the invention.

As a rule, the compositions in the frame of part (C) of the invention comprise 0.1 to 99%, in particular 0.1 to 95%, of active ingredient and 1 to 99.9%, in particular 5 to 99.9%, of - at

least - one solid or liquid auxiliary, it being possible, as a rule, for surfactants to account for 0 to 25%, in particular 0.1 to 20%, of the compositions (% is in each case per cent by weight). While concentrated compositions are more preferred as commercially available goods, the consumer uses, as a rule, dilute compositions which have much lower concentrations of active ingredient.

The activity of the compositions according to the invention can be widened considerably by adding other, for example insecticidally, acaricidally and/or fungicidally active ingredients and adapted to the prevailing circumstances. Examples of suitable added active ingredients are the same as mentioned under part (B) of the invention.

In an especially preferred embodiment of the invention, the macrolide compound is used for controlling the termites and other wood-destroying pests in the soil, thus achieving an indirect protection of timber constructions. An amount of the macrolide sufficient to control the pests is applied to the soil, preferably at an application rate of 1 g to 2000 g per hectare, especially 2 to 200 g, in particular 5 to 100 g.

Worker termites must work on the pesticide-treated soil to gain access to the wood. Inevitably, they will take up some of the pesticide and carry it back to the termite colony and thus spread the active ingredient in the termite colony.

The active ingredient(s) can also be applied in the form of baits, for example in the form of tablets which comprise the active ingredient, such as are described in U.S. Patent No. 5,096,710. Especially preferably, the macrolide is applied to materials which are used by the termites as food and building materials for the termite colony. Examples of such materials are board, paper, wood dust, cellulose powder or cotton. Useful concentrations on these materials are 0.01 to 10,000 ppm. Such baits are especially efficient even when pheromones are additionally employed and wood is used which has already been attacked by fungi. Such uses are discussed, for example, in U.S. Patent No. 5,151,443.

The macrolides according to the invention part (C) are preventatively and/or curatively valuable active ingredients with a very favourable biocidal spectrum in the field of mollusc and wood-pest control, even at low use concentrations, and are well tolerated by warm-blooded species, fish and plants. The active ingredients according to the invention are active against all or individual developmental stages of normally sensitive, but also resistant, molluscs and wood pests, especially termites. The molluscicidal action of the active ingredients according to the invention may manifest itself directly, i.e. in destruction

of the pests, either immediately or only after some time has elapsed, or indirectly, for example in a reduced oviposition and/or hatching rate, the good action corresponding to a destruction rate (mortality) of at least 50 to 60%.

Using the active ingredients according to the invention part (C), it is possible to control, i.e. contain or destroy, mollusc damage in particular on plants, mainly on useful plants and ornamentals in agriculture, in horticulture and in forests, or pests of the abovementioned type which occur on organs of such plants, such as fruits, flowers, foliage, stalks, tubers or roots and in some cases even plant organs which grow at a later point in time are still protected from these pests.

Suitable target crops for mollusc control are, in particular, cereals, such as wheat, barley, rye, oats, rice, maize or sorghum; beet, such as sugar or fodder beet; fruit, for example pome fruit, stone fruit and soft fruit, such as apples, pears, plums, peaches, almonds, cherries or berries, for example strawberries, raspberries or blackberries; legumes such as beans, lentils, peas or soya beans; oil crops such as oil seed rape, mustard, poppies, olives, sunflowers, coconuts, castor, cacao or peanuts; the marrow family, such as pumpkins, cucumbers or melons; fibre plants such as cotton, flax, hemp or jute; citrus fruits such as oranges, lemons, grapefruits or tangerines; vegetables such as spinach, lettuce, asparagus, cabbage species, carrots, onions, tomatoes, potatoes, or capsicums; the laurel family such as avocado, Cinnamomum or camphor; and tobacco, nuts, coffee, egg plants, sugar cane, tea, pepper, grapevines, hops, the banana family, latex plants and ornamentals.

Other fields of application for the active ingredients according to the invention part (C) are the protection of stored products and stores and of materials from molluscs and wood pests.

The compositions according to the invention part (C) are also suitable for the protection of plant propagation material, for example seed, such as fruits, tubers or kernels, or plant propagules, from gastropods and termites, especially gastropods. The propagation material can be treated with the composition prior to planting, for example seed prior to sowing. Alternatively, the active ingredients according to the invention can be applied to seed kernels (coating) either by soaking the kernels in a liquid composition or by coating them with a solid composition. Alternatively, the composition can be applied to the site of planting when the propagation material is being planted, for example into the seed furrow during

sowing. These treatment methods for plant propagation material and the plant propagation material treated thus are further subjects of the invention.

The examples which follow are intended to illustrate part (C) of the invention. They do not impose any limitation thereto.

