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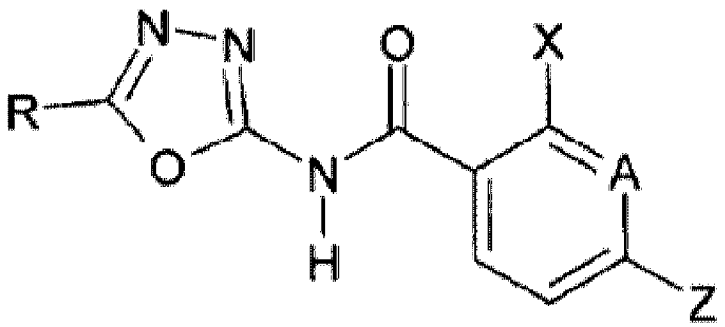
(72) Inventeurs/Inventors:
KOHN, ARNIM, DE;
WALDRAFF, CHRISTIAN, DE;
GATZWEILER, ELMAR, DE;
TRABOLD, KLAUS, DE;
MENNE, HUBERT, DE; ...

(54) Titre : COMPOSITIONS HERBICIDES CONTENANT DES N-(1,3,4-OXADIAZOL-2-YL)ARYLCARBOXAMIDES
(54) Title: HERBICIDAL COMPOSITIONS CONTAINING N-(1,3,4-OXADIAZOL-2-YL)-ARYL CARBOXYLIC ACID AMIDES



(I)

(57) Abrégé/Abstract:
Provided are herbicidal compositions which contain compounds of the formula (I) and other herbicides and optionally safeners. The herbicidal compositions are particularly suitable for use against harmful plants in crops of useful plants. (see formula I)

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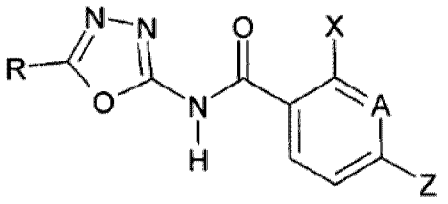
(72) Inventeurs(suite)/Inventors(continued): AHRENS, HARTMUT, DE; DORNER-RIEPING, SIMON, DE; BRAUN, RALF, DE; HEINEMANN, INES, DE

(73) Propriétaires(suite)/Owners(continued):BAYER CROPSCIENCE AKTIENGESELLSCHAFT, DE

(74) Agent: SMART & BIGGAR IP AGENCY CO.

ABSTRACT

Provided are herbicidal compositions which contain compounds of the formula (I) and other herbicides and optionally safeners. The herbicidal compositions are particularly suitable for use against harmful plants in crops of useful plants.



(I)

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Herbicidal compositions containing N-(1,3,4-oxadiazol-2-yl)-aryl carboxylic acid amides

Description

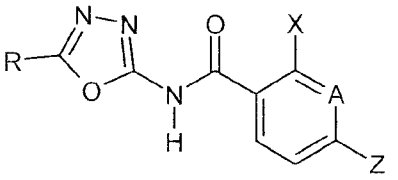
The present invention relates to agrochemically active herbicidal compositions, to processes for production thereof and to the use thereof for control of harmful plants.

WO 2012/126932 A1 discloses particular N-(1,3,4-oxadiazol-2-yl)arylcarboxamides having herbicidal properties. However, these active ingredients do not always exhibit sufficient efficacy against harmful plants and/or some of them are not fully compatible with some important crop plants such as cereal species, corn or rice.

It is therefore an object of the present invention to provide herbicidal compositions in which efficacy against harmful plants and/or selectivity of the abovementioned herbicides with respect to important crop plants is increased. This object is achieved by the inventive herbicidal compositions described hereinafter, comprising particular N-(1,3,4-oxadiazol-2-yl)arylcarboxamides, further herbicides and optionally safeners.

The present invention provides herbicidal compositions comprising

(A) one or more compounds of the formula (I) (component A) or salts thereof



(I),

in which the substituents are defined as follows:

A is N or CY,

R is hydrogen, $(C_1–C_6)$-alkyl, R^1O-$(C_1$-$C_6)$-alkyl, CH_2R^6, $(C_3–C_7)$-cycloalkyl, halo-$(C_1–C_6)$-alkyl, $(C_2$-$C_6)$-alkenyl, halo-$(C_2$-$C_6)$-alkenyl, $(C_2$-$C_6)$-alkynyl, halo-$(C_2$-$C_6)$-alkynyl, OR^1, NHR^1, methoxycarbonyl, ethoxycarbonyl, methoxycarbonylmethyl, ethoxycarbonylmethyl, methylcarbonyl, trifluoromethylcarbonyl, dimethylamino, acetylamino, methylsulfenyl, methylsulfinyl, methylsulfonyl, or heteroaryl, heterocyclyl,

benzyl or phenyl each substituted by s radicals from the group of halogen, nitro, cyano, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl, $S(O)_n$-(C_1-C_6)-alkyl, (C_1-C_6)-alkoxy, halo-(C_1-C_6)-alkoxy, (C_1-C_6)-alkoxy-(C_1-C_4)-alkyl,

X is nitro, halogen, cyano, formyl, thiocyanato, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, (C_2-C_6)-alkenyl, halo-(C_2-C_6)-alkenyl, (C_2-C_6)-alkynyl, halo-(C_3-C_6)-alkynyl, (C_3-C_6)-cycloalkyl, halo-(C_3-C_6)-cycloalkyl, (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, halo-(C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, COR^1, $COOR^1$, $OCOOR^1$, NR^1COOR^1, $C(O)N(R^1)_2$, $NR^1C(O)N(R^1)_2$, $OC(O)N(R^1)_2$, $C(O)NR^1OR^1$, OR^1, $OCOR^1$, OSO_2R^2, $S(O)_nR^2$, SO_2OR^1, $SO_2N(R^1)_2$, $NR^1SO_2R^2$, NR^1COR^1, (C_1-C_6)-alkyl-$S(O)_nR^2$, (C_1-C_6)-alkyl-OR^1, (C_1-C_6)-alkyl-$OCOR^1$, (C_1-C_6)-alkyl-OSO_2R^2, (C_1-C_6)-alkyl-CO_2R^1, (C_1-C_6)-alkyl-SO_2OR^1, (C_1-C_6)-alkyl-$CON(R^1)_2$, (C_1-C_6)-alkyl-$SO_2N(R^1)_2$, (C_1-C_6)-alkyl-NR^1COR^1, (C_1-C_6)-alkyl-$NR^1SO_2R^2$, NR_1R_2, $P(O)(OR^5)_2$, $CH_2P(O)(OR^5)_2$, (C_1-C_6)-alkylheteroaryl, (C_1-C_6)-alkylheterocyclyl, where the two latter radicals are each substituted by s halogen, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, $S(O)_n$-(C_1-C_6)-alkyl, (C_1-C_6)-alkoxy, halo-(C_1-C_6)-alkoxy radicals, and where heterocyclyl bears n oxo groups,

Y is hydrogen, nitro, halogen, cyano, thiocyanato, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, (C_2-C_6)-alkenyl, halo-(C_2-C_6)-alkenyl, (C_2-C_6)-alkynyl, halo-(C_2-C_6)-alkynyl, (C_3-C_6)-cycloalkyl, (C_3-C_6)-cycloalkenyl, halo-(C_3-C_6)-cycloalkyl, (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, halo-(C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, COR^1, $COOR^1$, $OCOOR^1$, NR^1COOR^1, $C(O)N(R^1)_2$, $NR^1C(O)N(R^1)_2$, $OC(O)N(R^1)_2$, $CO(NOR^1)R^1$, $NR^1SO_2R^2$, NR^1COR^1, OR^1, OSO_2R^2, $S(O)_nR^2$, SO_2OR^1, $SO_2N(R^1)_2$, (C_1-C_6)-alkyl-$S(O)_nR^2$, (C_1-C_6)-alkyl-OR^1, (C_1-C_6)-alkyl-$OCOR^1$, (C_1-C_6)-alkyl-OSO2R^2, (C_1-C_6)-alkyl-CO_2R^1, (C_1-C_6)-alkyl-CN, (C_1-C_6)-alkyl-SO_2OR^1, (C_1-C_6)-alkyl-$CON(R^1)_2$, (C_1-C_6)-alkyl-$SO_2N(R^1)_2$, (C_1-C_6)-alkyl-NR^1COR^1, (C_1-C_6)-alkyl-$NR^1SO_2R^2$, $N(R^1)_2$, $P(O)(OR^5)_2$, $CH_2P(O)(OR^5)_2$, (C_1-C_6)-alkylphenyl, (C_1-C_6)-alkylheteroaryl, (C_1-C_6)-alkylheterocyclyl, phenyl, heteroaryl or heterocyclyl, where the 6 latter radicals are each substituted by s radicals from the group of halogen, nitro, cyano, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl, $S(O)_n$-(C_1-C_6)-alkyl, (C_1-C_6)-alkoxy, halo-(C_1-C_6)-alkoxy, (C_1-C_6)-alkoxy-(C_1-C_4)-alkyl and cyanomethyl, and where heterocyclyl bears n oxo groups,

Z is hydrogen, halogen, cyano, thiocyanato, (C_1-C_6)-alkyl, (C_1-C_6)-alkoxy, halo-(C_1-C_6)-alkyl, (C_2-C_6)-alkenyl, halo-(C_2-C_6)-alkenyl, (C_2-C_6)-alkynyl, halo-(C_2-C_6)-alkynyl, (C_3-C_6)-cycloalkyl, halo-(C_3-C_6)-cycloalkyl, (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl,

halo-(C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, COR^1, $COOR^1$, $OCOOR^1$, NR^1COOR^1, $C(O)N(R^1)_2$, $NR^1C(O)N(R^1)_2$, $OC(O)N(R^1)_2$, $C(O)NR^1OR^1$, OSO_2R^2, $S(O)_nR^2$, SO_2OR^1, $SO_2N(R^1)_2$, $NR^1SO_2R^2$, NR^1COR^1, (C_1-C_6)-alkyl-$S(O)_nR^2$, (C_1-C_6)-alkyl-OR^1, (C_1-C_6)-alkyl-$OCOR^1$, (C_1-C_6)-alkyl-OSO_2R^2, (C_1-C_6)-alkyl-CO_2R^1, (C_1-C_6)-alkyl-SO_2OR^1, (C_1-C_6)-alkyl-$CON(R^1)_2$, (C_1-C_6)-alkyl-$SO_2N(R^1)_2$, (C_1-C_6)-alkyl-NR^1COR^1, (C_1-C_6)-alkyl-$NR^1SO_2R^2$, $N(R^1)_2$, $P(O)(OR^5)_2$, heteroaryl, heterocyclyl or phenyl, where the last three radicals are each substituted by s radicals from the group of halogen, nitro, cyano, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl, $S(O)_n$-(C_1-C_6)-alkyl, (C_1-C_6)-alkoxy and halo-(C_1-C_6)-alkoxy, and where heterocyclyl bears n oxo groups,

R^1 is hydrogen, (C_1-C_6)-alkyl, (C_1-C_6)-haloalkyl, (C_2-C_6)-alkenyl, (C_2-C_6)-haloalkenyl, (C_2-C_6)-alkynyl, (C_2-C_6)-haloalkynyl, (C_3-C_6)-cycloalkyl, (C_3-C_6)-cycloalkenyl, (C_3-C_6)-halocycloalkyl, (C_1-C_6)-alkyl-O-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, phenyl, phenyl-(C_1-C_6)-alkyl, heteroaryl, (C_1-C_6)-alkylheteroaryl, heterocyclyl, (C_1-C_6)-alkylheterocyclyl, (C_1-C_6)-alkyl-O-heteroaryl, (C_1-C_6)-alkyl-O-heterocyclyl, (C_1-C_6)-alkyl-NR^3-heteroaryl, (C_1-C_6)-alkyl-NR^3-heterocyclyl, where the 21 latter radicals are substituted by s radicals from the group consisting of cyano, halogen, nitro, thiocyanato, OR^3, $S(O)_nR^4$, $N(R^3)_2$, NR^3OR^3, COR^3, $OCOR^3$, $SCOR^4$, NR^3COR^3, $NR^3SO_2R^4$, CO_2R^3, $COSR^4$, $CON(R^3)_2$ and (C_1-C_4)-alkoxy-(C_2-C_6)-alkoxycarbonyl, and where heterocyclyl bears n oxo groups,

R^2 is (C_1-C_6)-alkyl, (C_1-C_6)-haloalkyl, (C_2-C_6)-alkenyl, (C_2-C_6)-haloalkenyl, (C_2-C_6)-alkynyl, (C_2-C_6)-haloalkynyl, (C_3-C_6)-cycloalkyl, (C_3-C_6)-cycloalkenyl, (C_3-C_6)-halocycloalkyl, (C_1-C_6)-alkyl-O-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, phenyl, phenyl-(C_1-C_6)-alkyl, heteroaryl, (C_1-C_6)-alkylheteroaryl, heterocyclyl, (C_1-C_6)-alkylheterocyclyl, (C_1-C_6)-alkyl-O-heteroaryl, (C_1-C_6)-alkyl-O-heterocyclyl, (C_1-C_6)-alkyl-NR^3-heteroaryl, (C_1-C_6)-alkyl-NR^3-heterocyclyl, where the 21 latter radicals are substituted by s radicals from the group consisting of cyano, halogen, nitro, thiocyanato, OR^3, $S(O)_nR^4$, $N(R^3)_2$, NR^3OR^3, COR^3, $OCOR^3$, $SCOR^4$, NR^3COR^3, $NR^3SO_2R^4$, CO_2R^3, $COSR^4$, $CON(R^3)_2$ and (C_1-C_4)-alkoxy-(C_2-C_6)-alkoxycarbonyl, and where heterocyclyl bears n oxo groups,

R^3 is hydrogen, (C_1-C_6)-alkyl, (C_2-C_6)-alkenyl, (C_2-C_6)-alkynyl, (C_3-C_6)-cycloalkyl or (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl,

R^4 is (C_1-C_6)-alkyl, (C_2-C_6)-alkenyl or (C_2-C_6)-alkynyl,

R^5 is methyl or ethyl,

R^6 is acetoxy, acetamido, N-methylacetamido, benzoyloxy, benzamido, N-methylbenzamido, methoxycarbonyl, ethoxycarbonyl, benzoyl, methylcarbonyl, piperidinylcarbonyl, morpholinylcarbonyl, trifluoromethylcarbonyl, aminocarbonyl, methylaminocarbonyl, dimethylaminocarbonyl, (C_1-C_6)-alkoxy, (C_3-C_6)-cycloalkyl, or heteroaryl, heterocyclyl or phenyl each substituted by s radicals from the group of methyl, ethyl, methoxy, trifluoromethyl and halogen,

n is 0, 1 or 2,

s is 0, 1, 2 or 3,

and

(B) one or more herbicides (component B) selected from groups (B1) to (B11):

B1 1,3-diketo compounds comprising
prohexadione, prohexadione-calcium, trinexapac-ethyl,
alloxydim, alloxydim-sodium, butroxydim, clethodim, cycloxydim, ketospiradox, profoxydim, sethoxydim, tepraloxydim, tralkoxydim,
mesotrione, sulcotrione, tefuryltrione, tembotrione, bicyclopyrone,
pinoxaden,

B2 (sulfon)amides comprising
beflubutamide, bromobutide, dimethenamide, dimethenamide-P, diphenamide, napropamide, pethoxamid, N-[3-chloro-4-(1-methylethyl)-phenyl]-2-methylpentanamide,
propyzamide,
diflufenican, etobenzanid, flufenacet, mefenacet, mefluidide, picolinafen, propanil, N-phenylphthalamic acid,
acetochlor, alachlor, amidochlor, butachlor, butenachlor, dimethachlor, metazachlor, metolachlor, S-metolachlor, pretilachlor, propachlor, propisochlor, (2-chloro-6'-ethyl-N-isopropoxymethylaceto-o-toluidide), thenylchlor,
asulam, carbaryl, carbetamide, chlorpropham, desmedipham, phenmedipham, propham,

butylate, cycloate, dimepiperate, EPTC, esprocarb, methasulfocarb, molinate, orbencarb, pebulate, prosulfocarb, pyributicarb, thiobencarb, tri-allate, vernolate, amidosulfuron, azimsulfuron, bensulfuron, bensulfuron-methyl, chlorimuron, chlorimuron-ethyl, chlorsulfuron, cinosulfuron, cyclosulfamuron, ethametsulfuron, ethametsulfuron-methyl, ethoxysulfuron, flazasulfuron, flucetosulfuron, flupyrsulfuron-methyl-sodium, foramsulfuron, halosulfuron-methyl, imazosulfuron, iodosulfuron, iodosulfuron-methyl-sodium, mesosulfuron, mesosulfuron-methyl, metazosulfuron, methiopyrsulfuron, metsulfuron, metsulfuron-methyl, monosulfuron, monosulfuron-ester, nicosulfuron, orthosulfamuron, oxasulfuron, primisulfuron-methyl, propyrisulfuron, prosulfuron, pyrazosulfuron, pyrazosulfuron-ethyl, rimsulfuron, sulfometuron, sulfometuron-methyl, sulfosulfuron, thifensulfuron, thifensulfuron-methyl, triasulfuron, tribenuron, tribenuron-methyl, trifloxysulfuron, trifloxysulfuron (sodium), triflusulfuron, triflusulfuron-methyl, tritosulfuron, (benzoic acid, 2-[[[[[4-methoxy-6-(methylthio)-2-pyrimidinyl]amino]carbonyl]amino]sulfonyl]methyl ester), flucarbazone, flucarbazone-sodium, ipfencarbazone, propoxycarbazone, propoxycarbazone-sodium, thiencarbazone, thiencarbazone-methyl, cloransulam, cloransulam-methyl, diclosulam, florasulam, flumetsulam, metosulam, penoxsulam, pyroxsulam, 3-chloro-N-[(4,6-dimethoxypyrimidin-2-yl)carbamoyl]-1-methyl-4-(5-methyl-5,6-dihydro-1,4,2-dioxazin-3-yl)-1H-pyrazole-5-sulfonamide,

B3 arylnitriles comprising

bromoxynil, bromoxynil-butyrate, bromoxynil-potassium, bromoxynil-heptanoate, bromoxynil-octanoate, detosyl-pyrazolate (DTP), dichlobenil, ioxynil, ioxynil-octanoate, ioxynil-potassium, ioxynil-sodium, pyraclonil,

B4 azoles comprising

benzofenap, pyrazolynate (pyrazolate), pyrazoxyfen, pyroxasulfone, topramezone, pyrasulfotole, 3-(3-chloro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 3-(3-iodo-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 1-ethyl-3-(3-fluoro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-5-(trifluoromethyl)-1H-pyrazole, pyraflufen, pyraflufen-ethyl, fenoxasulfone, isouron, isoxaben, isoxaflutole, imazamethabenz, imazamethabenz-methyl, imazamox, imazamox-ammonium, imazapic, imazapic-ammonium, imazapyr, imazapyr-isopropyl-ammonium, imazaquin, imazaquin-ammonium, imazethapyr,

imazethapyr-immonium, azafenidin, oxadiargyl, oxadiazon, amicarbazone, carfentrazone, carfentrazone-ethyl, sulfentrazone, amitrole, paclobutrazol, uniconazole, uniconazole-P, cafenstrole, fentrazamide,

B5 other herbicides comprising
allidochlor, aminocyclopyrachlor, aminocyclopyrachlor-potassium, aminocyclopyrachlor-methyl, N-acetylthiazolidine-4-carboxylic acid, aminopyralid, ammonium pelargonate, ammonium sulfamate, aviglycine, benazolin, benazolin-ethyl, benfluralin, benfuresate, bentazone, benzobicyclon, 6-benzylaminopurine, brassinolide, bromofenoxim, butralin, chlorfenac, chlorfenac-sodium, chlorfenprop, chlorflurenol, chlorflurenol-methyl, chloridazon, chlormequat chloride, chlorphthalim, chlorthal-dimethyl, cinidon, cinidon-ethyl, cinmethylin, clofencet, clomazone, cloxyfonac, cyanamide, cyclanilide, cyclopyrimorate, 6-isopentylaminopurine, kinetin, zeatin, dalapon, daminozide, dazomet, n-decanol, difenzoquat metilsulfate, 2,6-diisopropylnaphthalene, dikegulac, dikegulac-sodium, dimethipin, dinitramine, dinoterb, diquat, diquat dibromide, dithiopyr, DNOC, endothal, endothal-dipotassium, endothal-disodium, endothal-mono(N,N-dimethylalkylammonium), ethafluralin, ethofumesate, ethylchlozate, flamprop, flamprop-M-isopropyl, flamprop-M-methyl, fluchloralin, flufenpyr, flufenpyr-ethyl, flumetralin, flumichlorac, flumiclorac-pentyl, flumioxazin, flupropanate, flurenol, flurenol-butyl, flurenol-dimethylammonium-methyl, fluridone, flurochloridone, flurtamone, fluthiacet, fluthiacet-methyl, gibberillic acid, halauxifen, indanofan, isoprothiolane, maleic hydrazide, mepiquat chloride, metam, methiozolin, methylarsonic acid, 1-methylcyclopropene, methyl isothiocyanate, nitrophenolate mixture, nonanoic acid, norflurazon, oleic acid, oryzalin, oxaziclomefone, paraquat, paraquat dichloride, pendimethalin, pentachlorophenol, pentoxazone, petroleum oils, prodiamine, n-propyl dihydrojasmonate, pyridafol, pyridate, quinoclamine, sintofen, TCA, TCA sodium, tecnazene, thiazopyr, triacontanol, triafamone, trifluralin, urea sulfate,

B6 (het)arylcarboxylic acids comprising
chloramben, dicamba, 2,3,6-TBA, clopyralid, fluroxypyr, fluroxypyr-meptyl, inabenfide, picloram, triclopyr, quinclorac, quinmerac, indol-3-ylacetic acid, 4-indol-3-yl-butyric acid, 2-(1-naphthyl)acetamide, 1-naphthylacetic acid, 2-naphthyloxyacetic acid,

B7 organic phosphorus compounds comprising
anilofos, bensulide, bilanafos, bilanafos-sodium, butamifos, clacyfos, fosamine, glufosinate, glufosinate salts, glufosinate-ammonium, glufosinate-sodium, glufosinate-P, L-glufosinate-ammonium, L-glufosinate-sodium, glyphosate, glyphosate salts, glyphosate-isopropyl-ammonium, glyphosate-ammonium, glyphosate-dimethylammonium, glyphosate-trimesium (=sulfosate), glyphosate-diammonium, glyphosate-potassium, glyphosate-sodium, piperophos, ethephon, tribufos,

B8 phenyl ethers comprising
acifluorfen-sodium, aclonifen, fluoroglycofen, fluoroglycofen-ethyl, fomesafen, fomesafen-sodium, halosafen, lactofen, oxyfluorfen, acifluorfen, bifenox, ethoxyfen-ethyl, clomeprop, cloprop, dichlorprop, dichlorprop-P, mecoprop, mecoprop-sodium, mecoprop-butotyl, mecoprop-P, mecoprop-P-butotyl, mecoprop-P-dimethylammonium, mecoprop-P-2-ethylhexyl, mecoprop-P-patassium, 4-CPA, 2,4-D, 2,4-D-butotyl, 2,4-D-butyl, 2,4-D-dimethylammonium, 2,4-D-diolamine, 2,4-D-ethyl, 2,4-D-2-ethylhexyl, 2,4-D-isobutyl, 2,4-D-isooctyl, 2,4-D-isopropylammonium, 2,4-D-potassium, 2,4-D-triisopropanolammonium, 2,4-D-trolamine, MCPA, MCPA-butotyl, MCPA-dimethylammonium, MCPA-2-ethylhexyl, MCPA-isopropylammonium, MCPA-potassium, MCPA-sodium, 2,4-DB, MCPB, MCPB-methyl, MCPB-ethyl-sodium, clodinafop-ethyl, clodinafop-propargyl, cyhalofop, cyhalofop-butyl, diclofop, diclofop-P, diclofop-methyl, diclofop-P-methyl, fenoxaprop, fenoxaprop-P, fenoxaprop-P-ethyl, fluazifop, fluazifop-P, fluazifop-butyl, fluazifop-P-butyl, haloxyfop, haloxyfop-P, metamifop, propaquizafop quizalofop, quizalofop-ethyl, quizalofop-P, quizalofop-P-ethyl, quizalofop-P-tefuryl,

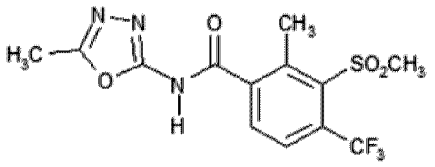
B9 pyrimidines, comprising
ancymidol, flurprimidol, pyrimisulfan, bispyribac, bispyribac-sodium, pyribenzoxim, pyriminobac, pyriminobac-methyl, pyribambenz, pyribambenz-isopropyl, pyribambenz-propyl, pyriftalid, pyrithiobac, pyrithiobac-sodium, bromacil, butafenacil, lenacil, saflufenacil, terbacil, tifenacil, 2-chloro-4-fluoro-5-[3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidin-1(2H)-yl]-N-[methyl(1-methylethyl)sulfamoyl]benzamide, ethyl [(3-{2-chloro-5-[2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidin-1(2H)-yl]-4-fluorophenoxy}pyridin-2-yl)oxy]acetate,

B10 (thio)ureas comprising

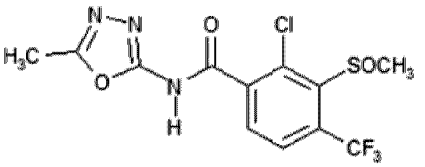
cumyluron, chlorbromuron, chlorotoluron, daimuron, diflufenzopyr, diflufenzopyr-sodium, dimefuron, diuron, fluometuron, forchlorfenuron, isoproturon, karbutilate, linuron, metobromuron, metoxuron, monolinuron, neburon, siduron, terbucarb, thidiazuron, tebuthiuron, methabenzthiazuron,

B11 triazines comprising
triaziflam, indaziflam, atrazine, cyanazine, cyprazine, propazine, simazine, terbumeton, terbuthylazine, trietazine, prometon, ametryn, dimethametryn, prometryn, simetryn, terbutryn, ethiozin, hexazinon, metamitron, metribuzin.

In a further embodiment, the present invention provides a herbicidal composition comprising (A) one or more compounds of the formula A1-13 or A1-14 (component A) or salts thereof



A1-13



A1-14

and (B) one or more herbicides (component B) selected from groups (B1) to (B11): B1 1,3-diketo compounds comprising prohexadione, prohexadione-calcium, trinexapac-ethyl, alloxydim, alloxydim-sodium, butroxydim, clethodim, cycloxydim, ketospiradox, profoxydim, sethoxydim, tepraloxydim, tralkoxydim, mesotrione, sulcotrione, tefuryltrione, tembotrione, bicyclopyrone, pinoxaden, B2 (sulfon)amides comprising beflubutamide, bromobutide, dimethenamide, dimethenamide-P, diphenamide, napropamide, pethoxamid, N-[3-chloro-4-(1-methylethyl)-phenyl]-2-methylpentanamide, propyzamide, diflufenican, etobenzanid, flufenacet, mefenacet, mefluidide, picolinafen, propanil, N-phenylphthalamic acid, acetochlor, alachlor, amidochlor, butachlor, butenachlor, dimethachlor, metazachlor, metolachlor, S-metolachlor, pretilachlor, propachlor, propisochlor, 2-chloro-6'-ethyl-N-isopropoxymethylaceto-o-toluidide, thenylchlor, asulam, carbaryl, carbetamide, chlorpropham, desmedipham, phenmedipham, propham, butylate, cycloate, dimepiperate, EPTC, esprocarb, methasulfocarb, molinate, orbencarb, pebulate,

prosulfocarb, pyributicarb, thiobencarb, tri-allate, vernolate, amidosulfuron, azimsulfuron, bensulfuron, bensulfuron-methyl, chlorimuron, chlorimuron-ethyl, chlorsulfuron, cinosulfuron, cyclosulfamuron, ethametsulfuron, ethametsulfuron-methyl, ethoxysulfuron, flazasulfuron, flucetosulfuron, flupyrsulfuron-methyl-sodium, foramsulfuron, halosulfuron-methyl, imazosulfuron, iodosulfuron, iodosulfuron-methyl-sodium, mesosulfuron, mesosulfuron-methyl, metazosulfuron, methiopyrsulfuron, metsulfuron, metsulfuron-methyl, monosulfuron, monosulfuron-ester, nicosulfuron, orthosulfamuron, oxasulfuron, primisulfuron-methyl, propyrisulfuron, prosulfuron, pyrazosulfuron, pyrazosulfuron-ethyl, rimsulfuron, sulfometuron, sulfometuron-methyl, sulfosulfuron, thifensulfuron, thifensulfuron-methyl, triasulfuron, tribenuron, tribenuron-methyl, trifloxysulfuron, trifloxysulfuron (sodium), triflusulfuron, triflusulfuron-methyl, tritosulfuron, benzoic acid, 2-[[[[[4-methoxy-6-(methylthio)-2-pyrimidinyl]amino]carbonyl]amino]sulfonyl]methyl ester, flucarbazone, flucarbazone-sodium, ipfencarbazone, propoxycarbazone, propoxycarbazone-sodium, thiencarbazone, thiencarbazone-methyl, cloransulam, cloransulam-methyl, diclosulam, florasulam, flumetsulam, metosulam, penoxsulam, pyroxsulam, 3-chloro-N-[(4,6-dimethoxypyrimidin-2-yl)carbamoyl]-1-methyl-4-(5-methyl-5,6-dihydro-1,4,2-dioxazin-3-yl)-1H-pyrazole-5-sulfonamide, B3 arylnitriles comprising bromoxynil, bromoxynil-butyrate, bromoxynil-potassium, bromoxynil-heptanoate, bromoxynil-octanoate, detosyl-pyrazolate (DTP), dichlobenil, ioxynil, ioxynil-octanoate, ioxynil-potassium, ioxynil-sodium, pyraclonil, B4 azoles comprising benzofenap, pyrazolynate, pyrazoxyfen, pyroxasulfone, topramezone, pyrasulfotole, 3-(3-chloro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 3-(3-iodo-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 1-ethyl-3-(3-fluoro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-5-(trifluoromethyl)-1H-pyrazole, pyraflufen, pyraflufen-ethyl, fenoxasulfone, isouron, isoxaben, isoxaflutole, imazamethabenz, imazamethabenz-methyl, imazamox, imazamox-ammonium, imazapic, imazapic-ammonium, imazapyr, imazapyr-isopropyl-ammonium, imazaquin, imazaquin-ammonium, imazethapyr, imazethapyr-immonium, azafenidin, oxadiargyl, oxadiazon, amicarbazone, carfentrazone, carfentrazone-ethyl, sulfentrazone, amitrole, paclobutrazol, uniconazole, uniconazole-P, cafenstrole, fentrazamide, B5 other herbicides comprising allidochlor, aminocyclopyrachlor, aminocyclopyrachlor-potassium, aminocyclopyrachlor-methyl, N-acetylthiazolidine-4-carboxylic acid, aminopyralid, ammonium pelargonate, ammonium sulfamate, aviglycine, benazolin, benazolin-ethyl, benfluralin, benfuresate, bentazone, benzobicyclon, 6-benzylaminopurine, brassinolide, bromofenoxim, butralin, chlorfenac,

chlorfenac-sodium, chlorfenprop, chlorflurenol, chlorflurenol-methyl, chloridazon, chlormequat chloride, chlorphthalim, chlorthal-dimethyl, cinidon, cinidon-ethyl, cinmethylin, clofencet, clomazone, cloxyfonac, cyanamide, cyclanilide, cyclopyrimorate, 6-isopentylaminopurine, kinetin, zeatin, dalapon, daminozide, dazomet, n-decanol, difenzoquat metilsulfate, 2,6-diisopropylnaphthalene, dikegulac, dikegulac-sodium, dimethipin, dinitramine, dinoterb, diquat, diquat dibromide, dithiopyr, DNOC, endothal, endothal-dipotassium, endothal-disodium, endothal-mono(N,N-dimethylalkylammonium), ethafluralin, ethofumesate, ethylchlozate, flamprop, flamprop-M-isopropyl, flamprop-M-methyl, fluchloralin, flufenpyr, flufenpyr-ethyl, flumetralin, flumichlorac, flumiclorac-pentyl, flumioxazin, flupropanate, flurenol, flurenol-butyl, flurenol-dimethylammonium-methyl, fluridone, flurochloridone, flurtamone, fluthiacet, fluthiacet-methyl, gibberillic acid, halauxifen, indanofan, isoprothiolane, maleic hydrazide, mepiquat chloride, metam, methiozolin, methylarsonic acid, 1-methylcyclopropene, methyl isothiocyanate, nitrophenolate mixture, nonanoic acid, norflurazon, oleic acid, oryzalin, oxaziclomefone, paraquat, paraquat dichloride, pendimethalin, pentachlorophenol, pentoxazone, petroleum oils, prodiamine, n-propyl dihydrojasmonate, pyridafol, pyridate, quinoclamine, sintofen, TCA, TCA sodium, tecnazene, thiazopyr, triacontanol, triafamone, trifluralin, urea sulfate, B6 (het)arylcarboxylic acids comprising chloramben, dicamba, 2,3,6-TBA, clopyralid, fluroxypyr, fluroxypyr-meptyl, inabenfide, picloram, triclopyr, quinclorac, quinmerac, indol-3-ylacetic acid, 4-indol-3-yl-butyric acid, 2-(1-naphthyl)acetamide, 1-naphthylacetic acid, 2-naphthyloxyacetic acid, B7 organic phosphorus compounds comprising anilofos, bensulide, bilanafos, bilanafos-sodium, butamifos, clacyfos, fosamine, glufosinate, glufosinate salts, glufosinate-ammonium, glufosinate-sodium, glufosinate-P, L-glufosinate-ammonium, L-glufosinate-sodium, glyphosate, glyphosate salts, glyphosate-isopropyl-ammonium, glyphosate-ammonium, glyphosate-dimethylammonium, glyphosate-trimesium, glyphosate-diammonium, glyphosate-potassium, glyphosate-sodium, piperophos, ethephon, tribufos, B8 phenyl ethers comprising acifluorfen-sodium, aclonifen, fluoroglycofen, fluoroglycofen-ethyl, fomesafen, fomesafen-sodium, halosafen, lactofen, oxyfluorfen, acifluorfen, bifenox, ethoxyfen-ethyl, clomeprop, cloprop, dichlorprop, dichlorprop-P, mecoprop, mecoprop-sodium, mecoprop-butotyl, mecoprop-P, mecoprop-P-butotyl, mecoprop-P-dimethylammonium, mecoprop-P-2-ethylhexyl, mecoprop-P-patassium, 4-CPA, 2,4-D, 2,4-D-butotyl, 2,4-D-butyl, 2,4-D-dimethylammonium, 2,4-D-diolamine, 2,4-D-ethyl, 2,4-D-2-ethylhexyl, 2,4-D-isobutyl, 2,4-D-isooctyl, 2,4-D-isopropylammonium, 2,4-D-potassium, 2,4-D-triisopropanolammonium, 2,4-D-trolamine, MCPA, MCPA-butotyl, MCPA-dimethylammonium, MCPA-2-ethylhexyl,