Formulation examples

Example F3: Preparation of slug pellets

40 kg of crushed rapeseed (ratio of extracted/non-extracted crushed rapeseed = 65:35), 2.6 kg of a finely ground premix comprising 2.1 kg of macrolide and 500 g of highly-disperse silica, 4.7 kg of cold crosslinked cornstarch, 540 g of urea/formaldehyde resin, 100 g of isopropanol, 3 kg of sugar beet molasses and 140 g of blue colorant (1,4-di(isobutylamino)anthraquinone) are introduced in succession into a mixer and mixed intimately. This is followed by compression moulding. The product is left to cool and dry, and fines are removed using a 0.5 mm screen. This gives a ready-to-use slug and snail bait formulation.

Instead of the abovementioned compression moulding method, another, customary compacting method may also be used for preparing the slug and snail bait formulation.

Use examples

Example A1: Test for determining the efficacy of slug and snail pellets against *Deroceras reticulatum*

The efficacy of slug and snail pellets against small slug species, for example *Deroceras* species, is tested in polycarbonate boxes with a 17 cm x 22 cm base. The bottom of the box is covered with several layers of cellulose paper which is moistened sufficiently. The slug and snail pellets are scattered uniformly over one half of the test area at an application rate of 20 particles; the other half remains untreated. To avoid forced behaviour, the slugs are additionally given untreated supplementary feed: two potato halves arranged in diagonally opposite corners of the box. 10 adult reticulated field slugs (*Derocers reticulatum*) are introduced to the untreated area of each box. Each test is replicated three times.

Temperature and atmospheric humidity are kept virtually constant during the entire test period: 19° and 90 to 95% relative atmospheric humidity. The state of the slugs is checked and scored daily on seven consecutive days. When assessing the efficacy, the mortality

rate and the number of animals which show symptoms of damage are taken into consideration.

In this test, the macrolides according to the invention are very effective.

Example A2: Test for determining the efficacy of slug and snail pellets against *Arion rufus*

The efficacy of slug and snail pellets against larger slug species is tested in plastic test boxes equipped with a wire mesh. Each box has a base of 0.25 m². The bottom of the box is covered by a 2 to 3 cm deep layer of potting compost. The potting compost is moistened sufficiently before the beginning of the experiment. Slug and snail pellets are scattered uniformly over the left half of the experimental area at an application rate of 3.1 g; the right half remains untreated. To avoid forced behaviour, the slugs are additionally given untreated supplementary feed: two potato halves arranged in diagonally opposite corners of the box. 10 adult red slugs (*Arion rugosus*) are introduced to the untreated area of each box. Each test is replicated four times. Temperature and atmospheric humidity are kept virtually constant during the entire test period: 19° and 90 to 95% relative atmospheric humidity. The state of the slugs is checked and scored daily on seven consecutive days. When assessing the efficacy, the mortality rate and the number of animals which show symptoms of damage are taken into consideration.

In this test, the macrolides according to the invention are very effective.

Example A3: Test for determining systemic efficacy against *Deroceras reticulatum*

a) Lettuce plants

A test solution is prepared by dissolving a macrolide sample in 1 ml of acetone and making up the solution with water to 50 ml. The roots, previously cleaned with fresh water, of young lettuce plants 6 cm in height are immersed for at least two days in this solution. For each test, individual leaves are excised from these lettuce plants and placed on a paper filter in a 9 cm Petri dish. 1 ml of water is pipetted onto each paper filter to keep the leaves moist during the experiment. Then, two medium-sized slugs are introduced into each Petri dish and the amount of consumed leaves and the mortality is determined over a period of two days.

In this test, the macrolides according to the invention show a good action.

b) Seed

Batches of 10 slugs are introduced into 5 sealed boxes containing compost and having a base of 35 cm x 20 cm. In each case 100 treated winter wheat kernels are scattered uniformly into four boxes. In the fifth box, 50 treated winter wheat kernels are distributed over one side of the box and 50 untreated winter wheat kernels over the other side of the box to test the repellent action.

In this test, the macrolides according to the invention are very effective.

Example A4: Action against termites

Wood baits are treated with different amounts of macrolide, and their effect on hatching rate and survival of termites is tested. Solutions with concentrations of 0 ppm, 0.1 ppm, 100 ppm and 1000 ppm of the test substance in acetone are used. Water is used in the control study. The baits consist of pine wood which have been kept in a natural environment for four months.

The termites are collected from infested pieces of wood in the open. To carry out the wood bait study, the wood is kept for 48 hours in an oven at 80°C. The dried wood is then weighed, and the pieces are placed for 18 hours in solutions of the active ingredient at the desired concentration. The pieces of wood are then removed from the solutions, dried in the air and reweighed. To determine the action of the baits against termites, the pieces of wood thus treated are placed on a thin layer of untreated soil in Petri dishes.

The termites (50 workers and 2 soldiers) are introduced into each Petri dish. The dishes are inspected three times per week, over a period of 8 weeks. Insect development, abnormalities and mortalities are recorded. After 8 weeks, the logs are rinsed with water and dried again in an oven for 48 hours at 80°C. Again, the weight of each piece of wood is subsequently determined. The weight differential corresponds to the amount of the wood consumed by the termites.