MCPA-isopropylammonium, MCPA-potassium, MCPA-sodium, 2,4-DB, MCPB, MCPB-methyl, MCPB-ethyl-sodium, clodinafop-ethyl, clodinafop-propargyl, cyhalofop, cyhalofop-butyl, diclofop, diclofop-P, diclofop-methyl, diclofop-P-methyl, fenoxaprop, fenoxaprop-P, fenoxaprop-P-ethyl, fluazifop, fluazifop-P, fluazifop-butyl, fluazifop-P-butyl, haloxyfop, haloxyfop-P, metamifop, propaquizafop quizalofop, quizalofop-ethyl, quizalofop-P, quizalofop-P-ethyl, quizalofop-P-tefuryl, B9 pyrimidines comprising ancymidol, flurprimidol, pyrimisulfan, bispyribac, bispyribac-sodium, pyribenzoxim, pyriminobac, pyriminobac-methyl, pyribambenz, pyribambenz-isopropyl, pyribambenz-propyl, pyriftalid, pyrithiobac, pyrithiobac-sodium, bromacil, butafenacil, lenacil, saflufenacil, terbacil, tifenacil, 2-chloro-4-fluoro-5-[3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidin-1(2H)-yl]-N-[methyl(1-methylethyl)sulfamoyl]benzamide, ethyl [(3-{2-chloro-5-[2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidin-1(2H)-yl]-4-fluorophenoxy}pyridin-2-yl)oxy]acetate, B10 (thio)ureas comprising cumyluron, chlorbromuron, chlorotoluron, daimuron, diflufenzopyr, diflufenzopyr-sodium, dimefuron, diuron, fluometuron, forchlorfenuron, isoproturon, karbutilate, linuron, metobromuron, metoxuron, monolinuron, neburon, siduron, terbucarb, thidiazuron, tebuthiuron, methabenzthiazuron, B11 triazines comprising triaziflam, indaziflam, atrazine, cyanazine, cyprazine, propazine, simazine, terbumeton, terbuthylazine, trietazine, prometon, ametryn, dimethametryn, prometryn, simetryn, terbutryn, ethiozin, hexazinon, metamitron, metribuzin.

In a further embodiment, these herbicidal compositions comprise (C) one or more safeners (component C) from the group consisting of
benoxacor (C1), cloquintocet-mexyl (C2), cyprosulfamide (C3), dichlormid (C4), fenclorim (C5), fenchlorazole (C6), furilazole (C7), isoxadifen-ethyl (C8), mefenpyr-diethyl (C9), 4-(dichloroacetyl)-1-oxa-4-azaspiro[4.5]decane (CAS 71526-07-3) (C10), 2,2,5-trimethyl-3-(dichloroacetyl)-1,3-oxazolidine (CAS 52836-31-4) (C11), 2-methoxy-N-({4-[(methylcarbamoyl)amino]phenyl}sulfonyl)-benzamide (CAS 129531-12-0) (C12).
Components B) and C) are known, for example, from "The Pesticide Manual", 16th edition, 2012, The British Crop Protection Council and the Royal Soc. of Chemistry.

The inventive herbicidal compositions may comprise or be used together with additional further components, for example other kinds of active crop protection

ingredients and/or additives and/or formulation auxiliaries customary in crop protection.

The herbicides (A), (B) and optionally the safeners (C) can be applied in a known manner, for example together (for example as a co-formulation or as a tank-mix) or else at different times in short succession (splitting), for example to the plants, plant parts, plant seeds or the area on which the plants grow. It is possible, for example, to apply the individual active ingredients or the herbicide-safener combination in several portions (sequential application), for example by pre-emergence applications followed by post-emergence applications, or by early post-emergence applications followed by post-emergence applications at an intermediate or late stage. Preference is given to the joint or immediately successive application of the active ingredients in the

respective combination. It is also possible to use the individual active ingredients or the herbicide-safener combination for seed treatment.

Preference is given to those inventive compositions which comprise, as herbicide (A), compounds of the general formula (I) and salts thereof in which

A is N or CY,

R is hydrogen, $(C_1–C_6)$-alkyl, $(C_3–C_7)$-cycloalkyl, halo-$(C_1–C_6)$-alkyl, $(C_3–C_7)$-cycloalkylmethyl, methoxycarbonylmethyl, ethoxycarbonylmethyl, acetylmethyl, methoxymethyl, methoxyethyl, benzyl, pyrazin-2-yl, furan-2-yl, tetrahydrofuran-2-yl, morpholine, dimethylamino, or phenyl substituted by s radicals from the group of methyl, methoxy, trifluoromethyl and halogen;

X is nitro, halogen, cyano, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl, OR^1, $S(O)_nR^2$, (C_1-C_6)-alkyl-$S(O)_nR^2$, (C_1-C_6)-alkyl-OR^1, (C_1-C_6)-alkyl-$CON(R^1)_2$, (C_1-C_6)-alkyl-$SO_2N(R^1)_2$, (C_1-C_6)-alkyl-NR^1COR^1, (C_1-C_6)-alkyl-$NR^1SO_2R^2$, (C_1-C_6)-alkylheteroaryl, (C_1-C_6)-alkylheterocyclyl, where the two latter radicals are each substituted by s halogen, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, $S(O)_n$-(C_1-C_6)-alkyl, (C_1-C_6)-alkoxy, halo-(C_1-C_6)-alkoxy radicals, and where heterocyclyl bears n oxo groups,

Y is hydrogen, nitro, halogen, cyano, (C_1-C_6)-alkyl, (C_1-C_6)-haloalkyl, OR^1, $S(O)_nR^2$, $SO_2N(R^1)_2$, $N(R^1)_2$, $NR^1SO_2R^2$, NR^1COR^1, (C_1-C_6)-alkyl-$S(O)_nR^2$, (C_1-C_6)-alkyl-OR^1, (C_1-C_6)-alkyl-$CON(R^1)_2$, (C_1-C_6)-alkyl-$SO_2N(R^1)_2$, (C_1-C_6)-alkyl-NR^1COR^1, (C_1-C_6)-alkyl-$NR^1SO_2R^2$, (C_1-C_6)-alkylphenyl, (C_1-C_6)-alkylheteroaryl, (C_1-C_6)-alkylheterocyclyl, phenyl, heteroaryl or heterocyclyl, where the 6 latter radicals are each substituted by s radicals from the group consisting of halogen, nitro, cyano, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl, $S(O)_n$-(C_1-C_6)-alkyl, (C_1-C_6)-alkoxy, halo-(C_1-C_6)-alkoxy, (C_1-C_6)-alkoxy-(C_1-C_4)-alkyl and cyanomethyl, and where heterocyclyl bears n oxo groups,

Z is halogen, cyano, nitro, methyl, halo-(C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl, $S(O)_nR^2$, 1,2,4-triazol-1-yl, pyrazol-1-yl, or
Z may also be hydrogen if Y is the $S(O)_nR^2$ radical,

R^1 is hydrogen, (C_1-C_6)-alkyl, (C_2-C_6)-alkenyl, (C_2-C_6)-alkynyl, (C_3-C_6)-cycloalkyl, (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, (C_1-C_6)-alkyl-O-(C_1-C_6)-alkyl, phenyl, phenyl-(C_1-C_6)-

alkyl, heteroaryl, (C_1-C_6)-alkylheteroaryl, heterocyclyl, (C_1-C_6)-alkylheterocyclyl, (C_1-C_6)-alkyl-O-heteroaryl, (C_1-C_6)-alkyl-O-heterocyclyl, (C_1-C_6)-alkyl-NR^3-heteroaryl or (C_1-C_6)-alkyl-NR^3-heterocyclyl, where the 16 latter radicals are substituted by s radicals from the group consisting of cyano, halogen, nitro, OR^3, $S(O)_nR^4$, $N(R^3)_2$, NR^3OR^3, COR^3, $OCOR^3$, NR^3COR^3, $NR^3SO_2R^4$, CO_2R^3, $CON(R^3)_2$ and (C_1-C_4)-alkoxy-(C_2-C_6)-alkoxycarbonyl, and where heterocyclyl bears n oxo groups,

R^2 is (C_1-C_6)-alkyl, (C_3-C_6)-cycloalkyl or (C_3-C_6)-cycloalkyl-(C_1-C_6)-alkyl, where these three aforementioned radicals are each substituted by s radicals from the group consisting of halogen and OR^3,

R^3 is hydrogen or (C_1-C_6)-alkyl,

R^4 is (C_1-C_6)-alkyl,

n is 0, 1 or 2,

s is 0, 1, 2 or 3.

Particular preference is given to inventive compositions which comprise, as herbicide (A), compounds of the general formula (I) and salts thereof in which

A is N or CY,

R is hydrogen, $(C_1–C_4)$-alkyl, cyclopropyl, halo-$(C_1–C_4)$-alkyl, $(C_3–C_6)$-cycloalkylmethyl, methoxymethyl, methoxyethyl, benzyl,

X is nitro, halogen, cyano, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, cyclopropyl, OR^1, $S(O)_nR^2$, (C_1-C_6)-alkyl-$S(O)_nR^2$, (C_1-C_6)-alkyl-OR^1, (C_1-C_2)-alkylheteroaryl, (C_1-C_2)-alkylheterocyclyl, where the two latter radicals are each substituted by s halogen, (C_1-C_6)-alkyl, halo-(C_1-C_6)-alkyl, $S(O)_n$-(C_1-C_6)-alkyl, (C_1-C_6)-alkoxy, halo-(C_1-C_6)-alkoxy radicals, and where heterocyclyl bears n oxo groups,

Y is hydrogen, nitro, halogen, cyano, (C_1-C_6)-alkyl, (C_1-C_6)-haloalkyl, OR^1, $S(O)_nR^2$, $SO_2N(R^1)_2$, $N(R^1)_2$, $NR^1SO_2R^2$, NR^1COR^1, (C_1-C_6)-alkyl-$S(O)_nR^2$, (C_1-C_6)-alkyl-OR^1,

$(C_1$-$C_6)$-alkyl-$CON(R^1)_2$, $(C_1$-$C_6)$-alkyl-$SO_2N(R^1)_2$, $(C_1$-$C_6)$-alkyl-NR^1COR^1, $(C_1$-$C_6)$-alkyl-$NR^1SO_2R^2$, $(C_1$-$C_6)$-alkylphenyl, $(C_1$-$C_6)$-alkylheteroaryl, $(C_1$-$C_6)$-alkylheterocyclyl, phenyl, heteroaryl or heterocyclyl, where the 6 latter radicals are each substituted by s radicals from the group consisting of halogen, nitro, cyano, $(C_1$-$C_6)$-alkyl, halo-$(C_1$-$C_6)$-alkyl, $(C_3$-$C_6)$-cycloalkyl, $S(O)_n$-$(C_1$-$C_6)$-alkyl, $(C_1$-$C_6)$-alkoxy, halo-$(C_1$-$C_6)$-alkoxy, $(C_1$-$C_6)$-alkoxy-$(C_1$-$C_4)$-alkyl and cyanomethyl, and where heterocyclyl bears n oxo groups,

Z is halogen, cyano, nitro, methyl, halo-$(C_1$-$C_6)$-alkyl, $(C_3$-$C_6)$-cycloalkyl, $S(O)_nR^2$, 1,2,4-triazol-1-yl, pyrazol-1-yl, or

R^1 is hydrogen, $(C_1$-$C_6)$-alkyl, $(C_2$-$C_6)$-alkenyl, $(C_2$-$C_6)$-alkynyl, $(C_3$-$C_6)$-cycloalkyl, $(C_3$-$C_6)$-cycloalkyl-$(C_1$-$C_6)$-alkyl, $(C_1$-$C_6)$-alkyl-O-$(C_1$-$C_6)$-alkyl, phenyl, phenyl-$(C_1$-$C_6)$-alkyl, heteroaryl, $(C_1$-$C_6)$-alkylheteroaryl, heterocyclyl, $(C_1$-$C_6)$-alkylheterocyclyl, $(C_1$-$C_6)$-alkyl-O-heteroaryl, $(C_1$-$C_6)$-alkyl-O-heterocyclyl, $(C_1$-$C_6)$-alkyl-NR^3-heteroaryl or $(C_1$-$C_6)$-alkyl-NR^3-heterocyclyl, where the 16 latter radicals are substituted by s radicals from the group consisting of cyano, halogen, nitro, OR^3, $S(O)_nR^4$, $N(R^3)_2$, NR^3OR^3, COR^3, $OCOR^3$, NR^3COR^3, $NR^3SO_2R^4$, CO_2R^3, $CON(R^3)_2$ and $(C_1$-$C_4)$-alkoxy-$(C_2$-$C_6)$-alkoxycarbonyl, and where heterocyclyl bears n oxo groups,

R^2 is $(C_1$-$C_6)$-alkyl, $(C_3$-$C_6)$-cycloalkyl or $(C_3$-$C_6)$-cycloalkyl-$(C_1$-$C_6)$-alkyl, where these three aforementioned radicals are each substituted by s radicals from the group consisting of halogen and OR^3,

R^3 is hydrogen or $(C_1$-$C_6)$-alkyl,

R^4 is $(C_1$-$C_6)$-alkyl,

n is 0, 1 or 2,

s is 0, 1, 2 or 3.

In the formula (I) and all the formulae which follow, alkyl radicals having more than two carbon atoms may be straight-chain or branched. Alkyl radicals are, for example, methyl, ethyl, n- or i-propyl, n-, i-, t- or 2-butyl, pentyls, hexyls such as n-hexyl, i-hexyl

and 1,3-dimethylbutyl. Analogously, alkenyl is, for example, allyl, 1-methylprop-2-en-1-yl, 2-methylprop-2-en-1-yl, but-2-en-1-yl, but-3-en-1-yl, 1-methylbut-3-en-1-yl and 1-methylbut-2-en-1-yl. Alkynyl is, for example, propargyl, but-2-yn-1-yl, but-3-yn1-yl, 1-methylbut-3-yn-1-yl. The multiple bond may be in any position in each unsaturated radical. Cycloalkyl is a carbocyclic saturated ring system having three to six carbon atoms, for example cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl. Analogously, cycloalkenyl is a monocyclic alkenyl group having three to six carbon ring members, for example cyclopropenyl, cyclobutenyl, cyclopentenyl and cyclohexenyl, where the double bond may be in any position.

Halogen is fluorine, chlorine, bromine or iodine.

Heterocyclyl is a saturated, partly saturated or fully unsaturated cyclic radical which contains 3 to 6 ring atoms, of which 1 to 4 are from the group of oxygen, nitrogen and sulfur, and which may additionally be fused by a benzo ring. For example, heterocyclyl is piperidinyl, pyrrolidinyl, tetrahydrofuranyl, dihydrofuranyl and oxetanyl.

Heteroaryl is an aromatic cyclic radical which contains 3 to 6 ring atoms, of which 1 to 4 are from the group of oxygen, nitrogen and sulfur, and which may additionally be fused by a benzo ring. Heteroaryl represents, for example, benzimidazol-2-yl, furanyl, imidazolyl, isoxazolyl, isothiazolyl, oxazolyl, pyrazinyl, pyrimidinyl, pyridazinyl, pyridinyl, benzisoxazolyl, thiazolyl, pyrrolyl, pyrazolyl, thiophenyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, 1,2,4-triazolyl, 1,2,3-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl, 1,2,4-triazolyl, 1,2,4-thiadiazolyl, 1,3,4-thiadiazolyl, 1,2,3-thiadiazolyl, 1,2,5-thiadiazolyl, 2H-1,2,3,4-tetrazolyl, 1H-1,2,3,4-tetrazolyl, 1,2,3,4-oxatriazolyl, 1,2,3,5-oxatriazolyl, 1,2,3,4-thiatriazolyl and 1,2,3,5-thiatriazolyl.

When a group is polysubstituted by radicals, this means that this group is substituted by one or more identical or different radicals from those mentioned. The same applies to the formation of ring systems by different atoms and elements. At the same time, the scope of the claims shall exclude those compounds known by the person skilled in the art to be chemically unstable under standard conditions.

The present invention also provides herbicidal compositions comprising stereoisomers and mixtures thereof which are encompassed by formula (I) or by the formulae of

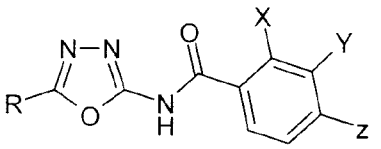
component B. Such compounds of the formula (I) or of the formulae of component B contain, for example, one or more asymmetrically substituted carbon atoms or sulfoxides. The possible stereoisomers defined by the specific three-dimensional shape thereof, such as enantiomers and diastereomers, are all encompassed by the formula (I) or by components (B) and (C); especially also the racemic mixtures and – where enantiomers are possible – both enantiomers and especially the respective biologically active enantiomer. The individual stereoisomers can be obtained by customary methods from mixtures of the stereoisomers or else be prepared by stereoselective reactions in combination with the use of stereochemically pure starting materials or auxiliaries.

Examples of compounds very particularly preferred as herbicide (A) are listed in the tables which follow.

In these tables, the abbreviations used mean:

Et = ethyl	Me = methyl	n-Pr = n-propyl	i-Pr = isopropyl
c-Pr = cyclopropyl	Ph = phenyl	Ac = acetyl	i-Bu = isobutyl

Table 1: Compounds of the general formula (I) in which A is CY

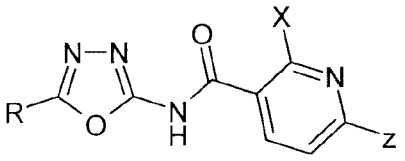


Ex. no.	R	X	Y	Z
A1-1	Me	Cl	$CH_2OCH_2CF_3$	SO_2Me
A1-2	c-Pr	Cl	SO_2Me	CF_3
A1-3	CH_2OMe	Me	SO_2Me	CF_3
A1-4	Me	Me	OEt	SO_2Me
A1-5	Me	Cl	OEt	SO_2Me
A1-6	Me	Cl	SEt	CF_3
A1-7	Me	Cl	SO_2Et	CF_3
A1-8	Et	Me	SO_2Me	CF_3
A1-9	Me	Cl	SOMe	c-Pr
A1-10	Me	Cl	5-cyano-4,5-dihydro-1,2-oxazol-3-yl	SO_2Et
A1-11	CH_2OMe	Me	SMe	CF_3
A1-12	Et	Cl	SO_2Me	CF_3
A1-13	Me	Me	SO_2Me	CF_3

Ex. no.	R	X	Y	Z
A1-14	Me	Cl	SOMe	CF_3
A1-15	CH_2OEt	Cl	SO_2Me	CF_3
A1-16	Me	Cl	2H-1,2,3-triazol-2-yl	SO_2Me
A1-17	Me	Cl	O-CH_2CH_2SMe	Cl
A1-18	Me	Cl	$OCH_2CH_2OCF_3$	SO_2Et
A1-19	Me	Cl	OCH_2CF_3	SO_2Me
A1-20	Me	Cl	SO_2Me	Me
A1-21	Me	CH_2OMe	SO_2Me	CF_3
A1-22	Me	Cl	OCH_2CH_2OEt	SO_2Et
A1-23	Me	Cl	OCH_2CH_2Cl	SO_2Et
A1-24	Et	Cl	5-cyano-4,5-dihydro-1,2-oxazol-3-yl	SO_2Et
A1-25	Me	Me	SMe	CF_3
A1-26	Me	Cl	OCH_2CH_2Cl	SO_2Me
A1-27	Me	Cl	$OCH_2CH_2CH_2SMe$	Cl
A1-28	Me	Cl	SCH_2-c-Pr	CF_3
A1-29	CH_2F	Me	SO_2Me	CF_3
A1-30	Me	Cl	O-propargyl	SO_2Me
A1-31	Me	Cl	1H-1,2,3-triazol-1-yl	CF_3
A1-32	H	Cl	$CH_2OCH_2CF_3$	SO_2Me
A1-33	Me	Cl	3-Br-1H-pyrazol-1-yl	SO_2Me
A1-34	c-Pr	Me	SOMe	CF_3
A1-35	Et	Cl	SO_2Me	SO_2Me
A1-36	Me	Cl	SO_2Me	CF_3
A1-37	Me	Me	4,5-dihydro-1,2-oxazol-3-yl	SO_2Me
A1-38	Me	Me	1H-pyrazol-1-yl	SO_2Me
A1-39	Me	Cl	O-nPr	SO_2Me
A1-40	Me	Cl	$OCH_2CH_2CH_2OMe$	SO_2Et
A1-41	Me	Cl	O-nPr	SO_2Et
A1-42	CH_2OMe	Cl	SOMe	CF_3
A1-43	CH_2OMe	Cl	SO_2Me	CF_3
A1-44	Me	Cl	5-ethyl-4,5-dihydro-1,2-oxazol-3-yl	Cl
A1-45	Me	Me	N(Me)CHO	CF_3
A1-46	Me	Cl	N(CO)-pyrrolidine	Cl
A1-47	CF_3	Me	SO_2Me	SO_2Me
A1-48	Me	Me	4-OMe-1H-pyrazol-1-yl	SO_2Me
A1-49	Me	Me	1H-1,2,3-triazol-1-yl	SO_2Me
A1-50	Me	Cl	$OCH_2CH_2CH_2OMe$	SO_2Me
A1-51	Me	Cl	$OCHF_2$	SO_2Me
A1-52	Me	Me	1H-pyrazol-1-yl	CF_3
A1-53	Me	Cl	$OCH_2CH_2CH_2SCF_3$	SO_2Me
A1-54	CHF_2	Me	SO_2Me	CF_3
A1-55	Me	Cl	1H-pyrazol-1-yl	CF_3

Ex. no.	R	X	Y	Z
A1-56	Me	Cl	OCH_2-cPr	SO_2Me
A1-57	Me	Cl	OCH_2CH_2F	SO_2Me
A1-58	Me	Me	SMe	C_2F_5
A1-59	Me	Cl	OMe	SO_2Me
A1-60	Me	Me	SOMe	CF_3
A1-61	Me	Br	1H-pyrazol-1-yl	C_2F_5

Table 2: Compounds of the general formula (I) in which A is nitrogen



Ex. no.	R	X	Z
A2-1	Me	Me	CF_3
A2-2	pyrazin-2-yl	Cl	CF_3
A2-3	Me	Br	CF_3
A2-4	Me	Cl	CF_3

Preferred herbicides of group B1 are clethodim, sethoxydim, tepraloxydim, mesotrione, sulcotrione, tefuryltrione, tembotrione, bicyclopyrone, pinoxaden, tralkoxydim. Particularly preferred herbicides of group B1 are clethodim (B1-1), sulcotrione (B1-2), tefuryltrione (B1-3), tembotrione (B1-4), bicyclopyrone (B1-5), pinoxaden (B1-6).

Preferred herbicides of group B2 are dimethenamide, dimethenamide-P, napropamide, pethoxamid, propyzamide, diflufenican, flufenacet, mefenacet, picolinafen, propanil, acetochlor, alachlor, butachlor, metazachlor, metolachlor, S-metolachlor, pretilachlor, thenylchlor, asulam, carbetamide, desmedipham, phenmedipham, esprocarb, molinate, prosulfocarb, thiobencarb, amidosulfuron, chlorimuron-ethyl, cyclosulfamuron, ethoxysulfuron, flupyrsulfuron-methyl-sodium, foramsulfuron, iodosulfuron-methyl-sodium, mesosulfuron-methyl, nicosulfuron, orthosulfamuron, prosulfuron, pyrazosulfuron-ethyl, rimsulfuron, trifloxysulfuron (sodium), flucarbazone-sodium, propoxycarbazone-sodium, thiencarbazone-methyl, florasulam, metosulam, penoxsulam, metsulfuron-methyl, sulfosulfuron, thifensulfuron-methyl, tribenuron-methyl, tritosulfuron, pyroxsulam.

Particularly preferred herbicides of group B2 are dimethenamide-P (B2-1), napropamide (B2-2), diflufenican (B2-3), flufenacet (B2-4), mefenacet (B2-5), acetochlor (B2-6), metazachlor (B2-7), S-metolachlor (B2-8), asulam (B2-9), desmedipham (B2-10), phenmedipham (B2-11), molinate (B2-12), prosulfocarb (B2-13), amidosulfuron (B2-14), ethoxysulfuron (B2-15), foramsulfuron (B2-16), iodosulfuron-methyl-sodium (B2-17), mesosulfuron-methyl (B2-18), flucarbazone-sodium (B2-19), propoxycarbazone-sodium (B2-20), thiencarbazone-methyl (B2-21), florasulam (B2-22), metosulam (B2-23), metsulfuron-methyl (B2-24), sulfosulfuron (B2-25), thifensulfuron-methyl (B2-26), tribenuron-methyl (B2-27), tritosulfuron (B2-28), pyroxsulam (B2-29).

Preferred herbicides of group B3 are bromoxynil (B3-1) and ioxynil (B3-2).

Preferred herbicides of group B4 are benzofenap, topramezone, pyrasulfotole, isoxaflutole, imazamox, imazethapyr, oxadiargyl, oxadiazon, amicarbazone, carfentrazone-ethyl, sulfentrazone, uniconazole, cafenstrole, fentrazamide, 3-(3-chloro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 3-(3-iodo-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 1-ethyl-3-(3-fluoro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-5-(trifluoromethyl)-1H-pyrazole, pyraflufen-ethyl.
Particularly preferred herbicides of group B4 are pyrasulfotole (B4-1), isoxaflutole (B4-2), oxadiargyl (B4-3), oxadiazon (B4-4), amicarbazone (B4-5), fentrazamide (B4-6), 3-(3-chloro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole (B4-7), 3-(3-iodo-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole (B4.8), 1-ethyl-3-(3-fluoro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-5-(trifluoromethyl)-1H-pyrazole (B4-9), pyraflufen-ethyl (B4-10), imazamox (B4-11).

Preferred herbicides of group B5 are aminopyralid, benazolin, benfuresate, bentazone, cinidon-ethyl, clomazone, diquat dibromide, ethofumesate, flumiclorac-pentyl, flumioxazin, flurtamone, oxaziclomefone, pendimethalin, pyridate and trifluralin.
Particularly preferred herbicides of group B5 are aminopyralid (B5-1), benfuresate (B5-2), ethofumesate (B5-3), flurtamone (B5-4) and oxaziclomefone (B5-5).

Preferred herbicides of group B6 are dicamba (B6-1), clopyralid (B6-2), fluroxypyr (B6-3), picloram (B6-4), triclopyr (B6-5), quinclorac (B6-6).

Preferred herbicides of group B7 are anilofos (B7-1), glufosinate-ammonium (B7-2), L-glufosinate-ammonium (B7-3), glyphosate (B7-4), glyphosate-isopropyl-ammonium (B7-5), glyphosate-ammonium (B7-6), glyphosate-trimesium (=sulfosate (B7-7)), glyphosate-diammonium (B7-7), glyphosate-potassium (B7-8).

Preferred herbicides of group B8 are acifluorfen-sodium, aclonifen, fluoroglycofen-ethyl, oxyfluorfen, bifenox, dichlorprop-P, mecoprop-P, 2,4-D, MCPA, clodinafop-propargyl, cyhalofop-butyl, diclofop-methyl, diclofop-P-methyl, fenoxaprop-P-ethyl, fluazifop-P-butyl, quizalofop-P.
Particularly preferred herbicides of group B8 are aclonifen (B8-1), diclofop-methyl (B8-2), diclofop-P-methyl (B8-3), fenoxaprop-P-ethyl (B8-4), MCPA (B8-5), 2,4-D (B8-6), clodinafop-ethyl (B8-7).

Preferred herbicides of group B9 are bispyribac (sodium), pyriftalid, bromacil, lenacil, 2-chloro-4-fluoro-5-[3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidin-1(2H)-yl]-N-[methyl(1-methylethyl)sulfamoyl]benzamide.
Particularly preferred herbicides of group B9 are bispyribac (sodium) (B9-1), bromacil (B9-2).

Preferred herbicides of group B10 are cumyluron (B10-1), daimuron (B10-2), diuron (B10-3), isoproturon (B10-4), diflufenzopyr (B10-5).

Preferred herbicides of group B11 are atrazine, simazine, terbuthylazine, ametryn, terbutryn, metamitron, metribuzin.
Particularly preferred herbicides of group B11 are metamitron (B11-1), metribuzin (B11-2), terbuthylazine (B11-2).

Examples of preferred compositions of herbicides (A) and herbicides (B) are given below.

(A1-1)+(B1-1), (A1-1)+(B1-2), (A1-1)+(B1-3), (A1-1)+(B1-4), (A1-1)+(B1-5), (A1-1)+(B1-6), (A1-1)+(B2-1), (A1-1)+(B2-2), (A1-1)+(B2-3), (A1-1)+(B2-4),

(A1-1)+(B2-5), (A1-1)+(B2-6), (A1-1)+(B2-7), (A1-1)+(B2-8), (A1-1)+(B2-9), (A1-1)+(B2-10), (A1-1)+(B2-11), (A1-1)+(B2-12), (A1-1)+(B2-13), (A1-1)+(B2-14), (A1-1)+(B2-15), (A1-1)+(B2-16), (A1-1)+(B2-17), (A1-1)+(B2-18), (A1-1)+(B2-19), (A1-1)+(B2-20), (A1-1)+(B2-21), (A1-1)+(B2-22), (A1-1)+(B2-23), (A1-1)+(B2-24), (A1-1)+(B2-25), (A1-1)+(B2-26), (A1-1)+(B2-27), (A1-1)+(B2-28), (A1-1)+(B2-29), (A1-1)+(B3-1), (A1-1)+(B3-2), (A1-1)+(B4-1), (A1-1)+(B4-2), (A1-1)+(B4-3), (A1-1)+(B4-4), (A1-1)+(B4-5), (A1-1)+(B4-6), (A1-1)+(B4-7), (A1-1)+(B4-8), (A1-1)+(B4-9), (A1-1)+(B4-10), (A1-1)+(B4-11), (A1-1)+(B5-1), (A1-1)+(B5-2), (A1-1)+(B5-3), (A1-1)+(B5-4), (A1-1)+(B5-5), (A1-1)+(B6-1), (A1-1)+(B6-2), (A1-1)+(B6-3), (A1-1)+(B6-4), (A1-1)+(B6-5), (A1-1)+(B6-6), (A1-1)+(B7-1), (A1-1)+(B7-2), (A1-1)+(B7-3), (A1-1)+(B7-4), (A1-1)+(B7-5), (A1-1)+(B7-6), (A1-1)+(B7-7)), (A1-1)+(B7-7), (A1-1)+(B7-8), (A1-1)+(B8-1), (A1-1)+(B8-2), (A1-1)+(B8-3), (A1-1)+(B8-4), (A1-1)+(B8-5), (A1-1)+(B8-6), (A1-1)+(B8-7), (A1-1)+(B9-1), (A1-1)+(B9-2), (A1-1)+(B10-1), (A1-1)+(B10-2), (A1-1)+(B10-3), (A1-1)+(B10-4), (A1-1)+(B10-5), (A1-1)+(B11-1), (A1-1)+(B11-2), (A1-1)+(B11-2),

(A1-2)+(B1-1), (A1-2)+(B1-2), (A1-2)+(B1-3), (A1-2)+(B1-4), (A1-2)+(B1-5), (A1-2)+(B1-6), (A1-2)+(B2-1), (A1-2)+(B2-2), (A1-2)+(B2-3), (A1-2)+(B2-4), (A1-2)+(B2-5), (A1-2)+(B2-6), (A1-2)+(B2-7), (A1-2)+(B2-8), (A1-2)+(B2-9), (A1-2)+(B2-10), (A1-2)+(B2-11), (A1-2)+(B2-12), (A1-2)+(B2-13), (A1-2)+(B2-14), (A1-2)+(B2-15), (A1-2)+(B2-16), (A1-2)+(B2-17), (A1-2)+(B2-18), (A1-2)+(B2-19), (A1-2)+(B2-20), (A1-2)+(B2-21), (A1-2)+(B2-22), (A1-2)+(B2-23), (A1-2)+(B2-24), (A1-2)+(B2-25), (A1-2)+(B2-26), (A1-2)+(B2-27), (A1-2)+(B2-28), (A1-2)+(B2-29), (A1-2)+(B3-1), (A1-2)+(B3-2), (A1-2)+(B4-1), (A1-2)+(B4-2), (A1-2)+(B4-3), (A1-2)+(B4-4), (A1-2)+(B4-5), (A1-2)+(B4-6), (A1-2)+(B4-7), (A1-2)+(B4-8), (A1-2)+(B4-9), (A1-2)+(B4-10), (A1-2)+(B4-11), (A1-2)+(B5-1), (A1-2)+(B5-2), (A1-2)+(B5-3), (A1-2)+(B5-4), (A1-2)+(B5-5), (A1-2)+(B6-1), (A1-2)+(B6-2), (A1-2)+(B6-3), (A1-2)+(B6-4), (A1-2)+(B6-5), (A1-2)+(B6-6), (A1-2)+(B7-1), (A1-2)+(B7-2), (A1-2)+(B7-3), (A1-2)+(B7-4), (A1-2)+(B7-5), (A1-2)+(B7-6), (A1-2)+(B7-7)), (A1-2)+(B7-7), (A1-2)+(B7-8), (A1-2)+(B8-1), (A1-2)+(B8-2), (A1-2)+(B8-3), (A1-2)+(B8-4), (A1-2)+(B8-5), (A1-2)+(B8-6), (A1-2)+(B8-7), (A1-2)+(B9-1), (A1-2)+(B9-2), (A1-2)+(B10-1), (A1-2)+(B10-2), (A1-2)+(B10-3), (A1-2)+(B10-4), (A1-2)+(B10-5), (A1-2)+(B11-1), (A1-2)+(B11-2), (A1-2)+(B11-2),