In this test, the macrolides according to the invention are very effective.

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CLAIMS:

1. Method of protecting a seed and plant organs which grow at a later point in time against attack by a pest selected from the class Insecta, class Arachnida and class
5 Nematoda, which comprises treating the seed with a pesticidal composition comprising emamectin, abamectin or spinosad or an agrochemically utilisable salt thereof and at least one auxillary.
2. Method of controlling a pest selected from the
10 group consisting of class Insecta, class Arachnida and class Nematoda in crop plants, which comprises treating a seed of the crop plant with a pesticidal composition comprising emamectin, abamectin or spinosad in free form or in agrochemically utilisable salt form and at least one
15 auxillary.
3. The method according to claim 1 or 2, wherein the seed is treated prior to planting or sowing.
4. A method of controlling a pest selected from the group consisting of class Insecta, class Arachnida and
20 class Nematoda in a cultivated plant which comprises

treating plant seed with a pesticidal composition comprising emamectin, abamectin or spinosad or an agrochemically utilisable salt thereof and at least one auxillary,

25 planting or sowing the treated seed, and

achieving control of pests selected from representatives of the class Insecta, class Arachnida and class Nematoda at the site of planting or sowing.

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5. The method according to any one of claims 1 to 4, wherein the pesticidal composition comprises abamectin and at least one auxiliary.

6. The method according to any one of claims 1 to 5, wherein the pest is from the class Nematoda.

7. The method according to any one of claims 1 to 6, wherein the pesticidal composition is derived from a suspension concentrate, emulsifiable concentrate, dust, granule or wettable powder.

8. The method according to any one of claims 1 to 7, wherein the seed is selected from cereals, cotton, soya beans, oilseed rape, vegetables, potatoes, sunflowers and sugar beet.

9. The method according to claim 8, wherein the cereal is selected from rice, maize and sorghum.

10. The method according to any one of claims 1 to 9, wherein the seed is a genetically modified seed containing one or more genes expressing pesticidal resistance.

11. The method according to any one of claims 1 to 10, wherein the pesticidal composition further comprises a compound selected from azoxystrobin; bitertanol; carboxin; Cu_2O ; cymoxanil; cyproconazole; cyprodinil; dichlofluamid; difenoconazole; diniconazole; epoxiconazole; fenpiclonil; fludioxonil; fluquiconazole; flusilazole; flutriafol; furalaxyl; guazatin; hexaconazole; hymexazol; imazalil; imibenconazole; ipconazole; kresoxim-methyl; mancozeb; metalaxyl; R-metalaxyl; metconazole; oxadixyl, pefurazoate; penconazole; pencycuron; prochloraz; propiconazole; pyroquilone; SSF-109; spiroxamin; tebuconazole;

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thiabendazole; tolifluamide; triazoxide; triadimefon;
triadimenol; triflumizole; triticonazole and uniconazole.

12. The method according to any one of claims 1 to 11,
wherein the pesticidal composition further comprises a
5 compound selected from NI-25, TI-304, TI-435, MTI-446,
fipronil, thiacloprid, imidacloprid, thiamethoxam and
tefluthrin.

13. A pesticidal composition selected from suspension
concentrate and wettable powder, which composition comprises
10 emamectin, abamectin or spinosad or an agrochemically
utilisable salt thereof and at least one auxillary and
optionally one or more further pesticides.

14. The composition according to claim 13, wherein the
pesticidal composition comprises abamectin, one or more
15 further pesticides and at least one auxiliary.

15. The composition according to either claim 13 or
claim 14 wherein the one or more further pesticides are
selected from azoxystrobin; bitertanol; carboxin; Cu₂O;
cymoxanil; cyproconazole; cyprodinil; dichlofluamid;
20 difenoconazole; diniconazole; epoxiconazole; fenpiclonil;
fludioxonil; fluquiconazole; flusilazole; flutriafol;
furalaxyl; guazatin; hexaconazole; hymexazol; imazalil;
imibenconazole; ipconazole; kresoxim-methyl; mancozeb;
metalaxyl; R-metalaxyl; metconazole; oxadixyl, pefurazoate;
25 penconazole; pencycuron; prochloraz; propiconazole;
pyroquilon; SSF-109; spiroxamin; tebuconazole;
thiabendazole; tolifluamide; triazoxide; triadimefon;
triadimenol; triflumizole; triticonazole, uniconazole,
NI-25, TI-304, TI-435, MTI-446, fipronil, thiacloprid,
30 imidacloprid, thiamethoxam, spinosad and tefluthrin.

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16. Use of the composition defined in any one of claims 13 to 15 for seed dressing.

17. Use of the composition defined in any one of claims 13 to 15 for controlling a representative of the
5 class Nematoda against attack on a seed and plant organs which grow at a later point in time comprising treating the seed with the composition prior to sowing or planting.

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