(A1-3)+(B1-1), (A1-3)+(B1-2), (A1-3)+(B1-3), (A1-3)+(B1-4), (A1-3)+(B1-5),

(A1-3)+(B1-6), (A1-3)+(B2-1), (A1-3)+(B2-2), (A1-3)+(B2-3), (A1-3)+(B2-4), (A1-3)+(B2-5), (A1-3)+(B2-6), (A1-3)+(B2-7), (A1-3)+(B2-8), (A1-3)+(B2-9), (A1-3)+(B2-10), (A1-3)+(B2-11), (A1-3)+(B2-12), (A1-3)+(B2-13), (A1-3)+(B2-14), (A1-3)+(B2-15), (A1-3)+(B2-16), (A1-3)+(B2-17), (A1-3)+(B2-18), (A1-3)+(B2-19), (A1-3)+(B2-20), (A1-3)+(B2-21), (A1-3)+(B2-22), (A1-3)+(B2-23), (A1-3)+(B2-24), (A1-3)+(B2-25), (A1-3)+(B2-26), (A1-3)+(B2-27), (A1-3)+(B2-28), (A1-3)+(B2-29), (A1-3)+(B3-1), (A1-3)+(B3-2), (A1-3)+(B4-1), (A1-3)+(B4-2), (A1-3)+(B4-3), (A1-3)+(B4-4), (A1-3)+(B4-5), (A1-3)+(B4-6), (A1-3)+(B4-7), (A1-3)+(B4-8), (A1-3)+(B4-9), (A1-3)+(B4-10), (A1-3)+(B4-11), (A1-3)+(B5-1), (A1-3)+(B5-2), (A1-3)+(B5-3), (A1-3)+(B5-4), (A1-3)+(B5-5), (A1-3)+(B6-1), (A1-3)+(B6-2), (A1-3)+(B6-3), (A1-3)+(B6-4), (A1-3)+(B6-5), (A1-3)+(B6-6), (A1-3)+(B7-1), (A1-3)+(B7-2), (A1-3)+(B7-3), (A1-3)+(B7-4), (A1-3)+(B7-5), (A1-3)+(B7-6), (A1-3)+(B7-7)), (A1-3)+(B7-7), (A1-3)+(B7-8), (A1-3)+(B8-1), (A1-3)+(B8-2), (A1-3)+(B8-3), (A1-3)+(B8-4), (A1-3)+(B8-5), (A1-3)+(B8-6), (A1-3)+(B8-7), (A1-3)+(B9-1), (A1-3)+(B9-2), (A1-3)+(B10-1), (A1-3)+(B10-2), (A1-3)+(B10-3), (A1-3)+(B10-4), (A1-3)+(B10-5), (A1-3)+(B11-1), (A1-3)+(B11-2), (A1-3)+(B11-2),

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(A1-39)+(B7-7)), (A1-39)+(B7-7), (A1-39)+(B7-8), (A1-39)+(B8-1), (A1-39)+(B8-2),
(A1-39)+(B8-3), (A1-39)+(B8-4), (A1-39)+(B8-5), (A1-39)+(B8-6), (A1-39)+(B8-7),
(A1-39)+(B9-1), (A1-39)+(B9-2), (A1-39)+(B10-1), (A1-39)+(B10-2), (A1-39)+(B10-3),
(A1-39)+(B10-4), (A1-39)+(B10-5), (A1-39)+(B11-1), (A1-39)+(B11-2),
(A1-39)+(B11-2),

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(A1-40)+(B7-7)), (A1-40)+(B7-7), (A1-40)+(B7-8), (A1-40)+(B8-1), (A1-40)+(B8-2), (A1-40)+(B8-3), (A1-40)+(B8-4), (A1-40)+(B8-5), (A1-40)+(B8-6), (A1-40)+(B8-7), (A1-40)+(B9-1), (A1-40)+(B9-2), (A1-40)+(B10-1), (A1-40)+(B10-2), (A1-40)+(B10-3), (A1-40)+(B10-4), (A1-40)+(B10-5), (A1-40)+(B11-1), (A1-40)+(B11-2), (A1-40)+(B11-2),

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(A2-1)+(B1-1), (A2-1)+(B1-2), (A2-1)+(B1-3), (A2-1)+(B1-4), (A2-1)+(B1-5), (A2-1)+(B1-6), (A2-1)+(B2-1), (A2-1)+(B2-2), (A2-1)+(B2-3), (A2-1)+(B2-4), (A2-1)+(B2-5), (A2-1)+(B2-6), (A2-1)+(B2-7), (A2-1)+(B2-8), (A2-1)+(B2-9), (A2-1)+(B2-10), (A2-1)+(B2-11), (A2-1)+(B2-12), (A2-1)+(B2-13), (A2-1)+(B2-14), (A2-1)+(B2-15), (A2-1)+(B2-16), (A2-1)+(B2-17), (A2-1)+(B2-18), (A2-1)+(B2-19), (A2-1)+(B2-20), (A2-1)+(B2-21), (A2-1)+(B2-22), (A2-1)+(B2-23), (A2-1)+(B2-24), (A2-1)+(B2-25), (A2-1)+(B2-26), (A2-1)+(B2-27), (A2-1)+(B2-28), (A2-1)+(B2-29), (A2-1)+(B3-1), (A2-1)+(B3-2), (A2-1)+(B4-1), (A2-1)+(B4-2), (A2-1)+(B4-3), (A2-1)+(B4-4), (A2-1)+(B4-5), (A2-1)+(B4-6), (A2-1)+(B4-7), (A2-1)+(B4-8), (A2-1)+(B4-9), (A2-1)+(B4-10), (A2-1)+(B4-11), (A2-1)+(B5-1), (A2-1)+(B5-2), (A2-1)+(B5-3), (A2-1)+(B5-4), (A2-1)+(B5-5), (A2-1)+(B6-1), (A2-1)+(B6-2), (A2-1)+(B6-3), (A2-1)+(B6-4), (A2-1)+(B6-5), (A2-1)+(B6-6), (A2-1)+(B7-1), (A2-1)+(B7-2), (A2-1)+(B7-3), (A2-1)+(B7-4), (A2-1)+(B7-5), (A2-1)+(B7-6), (A2-1)+(B7-7)), (A2-1)+(B7-7), (A2-1)+(B7-8), (A2-1)+(B8-1), (A2-1)+(B8-2), (A2-1)+(B8-3), (A2-1)+(B8-4), (A2-1)+(B8-5), (A2-1)+(B8-6), (A2-1)+(B8-7), (A2-1)+(B9-1), (A2-1)+(B9-2), (A2-1)+(B10-1), (A2-1)+(B10-2), (A2-1)+(B10-3), (A2-1)+(B10-4), (A2-1)+(B10-5), (A2-1)+(B11-1), (A2-1)+(B11-2), (A2-1)+(B11-2),

(A2-2)+(B1-1), (A2-2)+(B1-2), (A2-2)+(B1-3), (A2-2)+(B1-4), (A2-2)+(B1-5), (A2-2)+(B1-6), (A2-2)+(B2-1), (A2-2)+(B2-2), (A2-2)+(B2-3), (A2-2)+(B2-4), (A2-2)+(B2-5), (A2-2)+(B2-6), (A2-2)+(B2-7), (A2-2)+(B2-8), (A2-2)+(B2-9), (A2-2)+(B2-10), (A2-2)+(B2-11), (A2-2)+(B2-12), (A2-2)+(B2-13), (A2-2)+(B2-14), (A2-2)+(B2-15), (A2-2)+(B2-16), (A2-2)+(B2-17), (A2-2)+(B2-18), (A2-2)+(B2-19), (A2-2)+(B2-20), (A2-2)+(B2-21), (A2-2)+(B2-22), (A2-2)+(B2-23), (A2-2)+(B2-24), (A2-2)+(B2-25), (A2-2)+(B2-26), (A2-2)+(B2-27), (A2-2)+(B2-28), (A2-2)+(B2-29), (A2-2)+(B3-1), (A2-2)+(B3-2), (A2-2)+(B4-1), (A2-2)+(B4-2), (A2-2)+(B4-3), (A2-2)+(B4-4), (A2-2)+(B4-5), (A2-2)+(B4-6), (A2-2)+(B4-7), (A2-2)+(B4-8), (A2-2)+(B4-9), (A2-2)+(B4-10), (A2-2)+(B4-11), (A2-2)+(B5-1), (A2-2)+(B5-2), (A2-2)+(B5-3), (A2-2)+(B5-4), (A2-2)+(B5-5), (A2-2)+(B6-1), (A2-2)+(B6-2),

(A2-2)+(B6-3), (A2-2)+(B6-4), (A2-2)+(B6-5), (A2-2)+(B6-6), (A2-2)+(B7-1), (A2-2)+(B7-2), (A2-2)+(B7-3), (A2-2)+(B7-4), (A2-2)+(B7-5), (A2-2)+(B7-6), (A2-2)+(B7-7)), (A2-2)+(B7-7), (A2-2)+(B7-8), (A2-2)+(B8-1), (A2-2)+(B8-2), (A2-2)+(B8-3), (A2-2)+(B8-4), (A2-2)+(B8-5), (A2-2)+(B8-6), (A2-2)+(B8-7), (A2-2)+(B9-1), (A2-2)+(B9-2), (A2-2)+(B10-1), (A2-2)+(B10-2), (A2-2)+(B10-3), (A2-2)+(B10-4), (A2-2)+(B10-5), (A2-2)+(B11-1), (A2-2)+(B11-2), (A2-2)+(B11-2),

(A2-3)+(B1-1), (A2-3)+(B1-2), (A2-3)+(B1-3), (A2-3)+(B1-4), (A2-3)+(B1-5), (A2-3)+(B1-6), (A2-3)+(B2-1), (A2-3)+(B2-2), (A2-3)+(B2-3), (A2-3)+(B2-4), (A2-3)+(B2-5), (A2-3)+(B2-6), (A2-3)+(B2-7), (A2-3)+(B2-8), (A2-3)+(B2-9), (A2-3)+(B2-10), (A2-3)+(B2-11), (A2-3)+(B2-12), (A2-3)+(B2-13), (A2-3)+(B2-14), (A2-3)+(B2-15), (A2-3)+(B2-16), (A2-3)+(B2-17), (A2-3)+(B2-18), (A2-3)+(B2-19), (A2-3)+(B2-20), (A2-3)+(B2-21), (A2-3)+(B2-22), (A2-3)+(B2-23), (A2-3)+(B2-24), (A2-3)+(B2-25), (A2-3)+(B2-26), (A2-3)+(B2-27), (A2-3)+(B2-28), (A2-3)+(B2-29), (A2-3)+(B3-1), (A2-3)+(B3-2), (A2-3)+(B4-1), (A2-3)+(B4-2), (A2-3)+(B4-3), (A2-3)+(B4-4), (A2-3)+(B4-5), (A2-3)+(B4-6), (A2-3)+(B4-7), (A2-3)+(B4-8), (A2-3)+(B4-9), (A2-3)+(B4-10), (A2-3)+(B4-11), (A2-3)+(B5-1), (A2-3)+(B5-2), (A2-3)+(B5-3), (A2-3)+(B5-4), (A2-3)+(B5-5), (A2-3)+(B6-1), (A2-3)+(B6-2), (A2-3)+(B6-3), (A2-3)+(B6-4), (A2-3)+(B6-5), (A2-3)+(B6-6), (A2-3)+(B7-1), (A2-3)+(B7-2), (A2-3)+(B7-3), (A2-3)+(B7-4), (A2-3)+(B7-5), (A2-3)+(B7-6), (A2-3)+(B7-7)), (A2-3)+(B7-7), (A2-3)+(B7-8), (A2-3)+(B8-1), (A2-3)+(B8-2), (A2-3)+(B8-3), (A2-3)+(B8-4), (A2-3)+(B8-5), (A2-3)+(B8-6), (A2-3)+(B8-7), (A2-3)+(B9-1), (A2-3)+(B9-2), (A2-3)+(B10-1), (A2-3)+(B10-2), (A2-3)+(B10-3), (A2-3)+(B10-4), (A2-3)+(B10-5), (A2-3)+(B11-1), (A2-3)+(B11-2), (A2-3)+(B11-2),

(A2-4)+(B1-1), (A2-4)+(B1-2), (A2-4)+(B1-3), (A2-4)+(B1-4), (A2-4)+(B1-5), (A2-4)+(B1-6), (A2-4)+(B2-1), (A2-4)+(B2-2), (A2-4)+(B2-3), (A2-4)+(B2-4), (A2-4)+(B2-5), (A2-4)+(B2-6), (A2-4)+(B2-7), (A2-4)+(B2-8), (A2-4)+(B2-9), (A2-4)+(B2-10), (A2-4)+(B2-11), (A2-4)+(B2-12), (A2-4)+(B2-13), (A2-4)+(B2-14), (A2-4)+(B2-15), (A2-4)+(B2-16), (A2-4)+(B2-17), (A2-4)+(B2-18), (A2-4)+(B2-19), (A2-4)+(B2-20), (A2-4)+(B2-21), (A2-4)+(B2-22), (A2-4)+(B2-23), (A2-4)+(B2-24), (A2-4)+(B2-25), (A2-4)+(B2-26), (A2-4)+(B2-27), (A2-4)+(B2-28), (A2-4)+(B2-29), (A2-4)+(B3-1), (A2-4)+(B3-2), (A2-4)+(B4-1), (A2-4)+(B4-2), (A2-4)+(B4-3), (A2-4)+(B4-4), (A2-4)+(B4-5), (A2-4)+(B4-6), (A2-4)+(B4-7), (A2-4)+(B4-8), (A2-4)+(B4-9), (A2-4)+(B4-10), (A2-4)+(B4-11), (A2-4)+(B5-1), (A2-4)+(B5-2),

(A2-4)+(B5-3), (A2-4)+(B5-4), (A2-4)+(B5-5), (A2-4)+(B6-1), (A2-4)+(B6-2), (A2-4)+(B6-3), (A2-4)+(B6-4), (A2-4)+(B6-5), (A2-4)+(B6-6), (A2-4)+(B7-1), (A2-4)+(B7-2), (A2-4)+(B7-3), (A2-4)+(B7-4), (A2-4)+(B7-5), (A2-4)+(B7-6), (A2-4)+(B7-7)), (A2-4)+(B7-7), (A2-4)+(B7-8), (A2-4)+(B8-1), (A2-4)+(B8-2), (A2-4)+(B8-3), (A2-4)+(B8-4), (A2-4)+(B8-5), (A2-4)+(B8-6), (A2-4)+(B8-7), (A2-4)+(B9-1), (A2-4)+(B9-2), (A2-4)+(B10-1), (A2-4)+(B10-2), (A2-4)+(B10-3), (A2-4)+(B10-4), (A2-4)+(B10-5), (A2-4)+(B11-1), (A2-4)+(B11-2), (A2-4)+(B11-2).

In the inventive herbicidal compositions, the application rate of the herbicides of the general formula (I) (component A) is typically 1 to 500 g of active ingredient (a.i.) per hectare, preferably 2 to 300 g of a.i./ha, more preferably 3 to 200 g of a.i./ha. The application rate of the herbicides of component B is typically 1 to 5000 g of active ingredient per hectare, preferably 2 to 3000 g of a.i./ha, more preferably 3 to 2000 g of a.i./ha. The application rate of the safeners of component C is typically 1 to 500 g of active ingredient per hectare, preferably 2 to 400 g of a.i./ha, more preferably 3 to 300 g of a.i./ha.

On application of the inventive herbicidal compositions, a very broad spectrum of harmful plants is controlled pre-emergence and post-emergence, for example annual and perennial mono- or dicotyledonous weeds and unwanted crop plants. The inventive herbicidal compositions are particularly suitable for use in crops such as cereals, corn, rice, soya, oilseed rape, sugar beet, cotton, sugar cane, and also for use in perennial crops, plantations and on non-crop land. They are likewise highly suitable for use in transgenic crops of corn, cereals, sugar beet, rice, cotton and Glycine max. (e.g. RR soya or LL soya) and crossbreeds thereof), Phaseolus, Pisum, Vicia and Arachis, or vegetable crops from various botanical groups such as potato, leek, cabbage, carrot, tomato, onion, and also perennial and plantation crops such as pome fruit and stone fruit, soft fruit, wine, Hevea, bananas, sugar cane, coffee, tea, citrus, nut plantations, lawn, palm crops and forest crops. For the use of the inventive herbicide-safener combinations (A)+(B), these crops are likewise preferred, particular preference being given to use in cereals (e.g. wheat, barley, rye, oats), rice, corn, millet/sorghum, sugar beet, sugar cane, sunflower, oilseed rape and cotton. The herbicide-safener combinations (A)+(B) can also be used in tolerant and non-tolerant mutant crops and tolerant and non-tolerant transgenic crops, preferably of corn, rice, cereals, oilseed rape, cotton, sugar beet and soya, for example those resistant to imidazolinone

herbicides, atrazine, glufosinate, glyphosate, 2,4 D, dicamba and herbicides from the group of the inhibitors of hydroxyphenylpyruvate dioxygenase, such as sulcotrione, mesotrione, tembotrione, tefuryltrione, benzobicyclon, bicyclopyrone and ketospiradox.

A herbicidally effective amount in the context of the invention means an amount of one or more herbicides capable of adversely affecting plant growth. An antidotically effective amount in the context of the invention means an amount of one or more safeners capable of reducing the phytotoxic effect of crop protection active ingredients (for example of herbicides) on crop plants.

According to their properties, the safeners (C) present in the inventive herbicidal compositions can also be used for pretreatment of the seed of the crop plant (for example for dressing of the seed) or introduced into the seed furrows prior to sowing or employed together with the herbicide prior to or after emergence of the plants. Pre-emergence treatment includes both the treatment of the area under cultivation (including any water present in the area under cultivation, for example in the case of applications to rice) prior to sowing and the treatment of the areas under cultivation in which seeds have been sown but which are not yet covered by growing plants. Preference is given to application together with the herbicide. For this purpose, it is possible to use tank-mixes or ready-made formulations.

In a preferred embodiment, the seed (for example grains, seeds or vegetative propagation organs such as tubers or budded parts of shoots) or seedlings are pretreated with the safeners (C), optionally in combination with other active agrochemical ingredients. For pretreatment of the seed, the active ingredients can be applied to the seed, for example by dressing, or the active ingredients and the seed can be added to water or other solvents, and the active ingredients can be taken up, for example, by adsorption or diffusion in a dipping process or by swelling or pre-germination. For pretreatment of seedlings, the young plants can be contacted with the safeners, optionally in combination with other active agrochemical ingredients, for example by spraying, dipping or watering, and then transplanted and optionally aftertreated with the herbicides (A) and (B).

The seed or seedlings can be treated with the safeners (C) alone or together with other active agrochemical ingredients - such as fungicides, insecticides or plant fortifiers,

fertilizers or swelling and germination accelerators. After the pretreatment application, the safeners may subsequently be applied once again before, after or together with one or more herbicides of the formula (I) (A) and herbicides (B), possibly also in combination with other known herbicides. The pretreatment of the seed or seedlings can achieve improved long-term efficacy of the safeners.

The present invention thus further provides a method of controlling unwanted plants in plant crops, which is characterized in that components (A), (B) and optionally (C) of the inventive herbicidal compositions are deployed, for example separately or together, on the plants (for example harmful plants such as mono- or dicotyledonous weeds or unwanted crop plants), the seed (for example grains, seeds or vegetative propagation organs such as tubers or budded parts of shoots) or the area on which the plants grow (for example the area under cultivation). One or more safeners (C) may be applied before, after or simultaneously with the herbicide(s) of the general formula (I) (A) and the herbicides (B) to the plants, the seed or the area on which the plants grow (for example the area under cultivation). In a preferred embodiment, the safeners (C) are used for seed treatment.

Unwanted plants are understood to mean all plants which grow at sites where they are unwanted. These may, for example, be harmful plants (for example monocotyledonous or dicotyledonous weeds or unwanted crop plants), including, for example, those which are resistant to certain active herbicidal compounds, such as glyphosate, atrazine, glufosinate or imidazolinone herbicides.

Monocotyledonous weeds are classified, for example, in the genera Echinochloa, Setaria, Panicum, Digitaria, Phleum, Poa, Festuca, Eleusine, Brachiaria, Lolium, Bromus, Avena, Cyperus, Sorghum, Agropyron, Cynodon, Monochoria, Fimbristylis, Sagittaria, Eleocharis, Scirpus, Paspalum, Ischaemum, Sphenoclea, Dactyloctenium, Agrostis, Alopecurus, Apera, Phalaris. Dicotyledonous weeds are classified, for example, in the genera Sinapis, Lepidium, Galium, Stellaria, Matricaria, Anthemis, Galinsoga, Chenopodium, Urtica, Senecio, Amaranthus, Portulaca, Xanthium, Convolvulus, Ipomoea, Polygonum, Sesbania, Ambrosia, Cirsium, Carduus, Sonchus, Solanum, Rorippa, Rotala, Lindernia, Lamium, Veronica, Abutilon, Emex, Datura, Viola, Galeopsis, Papaver, Centaurea, Trifolium, Ranunculus, Taraxacum, Euphorbia, Kochia, Biden, Stellaria.

The invention also provides for the use of the inventive herbicidal compositions for controlling unwanted vegetation, preferably in plant crops.

The inventive herbicidal compositions can be prepared by known methods, for example as mixed formulations of the individual components, optionally with further active ingredients, additives and/or customary formulation auxiliaries, and these are then applied in a customary manner after dilution with water, or as tank mixes by joint dilution of the separately formulated or partly separately formulated individual components with water. Likewise possible is the application at different times (split application) of the separately formulated or partly separately formulated individual components. It is also possible to apply the individual components or the herbicidal compositions in a plurality of portions (sequential application), for example by pre-emergence applications followed by post-emergence applications or by early post-emergence applications followed by medium or late post-emergence applications. Preference is given to the joint or immediately successive application of the active ingredients in the respective combination.

The inventive herbicidal compositions can also be used for control of harmful plants in crops of genetically modified plants which are known or are yet to be developed.

In general, transgenic plants are characterized by particular advantageous properties, for example by resistances to certain pesticides, in particular certain herbicides, resistances to plant diseases or pathogens of plant diseases, such as certain insects or microorganisms such as fungi, bacteria or viruses. Other particular properties relate, for example, to the harvested material with regard to quantity, quality, storability, composition and specific constituents. For instance, there are known transgenic plants with an elevated starch content or altered starch quality, or those with a different fatty acid composition in the harvested material. Other particular properties may be tolerance or resistance to abiotic stressors, for example heat, low temperatures, drought, salinity and ultraviolet radiation.

Preference is given to the use of the inventive herbicidal compositions in economically important transgenic crops of useful plants and ornamentals, for example of cereals such as wheat, barley, rye, oats, millet/sorghum, rice, cassava and corn, or else crops

of sugar beet, cotton, soybean, oilseed rape, potato, tomato, peas and other vegetables.

Conventional ways of producing novel plants which have modified properties in comparison to existing plants consist, for example, in traditional breeding methods and the generation of mutants. Alternatively, novel plants with modified properties can be generated with the aid of recombinant methods (see, for example, EP-A-0221044, EP-A-0131624). For example, there have been descriptions in several cases of:

- genetic modifications of crop plants for the purpose of modifying the starch synthesized in the plants (for example WO 92/11376, WO 92/14827, WO 91/19806),
- transgenic crop plants which are resistant to particular herbicides of the glufosinate type (cf., for example, EP-A-0242236, EP-A-242246) or glyphosate type (WO 92/00377) or of the sulfonylurea type (EP-A-0257993, US-A-5013659),
- transgenic crop plants, for example cotton, with the ability to produce Bacillus thuringiensis toxins (Bt toxins), which make the plants resistant to particular pests (EP-A-0142924, EP-A-0193259),
- transgenic crop plants with a modified fatty acid composition (WO 91/13972),
- genetically modified crop plants with novel constituents or secondary metabolites, for example novel phytoalexins, which bring about an increased disease resistance (EPA 309862, EPA0464461),
- genetically modified plants having reduced photorespiration, which have higher yields and higher stress tolerance (EPA 0305398),
- transgenic crop plants which produce pharmaceutically or diagnostically important proteins ("molecular pharming"),
- transgenic crop plants which feature higher yields or better quality,
- transgenic crop plants which feature a combination, for example, of the abovementioned novel properties ("gene stacking").

Numerous molecular biology techniques which can be used to produce novel transgenic plants with modified properties are known in principle; see, for example, I. Potrykus and G. Spangenberg (eds.) Gene Transfer to Plants, Springer Lab Manual (1995), Springer Verlag Berlin, Heidelberg, or Christou, "Trends in Plant Science" 1

(1996) 423-431).

For such recombinant manipulations, nucleic acid molecules which allow mutagenesis or sequence alteration by recombination of DNA sequences can be introduced into plasmids. With the aid of standard methods, it is possible, for example, to undertake base exchanges, remove parts of sequences or add natural or synthetic sequences. For the connection of the DNA fragments to one another, it is possible to add adapters or linkers to the fragments; see, for example, Sambrook et al., 1989, Molecular Cloning, A Laboratory Manual, 2nd ed., Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY; or Winnacker "Gene und Klone", VCH Weinheim, 2nd edition, 1996.

For example, the generation of plant cells with a reduced activity of a gene product can be achieved by expressing at least one corresponding antisense RNA, a sense RNA for achieving a cosuppression effect, or by expressing at least one suitably constructed ribozyme which specifically cleaves transcripts of the abovementioned gene product.

To this end, it is firstly possible to use DNA molecules which encompass the entire coding sequence of a gene product inclusive of any flanking sequences which may be present, and also DNA molecules which only encompass portions of the coding sequence, in which case it is necessary for these portions to be long enough to have an antisense effect in the cells. It is also possible to use DNA sequences which have a high degree of homology to the coding sequences of a gene product, but are not completely identical to them.

When expressing nucleic acid molecules in plants, the protein synthesized may be localized in any desired compartment of the plant cell. However, to achieve localization in a particular compartment, it is possible, for example, to join the coding region to DNA sequences which ensure localization in a particular compartment. Such sequences are known to those skilled in the art (see, for example, Braun et al., EMBO J. 11 (1992), 3219-3227; Wolter et al., Proc. Natl. Acad. Sci. USA 85 (1988), 846-850; Sonnewald et al., Plant J. 1 (1991), 95-106). The nucleic acid molecules can also be expressed in the organelles of the plant cells.

The transgenic plant cells can be regenerated by known techniques to give rise to

entire plants. In principle, the transgenic plants may be plants of any desired plant species, i.e. not only monocotyledonous but also dicotyledonous plants.

Thus, transgenic plants can be obtained whose properties are altered by overexpression, suppression or inhibition of homologous (= natural) genes or gene sequences or expression of heterologous (= foreign) genes or gene sequences.

Preferably the inventive compositions can be used in transgenic crops which are resistant to growth regulators such as, for example, dicamba, or to herbicides which inhibit essential plant enzymes, for example acetolactate synthases (ALS), EPSP synthases, glutamine synthases (GS) or hydroxyphenylpyruvate dioxygenases (HPPD), or to herbicides from the group of the sulfonylureas, the glyphosates, glufosinates or benzoylisoxazoles and analogous active ingredients.

On employment of the inventive compositions in transgenic crops, not only do the effects toward harmful plants observed in other crops occur, but often also effects which are specific to application in the particular transgenic crop, for example an altered or specifically widened spectrum of weeds which can be controlled, altered application rates which can be used for the application, preferably good combinability with the herbicides to which the transgenic crop is resistant, and influencing of growth and yield of the transgenic crop plants.

The invention therefore also provides for the use of the inventive compositions for control of harmful plants in transgenic crop plants.

Preference is given to the use of the inventive compositions in economically important transgenic crops of useful plants and ornamentals, for example of cereals (e.g. wheat, barley, rye, oats), millet/sorghum, rice, cassava and corn, or else crops of sugar beet, cotton, soybean, oilseed rape, potato, tomato, peas and other vegetable crops.

The invention therefore also provides for the use of the inventive compositions for control of harmful plants in transgenic crop plants or crop plants having tolerance through selective breeding.

The herbicides (A), (B) and the safeners (C) can be converted together or separately to customary formulations, for example for application by spraying, watering, sprinkling

and seed dressing, such as solutions, emulsions, suspensions, powders, foams, pastes, granules, aerosols, active ingredient-impregnated natural and synthetic substances, microencapsulations in polymeric substances. The formulations may comprise the customary auxiliaries and additives.

These formulations are produced in a known manner, for example by mixing the active ingredients with extenders, i.e. liquid solvents, pressurized liquefied gases and/or solid carriers, optionally with use of surfactants, i.e. emulsifiers and/or dispersants and/or foam formers.

If the extender used is water, it is also possible to use, for example, organic solvents as auxiliary solvents. Useful liquid solvents essentially include: aromatics such as xylene, toluene or alkylnaphthalenes, chlorinated aromatics or chlorinated aliphatic hydrocarbons such as chlorobenzenes, chloroethylenes or methylene chloride, aliphatic hydrocarbons such as cyclohexane or paraffins, for example mineral oil fractions, mineral and vegetable oils, alcohols such as butanol or glycol and the ethers and esters thereof, ketones such as acetone, methyl ethyl ketone, methyl isobutyl ketone or cyclohexanone, strongly polar solvents such as dimethylformamide or dimethyl sulfoxide, and water.

Useful solid carriers include: for example ammonium salts and ground natural minerals, such as kaolins, clays, talc, chalk, quartz, attapulgite, montmorillonite or diatomaceous earth, and ground synthetic minerals, such as finely divided silica, alumina and silicates; useful solid carriers for granules include: for example crushed and fractionated natural rocks, such as calcite, marble, pumice, sepiolite, dolomite and synthetic granules of inorganic and organic flours, and granules of organic material, such as sawdust, coconut shells, corn cobs and tobacco stalks; useful emulsifiers and/or foam formers include: for example nonionic and anionic emulsifiers, such as polyoxyethylene fatty acid esters, polyoxyethylene fatty alcohol ethers, e.g. alkylaryl polyglycol ethers, alkylsulfonates, alkylsulfates, arylsulfonates and protein hydrolyzates; useful dispersants include: for example lignosulfite waste liquors and methylcellulose.

In the formulations, it is possible to use tackifiers such as carboxymethylcellulose, natural and synthetic polymers in the form of powders, granules or latices, such as

gum arabic, polyvinyl alcohol and polyvinyl acetate, or else natural phospholipids such as cephalins and lecithins and synthetic phospholipids. Further additives may be mineral and vegetable oils.

It is possible to use colorants such as inorganic pigments, for example iron oxide, titanium oxide and Prussian blue, and organic colorants such as alizarin colorants, azo colorants and metal phthalocyanine colorants, and trace nutrients such as salts of iron, manganese, boron, copper, cobalt, molybdenum and zinc.

The formulations contain generally between 0.1 and 95 percent by weight of active ingredient, preferably between 0.5 and 90% by weight.

As such or in their formulations, the herbicides (A), (B) and the safeners (C) can also be used as a mixture with other active agrochemical ingredients for controlling unwanted vegetation, for example for controlling weeds or for controlling unwanted crop plants, finished formulations or tank mixes, for example, being possible.

Also possible are mixtures with other known active ingredients such as fungicides, insecticides, acaricides, nematicides, bird antifeedants, plant nutrients and soil structure improvers, and likewise with additives and formulation auxiliaries customary in crop protection.

The herbicides (A), (B) and the safeners (C) can be used as such, in the form of their formulations or the use forms prepared therefrom by further dilution, such as ready-to-use solutions, suspensions, emulsions, powders, pastes and granules. Application is typically accomplished, for example, by watering, sprinkling, spraying, broadcasting.

The active ingredients can be deployed on the plants, plant parts, seed or area under cultivation (farmland), preferably on the seed or the green plants and plant parts, and optionally additionally on the farmland. One means of application is the co-deployment of the active ingredients in the form of tank-mixes, by mixing the optimally formulated concentrated formulations of the individual active ingredients together in the tank with water and deploying the spray liquor obtained.

A co-formulation of the inventive combination of active ingredients (A), (B) and (C) has the advantage of easier applicability, because the amounts of the components can already be set in the optimal ratio with respect to one another. Moreover, the auxiliaries in the formulation can be optimized to one another.

For application, the formulations in commercial form are, if appropriate, diluted in a customary manner, for example in the case of wettable powders, emulsifiable concentrates, dispersions and water-dispersible granules with water. Dust-type formulations, granules for soil application or granules for scattering and sprayable solutions are not normally diluted further with other inert substances prior to application.

Biological examples:

All trials whose results are shown were conducted in a greenhouse by the methodology specified below. The effect of the inventive herbicidal compositions was examined on the following harmful plants 14 and 21 days after application: Echinochloa crus-galli (ECHCG), Eleusine indica (ELEIN), Setaria viridis (SETVI), Amaranthus retroflexus (AMARE), Chenopodium album (CHEAL), Kochia scoparia (KCHSC), Solanum nigrum (SOLNI), Avena fatua (AVEFA), Bromus sterilis (BROST), Lolium multiflorum (LOLMU), Phalaris minor (PHAMI), Poa annua (POAAN), Galium aparine (GALAP), Matricaria inodora (MATIN) and Polygonum convolvulus (POLCO).

The harmful plant seeds were sown in pots (diameter 8 cm) with sandy loam soil and germinated under optimal conditions. The inventive herbicidal compositions or the active ingredients alone were applied post-emergence to the planted pots with a spray volume of 300 L/ha. The trial was conducted in a greenhouse under optimum growth conditions. The herbicidal effects were assessed visually by comparison of untreated and treated plants. The percentages mean: 0% = no effects, 100% = the plants die off completely). The percentages are used to calculate interactions between individual treatments and combination treatments according to S.R. Colby, Weeds 15, pages 20 to 22 (1967).

The abbreviations mean:

a.i. = active ingredient

E^C = expected value according to Colby ($E^C = A + B - A \times B/100$)

Diff: = difference (%) of measured value from expected value (%)
(measured value minus expected value)

Assessment:

- measured value E is greater than E^C: -> synergism (+ diff.)
- measured value E equals E^C: -> additive effect
- measured value E is smaller than E^C: -> antagonism(- diff.)

The results are shown in the tables below.

Table 1: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	40
tembotrione	0.5	10
A1-3 + tembotrione	4 + 0.5	75 (Ec = 46, Diff. = +29)

Table 2: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	1	0
tembotrione	0.5	10
A1-3 + tembotrione	1 + 0.5	30 (Ec = 10, Diff. = +20)

Table 3: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	50
tembotrione	2	40
A1-3 + tembotrione	4 + 2	75 (Ec = 70, Diff. = +5)

Table 4: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	50
tembotrione	0.5	30
A1-3 + tembotrione	4 + 0.5	70 (Ec = 65, Diff. = +5)

Table 5: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	40
tembotrione	2	20
A1-3 + tembotrione	4 + 2	70 (Ec = 52, Diff. = +18)

Table 6: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
foramsulfuron	4	40
A1-13 + foramsulfuron	0.4 + 4	60 (Ec = 40, Diff. = +20)

Table 7: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
foramsulfuron	1	60
A1-13 + foramsulfuron	0.4 + 1	75 (Ec = 60, Diff. = +15)

Table 8: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
foramsulfuron	1	60
A1-13 + foramsulfuron	0.1 + 1	75 (Ec = 60, Diff. = +15)

Table 9: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
foramsulfuron	1	40
A1-13 + foramsulfuron	0.4 + 1	60 (Ec = 46, Diff. = +14)

Table 10: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
foramsulfuron	1	40
A1-13 + foramsulfuron	0.1 + 1	50 (Ec = 40, Diff. = +10)

Table 11: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
foramsulfuron	1	50
A1-13 + foramsulfuron	0.4 + 1	65 (Ec = 55, Diff. = +10)

Table 12: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
foramsulfuron	4	90
A1-13 + foramsulfuron	0.4 + 4	97 (Ec = 90, Diff. = +7)

Table 13: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
foramsulfuron	1	80
A1-13 + foramsulfuron	0.1 + 1	85 (Ec = 80, Diff. = +5)

Table 14: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	400	0
A1-14 + bromoxynil	0.4 + 400	30 (Ec = 0, Diff. = +30)

Table 15: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	100	0
A1-14 + bromoxynil	0.4 + 100	30 (Ec = 0, Diff. = +30)

Table 16: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	400	0
A1-14 + bromoxynil	0.4 + 400	50 (Ec = 0, Diff. = +50)

Table 17: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	100	0
A1-14 + bromoxynil	0.4 + 100	30 (Ec = 0, Diff. = +30)

Table 18: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	20
bromoxynil	400	0
A1-14 + bromoxynil	0.4 + 400	30 (Ec = 20, Diff. = +10)

Table 19: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	20
bromoxynil	100	0
A1-14 + bromoxynil	0.4 + 100	30 (Ec = 20, Diff. = +10)

Table 20: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.1	0
bromoxynil	400	0
A1-14 + bromoxynil	0.1 + 400	20 (Ec = 0, Diff. = +20)

Table 21: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.1	0
bromoxynil	100	0
A1-14 + bromoxynil	0.1 + 100	20 (Ec = 0, Diff. = +20)

Table 22: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.1	0
bromoxynil	400	0
A1-14 + bromoxynil	0.1 + 400	20 (Ec = 0, Diff. = +20)

Table 23: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.1	0
bromoxynil	100	0
A1-14 + bromoxynil	0.1 + 100	20 (Ec = 0, Diff. = +20)

Table 24: Efficacy against AMARE, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.1	0
bromoxynil	100	40
A1-14 + bromoxynil	0.1 + 100	50 (Ec = 40, Diff. = +10)

Table 25: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.1	0
bromoxynil	400	85
A1-14 + bromoxynil	0.1 + 400	100 (Ec = 85, Diff. = +15)

Table 26: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	0.5	10
isoxaflutole	10	10
A1-36 + isoxaflutole	0.5 + 10	30 (Ec = 19, Diff. = +11)

Table 27: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	40
isoxaflutole	10	60
A1-36 + isoxaflutole	2 + 10	95 (Ec = 76, Diff. = +19)

Table 28: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	40
isoxaflutole	2.5	10
A1-36 + isoxaflutole	2 + 2.5	70 (Ec = 46, Diff. = +24)

Table 29: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	0.5	10
isoxaflutole	10	60
A1-36 + isoxaflutole	0.5 + 10	70 (Ec = 64, Diff. = +6)

Table 30: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	50
isoxaflutole	10	60
A1-36 + isoxaflutole	2 + 10	93 (Ec = 80, Diff. = +13)

Table 31: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	50
isoxaflutole	2.5	20
A1-36 + isoxaflutole	2 + 2.5	85 (Ec = 60, Diff. = +25)

Table 32: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	50
halauxifen	2	10
A2-1 + halauxifen	4 + 2	70 (Ec = 55, Diff. = +15)

Table 33: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	50
halauxifen	0.5	0
A2-1 + halauxifen	4 + 0.5	60 (Ec = 50, Diff. = +10)

Table 34: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	0.5	20
dicamba	40	0
A1-55 + dicamba	0.5 + 40	30 (Ec = 20, Diff. = +10)

Table 35: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	40
dicamba	40	10
A1-55 + dicamba	2 + 40	65 (Ec = 46, Diff. = +19)

Table 36: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	40
dicamba	10	10
A1-55 + dicamba	2 + 10	65 (Ec = 46, Diff. = +19)

Table 37: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	40
dicamba	40	0
A1-55 + dicamba	2 + 40	65 (Ec = 40, Diff. = +25)

Table 38: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	40
dicamba	10	0
A1-55 + dicamba	2 + 10	65 (Ec = 40, Diff. = +25)

Table 39: Efficacy against AMARE, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	0.5	20
dicamba	40	65
A1-55 + dicamba	0.5 + 40	80 (Ec = 72, Diff. = +8)

Table 40: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	70
dicamba	10	50
A1-55 + dicamba	2 + 10	90 (Ec = 85, Diff. = +5)

Table 41: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	1	40
glyphosate	50	30
A1-57 + glyphosate	1 + 50	65 (Ec = 58, Diff. = +7)

Table 42: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	20
fenoxaprop-P-ethyl	5	30
A1-7 + fenoxaprop-P-ethyl	2 + 5	70 (Ec = 44, Diff. = +26)

Table 43: Efficacy against AMARE, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	30
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	40 (Ec = 30, Diff. = +10)

Table 44: Efficacy against AMARE, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	30
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 5	40 (Ec = 30, Diff. = +10)

Table 45: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	50
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	2 + 20	70 (Ec = 50, Diff. = +20)

Table 46: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	50
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	2 + 5	65 (Ec = 50, Diff. = +15)

Table 47: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	0
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	20 (Ec = 0, Diff. = +20)

Table 48: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	0
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 5	20 (Ec = 0, Diff. = +20)

Table 49: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	0
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	30 (Ec = 0, Diff. = +30)

Table 50: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	0
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 5	20 (Ec = 0, Diff. = +20)

Table 51: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	20
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	2 + 20	40 (Ec = 20, Diff. = +20)

Table 52: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	20
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	2 + 5	40 (Ec = 20, Diff. = +20)

Table 53: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	10
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	20 (Ec = 10, Diff. = +10)

Table 54: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	10
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 5	20 (Ec = 10, Diff. = +10)

Table 55: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	93
lenacil	1200	0
A1-60 + lenacil	4 + 1200	99 (Ec = 93, Diff. = +6)

Table 56: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	93
lenacil	300	0
A1-60 + lenacil	4 + 300	99 (Ec = 93, Diff. = +6)

Table 57: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	90
lenacil	1200	0
A1-60 + lenacil	4 + 1200	99 (Ec = 90, Diff. = +9)

Table 58: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	90
lenacil	300	0
A1-60 + lenacil	4 + 300	99 (Ec = 90, Diff. = +9)

Table 59: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	65
lenacil	1200	0
A1-60 + lenacil	1 + 1200	75 (Ec = 65, Diff. = +10)

Table 60: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	65
lenacil	300	0
A1-60 + lenacil	1 + 300	75 (Ec = 65, Diff. = +10)

Table 61: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	90
lenacil	1200	0
A1-60 + lenacil	4 + 1200	99 (Ec = 90, Diff. = +9)

Table 62: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	90
lenacil	300	0
A1-60 + lenacil	4 + 300	98 (Ec = 90, Diff. = +8)

Table 63: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	70
lenacil	1200	0
A1-60 + lenacil	1 + 1200	75 (Ec = 70, Diff. = +5)

Table 64: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	70
lenacil	300	0
A1-60 + lenacil	1 + 300	75 (Ec = 70, Diff. = +5)

Table 65: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	85
lenacil	1200	0
A1-60 + lenacil	4 + 1200	95 (Ec = 85, Diff. = +10)

Table 66: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	85
lenacil	300	0
A1-60 + lenacil	4 + 300	90 (Ec = 85, Diff. = +5)

Table 67: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	70
lenacil	1200	0
A1-60 + lenacil	1 + 1200	75 (Ec = 70, Diff. = +5)

Table 68: Efficacy against AMARE, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	70
lenacil	1200	0
A1-60 + lenacil	4 + 1200	85 (Ec = 70, Diff. = +15)

Table 69: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	65
lenacil	1200	0
A1-60 + lenacil	4 + 1200	100 (Ec = 65, Diff. = +35)

Table 70: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	65
lenacil	300	0
A1-60 + lenacil	4 + 300	95 (Ec = 65, Diff. = +30)

Table 71: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	65
lenacil	1200	0
A1-60 + lenacil	1 + 1200	80 (Ec = 65, Diff. = +15)

Table 72: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	65
lenacil	300	0
A1-60 + lenacil	1 + 300	80 (Ec = 65, Diff. = +15)

Table 73: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	20	20
A1-13 + metribuzin	0.4 + 20	60 (Ec = 20, Diff. = +40)

Table 74: Efficacy against DIGSA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	60 (Ec = 0, Diff. = +60)

Table 75: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	20	30
A1-13 + metribuzin	0.4 + 20	75 (Ec = 30, Diff. = +45)

Table 76: Efficacy against ECHCG, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	5	10
A1-13 + metribuzin	0.4 + 5	60 (Ec = 10, Diff. = +50)

Table 77: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	20
metribuzin	20	20
A1-13 + metribuzin	0.4 + 20	80 (Ec = 36, Diff. = +44)

Table 78: Efficacy against ELEIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	20
metribuzin	5	10
A1-13 + metribuzin	0.4 + 5	70 (Ec = 28, Diff. = +42)

Table 79: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	20	30
A1-13 + metribuzin	0.4 + 20	60 (Ec = 37, Diff. = +23)

Table 80: Efficacy against SETVI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	5	10
A1-13 + metribuzin	0.4 + 5	60 (Ec = 19, Diff. = +41)

Table 81: Efficacy against AMARE, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	20	30
A1-13 + metribuzin	0.4 + 20	60 (Ec = 30, Diff. = +30)

Table 82: Efficacy against AMARE, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	5	20
A1-13 + metribuzin	0.4 + 5	60 (Ec = 20, Diff. = +40)

Table 83: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	20	30
A1-13 + metribuzin	0.4 + 20	60 (Ec = 37, Diff. = +23)

Table 84: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	5	30
A1-13 + metribuzin	0.4 + 5	60 (Ec = 37, Diff. = +23)

Table 85: Efficacy against CHEAL, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	20	30
A1-13 + metribuzin	0.1 + 20	50 (Ec = 30, Diff. = +20)

Table 86: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	20	20
A1-13 + metribuzin	0.4 + 20	70 (Ec = 20, Diff. = +50)

Table 87: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	5	20
A1-13 + metribuzin	0.4 + 5	70 (Ec = 20, Diff. = +50)

Table 88: Efficacy against KCHSC, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	20	20
A1-13 + metribuzin	0.1 + 20	30 (Ec = 20, Diff. = +10)

Table 89: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	20
metribuzin	20	0
A1-13 + metribuzin	0.4 + 20	80 (Ec = 20, Diff. = +60)

Table 90: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	20
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	80 (Ec = 20, Diff. = +60)

Table 91: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	10
metribuzin	20	0
A1-13 + metribuzin	0.1 + 20	30 (Ec = 10, Diff. = +20)

Table 92: Efficacy against SOLNI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	10
metribuzin	5	0
A1-13 + metribuzin	0.1 + 5	30 (Ec = 10, Diff. = +20)

Table 93: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	10
tembotrione	2	60
A1-3 + tembotrione	4 + 2	70 (Ec = 64, Diff. = +6)

Table 94: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	10
tembotrione	0.5	10
A1-3 + tembotrione	4 + 0.5	70 (Ec = 19, Diff. = +51)

Table 95: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	1	0
tembotrione	0.5	10
A1-3 + tembotrione	1 + 0.5	30 (Ec = 10, Diff. = +20)

Table 96: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	20
tembotrione	2	10
A1-3 + tembotrione	4 + 2	40 (Ec = 28, Diff. = +12)

Table 97: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	20
tembotrione	0.5	0
A1-3 + tembotrione	4 + 0.5	40 (Ec = 20, Diff. = +20)

Table 98: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	20
tembotrione	0.5	0
A1-3 + tembotrione	4 + 0.5	30 (Ec = 20, Diff. = +10)

Table 99: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	1	10
tembotrione	2	10
A1-3 + tembotrione	1 + 2	30 (Ec = 19, Diff. = +11)

Table 100: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	1	20
tembotrione	2	30
A1-3 + tembotrione	1 + 2	93 (Ec = 44, Diff. = +49)

Table 101: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	20
tembotrione	2	10
A1-3 + tembotrione	4 + 2	65 (Ec = 28, Diff. = +37)

Table 102: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	4	20
tembotrione	0.5	0
A1-3 + tembotrione	4 + 0.5	30 (Ec = 20, Diff. = +10)

Table 103: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
foramsulfuron	1	30
A1-13 + foramsulfuron	0.4 + 1	60 (Ec = 30, Diff. = +30)

Table 104: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
foramsulfuron	1	30
A1-13 + foramsulfuron	0.1 + 1	60 (Ec = 30, Diff. = +30)

Table 105: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
foramsulfuron	1	60
A1-13 + foramsulfuron	0.4 + 1	70 (Ec = 64, Diff. = +6)

Table 106: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
foramsulfuron	1	60
A1-13 + foramsulfuron	0.1 + 1	65 (Ec = 60, Diff. = +5)

Table 107: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
foramsulfuron	4	50
A1-13 + foramsulfuron	0.4 + 4	60 (Ec = 55, Diff. = +5)

Table 108: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
foramsulfuron	1	20
A1-13 + foramsulfuron	0.1 + 1	30 (Ec = 20, Diff. = +10)

Table 109: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
foramsulfuron	4	80
A1-13 + foramsulfuron	0.4 + 4	90 (Ec = 80, Diff. = +10)

Table 110: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	100	50
thiencarbazone-methyl	0.25	60
A1-34 + thiencarbazone-methyl	100 + 0.25	95 (Ec = 80, Diff. = +15)

Table 111: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	25	30
thiencarbazone-methyl	0.25	60
A1-34 + thiencarbazone-methyl	25 + 0.25	90 (Ec = 72, Diff. = +18)

Table 112: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	25	70
thiencarbazone-methyl	1	70
A1-34 + thiencarbazone-methyl	25 + 1	100 (Ec = 91, Diff. = +9)

Table 113: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	25	70
thiencarbazone-methyl	0.25	50
A1-34 + thiencarbazone-methyl	25 + 0.25	90 (Ec = 85, Diff. = +5)

Table 114: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	25	10
thiencarbazone-methyl	1	50
A1-34 + thiencarbazone-methyl	25 + 1	60 (Ec = 55, Diff. = +5)

Table 115: Efficacy against DIGSA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	400	0
A1-14 + bromoxynil	0.4 + 400	10 (Ec = 0, Diff. = +10)

Table 116: Efficacy against DIGSA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	100	0
A1-14 + bromoxynil	0.4 + 100	10 (Ec = 0, Diff. = +10)

Table 117: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	400	0
A1-14 + bromoxynil	0.4 + 400	30 (Ec = 0, Diff. = +30)

Table 118: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	400	0
A1-14 + bromoxynil	0.4 + 400	30 (Ec = 0, Diff. = +30)

Table 119: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.4	0
bromoxynil	100	0
A1-14 + bromoxynil	0.4 + 100	10 (Ec = 0, Diff. = +10)

Table 120: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	0.1	0
bromoxynil	400	75
A1-14 + bromoxynil	0.1 + 400	100 (Ec = 75, Diff. = +25)

Table 121: Efficacy against DIGSA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	0.5	10
isoxaflutole	10	0
A1-36 + isoxaflutole	0.5 + 10	20 (Ec = 10, Diff. = +10)

Table 122: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	20
isoxaflutole	10	60
A1-36 + isoxaflutole	2 + 10	95 (Ec = 68, Diff. = +27)

Table 123: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	20
isoxaflutole	2.5	10
A1-36 + isoxaflutole	2 + 2.5	70 (Ec = 28, Diff. = +42)

Table 124: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	0.5	0
isoxaflutole	10	60
A1-36 + isoxaflutole	0.5 + 10	70 (Ec = 60, Diff. = +10)

Table 125: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	0.5	0
isoxaflutole	2.5	10
A1-36 + isoxaflutole	0.5 + 2.5	20 (Ec = 10, Diff. = +10)

Table 126: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	30
isoxaflutole	10	20
A1-36 + isoxaflutole	2 + 10	75 (Ec = 44, Diff. = +31)

Table 127: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	30
isoxaflutole	2.5	0
A1-36 + isoxaflutole	2 + 2.5	65 (Ec = 30, Diff. = +35)

Table 128: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	65
isoxaflutole	10	0
A1-36 + isoxaflutole	2 + 10	70 (Ec = 65, Diff. = +5)

Table 129: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	65
isoxaflutole	2.5	0
A1-36 + isoxaflutole	2 + 2.5	70 (Ec = 65, Diff. = +5)

Table 130: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	70
isoxaflutole	2.5	40
A1-36 + isoxaflutole	2 + 2.5	93 (Ec = 82, Diff. = +11)

Table 131: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	0.5	20
isoxaflutole	2.5	40
A1-36 + isoxaflutole	0.5 + 2.5	70 (Ec = 52, Diff. = +18)

Table 132: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2	50
isoxaflutole	10	65
A1-36 + isoxaflutole	2 + 10	95 (Ec = 82.5, Diff. = +12.5)

Table 133: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	40
halauxifen	2	20
A2-1 + halauxifen	4 + 2	65 (Ec = 52, Diff. = +13)

Table 134: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	60
halauxifen	2	0
A2-1 + halauxifen	4 + 2	70 (Ec = 60, Diff. = +10)

Table 135: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	60
halauxifen	0.5	0
A2-1 + halauxifen	4 + 0.5	65 (Ec = 60, Diff. = +5)

Table 136: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	20
halauxifen	2	0
A2-1 + halauxifen	4 + 2	30 (Ec = 20, Diff. = +10)

Table 137: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	40
halauxifen	2	30
A2-1 + halauxifen	4 + 2	65 (Ec = 58, Diff. = +7)

Table 138: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	4	40
halauxifen	0.5	20
A2-1 + halauxifen	4 + 0.5	65 (Ec = 52, Diff. = +13)

Table 139: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	1	10
halauxifen	0.5	50
A2-1 + halauxifen	1 + 0.5	60 (Ec = 55, Diff. = +5)

Table 140: Efficacy against DIGSA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	30
dicamba	40	0
A1-55 + dicamba	2 + 40	40 (Ec = 30, Diff. = +10)

Table 141: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	30
dicamba	40	0
A1-55 + dicamba	2 + 40	50 (Ec = 30, Diff. = +20)

Table 142: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	30
dicamba	10	0
A1-55 + dicamba	2 + 10	50 (Ec = 30, Diff. = +20)

Table 143: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	30
dicamba	40	0
A1-55 + dicamba	2 + 40	50 (Ec = 30, Diff. = +20)

Table 144: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2	30
dicamba	10	0
A1-55 + dicamba	2 + 10	40 (Ec = 30, Diff. = +10)

Table 145: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	0.5	10
dicamba	40	65
A1-55 + dicamba	0.5 + 40	75 (Ec = 68.5, Diff. = +6.5)

Table 146: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	1	10
glyphosate	50	0
A1-57 + glyphosate	1 + 50	20 (Ec = 10, Diff. = +10)

Table 147: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	1	30
glyphosate	50	30
A1-57 + glyphosate	1 + 50	65 (Ec = 51, Diff. = +14)

Table 148: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	1	20
glyphosate	200	30
A1-57 + glyphosate	1 + 200	50 (Ec = 44, Diff. = +6)

Table 149: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	1	20
glyphosate	50	10
A1-57 + glyphosate	1 + 50	40 (Ec = 28, Diff. = +12)

Table 150: Efficacy against DIGSA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	10
fenoxaprop-P-ethyl	5	10
A1-7 + fenoxaprop-P-ethyl	2 + 5	30 (Ec = 19, Diff. = +11)

Table 151: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	75
fenoxaprop-P-ethyl	20	80
A1-7 + fenoxaprop-P-ethyl	2 + 20	100 (Ec = 95, Diff. = +5)

Table 152: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	30
fenoxaprop-P-ethyl	20	80
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	100 (Ec = 86, Diff. = +14)

Table 153: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	20
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	2 + 20	60 (Ec = 20, Diff. = +40)

Table 154: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	20
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	2 + 5	50 (Ec = 20, Diff. = +30)

Table 155: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	10
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	30 (Ec = 10, Diff. = +20)

Table 156: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	10
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 5	20 (Ec = 10, Diff. = +10)

Table 157: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	10
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	20 (Ec = 10, Diff. = +10)

Table 158: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	10
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	2 + 20	20 (Ec = 10, Diff. = +10)

Table 159: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2	10
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	2 + 5	20 (Ec = 10, Diff. = +10)

Table 160: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	0
fenoxaprop-P-ethyl	20	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 20	10 (Ec = 0, Diff. = +10)

Table 161: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	0.5	0
fenoxaprop-P-ethyl	5	0
A1-7 + fenoxaprop-P-ethyl	0.5 + 5	10 (Ec = 0, Diff. = +10)

Table 162: Efficacy against DIGSA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	70
lenacil	1200	0
A1-60 + lenacil	4 + 1200	97 (Ec = 70, Diff. = +27)

Table 163: Efficacy against DIGSA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	70
lenacil	300	0
A1-60 + lenacil	4 + 300	95 (Ec = 70, Diff. = +25)

Table 164: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	75
lenacil	1200	0
A1-60 + lenacil	4 + 1200	100 (Ec = 75, Diff. = +25)

Table 165: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	75
lenacil	300	0
A1-60 + lenacil	4 + 300	100 (Ec = 75, Diff. = +25)

Table 166: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	40
lenacil	1200	0
A1-60 + lenacil	1 + 1200	70 (Ec = 40, Diff. = +30)

Table 167: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	40
lenacil	300	0
A1-60 + lenacil	1 + 300	70 (Ec = 40, Diff. = +30)

Table 168: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	75
lenacil	1200	0
A1-60 + lenacil	4 + 1200	98 (Ec = 75, Diff. = +23)

Table 169: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	75
lenacil	300	0
A1-60 + lenacil	4 + 300	95 (Ec = 75, Diff. = +20)

Table 170: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	40
lenacil	1200	0
A1-60 + lenacil	1 + 1200	70 (Ec = 40, Diff. = +30)

Table 171: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	40
lenacil	300	0
A1-60 + lenacil	1 + 300	95 (Ec = 40, Diff. = +55)

Table 172: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	70
lenacil	1200	0
A1-60 + lenacil	4 + 1200	85 (Ec = 70, Diff. = +15)

Table 173: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	70
lenacil	300	0
A1-60 + lenacil	4 + 300	75 (Ec = 70, Diff. = +5)

Table 174: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	50
lenacil	1200	0
A1-60 + lenacil	1 + 1200	80 (Ec = 50, Diff. = +30)

Table 175: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	60
lenacil	1200	0
A1-60 + lenacil	4 + 1200	65 (Ec = 60, Diff. = +5)

Table 176: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	20
lenacil	1200	0
A1-60 + lenacil	1 + 1200	30 (Ec = 20, Diff. = +10)

Table 177: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	20
lenacil	300	0
A1-60 + lenacil	1 + 300	30 (Ec = 20, Diff. = +10)

Table 178: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	30
lenacil	1200	0
A1-60 + lenacil	4 + 1200	100 (Ec = 30, Diff. = +70)

Table 179: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	4	30
lenacil	300	0
A1-60 + lenacil	4 + 300	80 (Ec = 30, Diff. = +50)

Table 180: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	20
lenacil	1200	0
A1-60 + lenacil	1 + 1200	60 (Ec = 20, Diff. = +40)

Table 181: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	1	20
lenacil	300	0
A1-60 + lenacil	1 + 300	60 (Ec = 20, Diff. = +40)

Table 182: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	20	0
A1-13 + metribuzin	0.4 + 20	75 (Ec = 0, Diff. = +75)

Table 183: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	60 (Ec = 0, Diff. = +60)

Table 184: Efficacy against ECHCG, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	20	0
A1-13 + metribuzin	0.1 + 20	20 (Ec = 0, Diff. = +20)

Table 185: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	20	0
A1-13 + metribuzin	0.4 + 20	70 (Ec = 10, Diff. = +60)

Table 186: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	60 (Ec = 10, Diff. = +50)

Table 187: Efficacy against ELEIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	20	0
A1-13 + metribuzin	0.1 + 20	10 (Ec = 0, Diff. = +10)

Table 188: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	20	0
A1-13 + metribuzin	0.4 + 20	50 (Ec = 10, Diff. = +40)

Table 189: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	40 (Ec = 10, Diff. = +30)

Table 190: Efficacy against SETVI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	20	0
A1-13 + metribuzin	0.1 + 20	10 (Ec = 0, Diff. = +10)

Table 191: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	20	10
A1-13 + metribuzin	0.4 + 20	30 (Ec = 19, Diff. = +11)

Table 192: Efficacy against AMARE, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	30 (Ec = 10, Diff. = +20)

Table 193: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	20	20
A1-13 + metribuzin	0.1 + 20	30 (Ec = 20, Diff. = +10)

Table 194: Efficacy against CHEAL, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	5	20
A1-13 + metribuzin	0.1 + 5	30 (Ec = 20, Diff. = +10)

Table 195: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	20	10
A1-13 + metribuzin	0.4 + 20	65 (Ec = 10, Diff. = +55)

Table 196: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	0
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	60 (Ec = 0, Diff. = +60)

Table 197: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	20	10
A1-13 + metribuzin	0.1 + 20	20 (Ec = 10, Diff. = +10)

Table 198: Efficacy against KCHSC, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.1	0
metribuzin	5	0
A1-13 + metribuzin	0.1 + 5	10 (Ec = 0, Diff. = +10)

Table 199: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	20	0
A1-13 + metribuzin	0.4 + 20	50 (Ec = 10, Diff. = +40)

Table 200: Efficacy against SOLNI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	0.4	10
metribuzin	5	0
A1-13 + metribuzin	0.4 + 5	65 (Ec = 10, Diff. = +55)

Table 201: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	0
pinoxaden	20	20
A1-3 + pinoxaden	20 + 20	30 (Ec = 20, Diff. = +10)

Table 202: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	5	0
A1-3 + pinoxaden	5 + 5	15 (Ec = 0, Diff. = +15)

Table 203: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	20	10
A1-3 + pinoxaden	20 + 20	30 (Ec = 14.5, Diff. = +15.5)

Table 204: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	5	0
A1-3 + pinoxaden	20 + 5	25 (Ec = 5, Diff. = +20)

Table 205: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	20	10
A1-3 + pinoxaden	5 + 20	30 (Ec = 10, Diff. = +20)

Table 206: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	5	0
A1-3 + pinoxaden	5 + 5	15 (Ec = 0, Diff. = +15)

Table 207: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	20	85
A1-3 + pinoxaden	5 + 20	90 (Ec = 85, Diff. = +5)

Table 208: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	20
pinoxaden	20	50
A1-3 + pinoxaden	20 + 20	85 (Ec = 60, Diff. = +25)

Table 209: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	20
pinoxaden	5	10
A1-3 + pinoxaden	20 + 5	50 (Ec = 28, Diff. = +22)

Table 210: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	20	50
A1-3 + pinoxaden	5 + 20	60 (Ec = 50, Diff. = +10)

Table 211: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	5	10
A1-3 + pinoxaden	5 + 5	15 (Ec = 10, Diff. = +5)

Table 212: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	20	0
A1-3 + pinoxaden	20 + 20	35 (Ec = 5, Diff. = +30)

Table 213: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	5	0
A1-3 + pinoxaden	20 + 5	15 (Ec = 5, Diff. = +10)

Table 214: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	20	0
A1-3 + pinoxaden	5 + 20	20 (Ec = 0, Diff. = +20)

Table 215: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	40
pinoxaden	20	0
A1-3 + pinoxaden	5 + 20	50 (Ec = 40, Diff. = +10)

Table 216: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	30
pinoxaden	20	0
A1-3 + pinoxaden	5 + 20	35 (Ec = 30, Diff. = +5)

Table 217: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	10
pinoxaden	20	0
A1-3 + pinoxaden	20 + 20	40 (Ec = 10, Diff. = +30)

Table 218: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	10
pinoxaden	5	0
A1-3 + pinoxaden	20 + 5	40 (Ec = 10, Diff. = +30)

Table 219: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	20	0
A1-3 + pinoxaden	5 + 20	40 (Ec = 0, Diff. = +40)

Table 220: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	5	0
A1-3 + pinoxaden	5 + 5	20 (Ec = 0, Diff. = +20)

Table 221: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	35
mesosulfuron-methyl	10	5
A1-13 + mesosulfuron-methyl	10 + 10	60 (Ec = 38.25, Diff. = +21.75)

Table 222: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	30
mesosulfuron-methyl	10	5
A1-13 + mesosulfuron-methyl	10 + 10	40 (Ec = 33.5, Diff. = +6.5)

Table 223: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	30
mesosulfuron-methyl	2.5	0
A1-13 + mesosulfuron-methyl	10 + 2.5	40 (Ec = 30, Diff. = +10)

Table 224: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	30
mesosulfuron-methyl	10	5
A1-13 + mesosulfuron-methyl	2.5 + 10	40 (Ec = 33.5, Diff. = +6.5)

Table 225: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	40
mesosulfuron-methyl	10	40
A1-13 + mesosulfuron-methyl	10 + 10	70 (Ec = 64, Diff. = +6)

Table 226: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	20
mesosulfuron-methyl	10	40
A1-13 + mesosulfuron-methyl	2.5 + 10	70 (Ec = 52, Diff. = +18)

Table 227: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	20
mesosulfuron-methyl	2.5	15
A1-13 + mesosulfuron-methyl	2.5 + 2.5	40 (Ec = 32, Diff. = +8)

Table 228: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	50
mesosulfuron-methyl	10	30
A1-13 + mesosulfuron-methyl	10 + 10	75 (Ec = 65, Diff. = +10)

Table 229: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	50
mesosulfuron-methyl	2.5	30
A1-13 + mesosulfuron-methyl	10 + 2.5	70 (Ec = 65, Diff. = +5)

Table 230: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	40
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	10 + 10	70 (Ec = 40, Diff. = +30)

Table 231: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	40
mesosulfuron-methyl	2.5	0
A1-13 + mesosulfuron-methyl	10 + 2.5	65 (Ec = 40, Diff. = +25)

Table 232: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	30
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	2.5 + 10	40 (Ec = 30, Diff. = +10)

Table 233: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	10
iodosulfuron-methyl-sodium	2	15
A1-34 + iodosulfuron-methyl-sodium	50 + 2	30 (Ec = 23.5, Diff. = +6.5)

Table 234: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	30
iodosulfuron-methyl-sodium	2	30
A1-34 + iodosulfuron-methyl-sodium	200 + 2	60 (Ec = 51, Diff. = +9)

Table 235: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	30
iodosulfuron-methyl-sodium	0.5	0
A1-34 + iodosulfuron-methyl-sodium	200 + 0.5	40 (Ec = 30, Diff. = +10)

Table 236: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	5
iodosulfuron-methyl-sodium	0.5	0
A1-34 + iodosulfuron-methyl-sodium	50 + 0.5	15 (Ec = 5, Diff. = +10)

Table 237: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	60
iodosulfuron-methyl-sodium	0.5	10
A1-34 + iodosulfuron-methyl-sodium	200 + 0.5	70 (Ec = 64, Diff. = +6)

Table 238: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	85
iodosulfuron-methyl-sodium	2	20
A1-34 + iodosulfuron-methyl-sodium	200 + 2	93 (Ec = 88, Diff. = +5)

Table 239: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	85
iodosulfuron-methyl-sodium	0.5	0
A1-34 + iodosulfuron-methyl-sodium	200 + 0.5	95 (Ec = 85, Diff. = +10)

Table 240: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	50
iodosulfuron-methyl-sodium	0.5	30
A1-34 + iodosulfuron-methyl-sodium	50 + 0.5	70 (Ec = 65, Diff. = +5)

Table 241: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	30
iodosulfuron-methyl-sodium	2	30
A1-34 + iodosulfuron-methyl-sodium	200 + 2	60 (Ec = 51, Diff. = +9)

Table 242: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	30
iodosulfuron-methyl-sodium	0.5	15
A1-34 + iodosulfuron-methyl-sodium	200 + 0.5	60 (Ec = 40.5, Diff. = +19.5)

Table 243: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	3
pyrasulfotole	25	0
A1-14 + pyrasulfotole	10 + 25	10 (Ec = 3, Diff. = +7)

Table 244: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	25	0
A1-14 + pyrasulfotole	2.5 + 25	10 (Ec = 0, Diff. = +10)

Table 245: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	0
pyrasulfotole	100	0
A1-14 + pyrasulfotole	10 + 100	20 (Ec = 0, Diff. = +20)

Table 246: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	100	0
A1-14 + pyrasulfotole	2.5 + 100	15 (Ec = 0, Diff. = +15)

Table 247: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	25	0
A1-14 + pyrasulfotole	2.5 + 25	15 (Ec = 0, Diff. = +15)

Table 248: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	25
pyrasulfotole	100	5
A1-14 + pyrasulfotole	10 + 100	40 (Ec = 28,75, Diff. = +11,25)

Table 249: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	100	5
A1-14 + pyrasulfotole	2.5 + 100	30 (Ec = 5, Diff. = +25)

Table 250: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	25	0
A1-14 + pyrasulfotole	2.5 + 25	10 (Ec = 0, Diff. = +10)

Table 251: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	10
pyrasulfotole	100	0
A1-14 + pyrasulfotole	2.5 + 100	25 (Ec = 10, Diff. = +15)

Table 252: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	10
pyrasulfotole	25	0
A1-14 + pyrasulfotole	2.5 + 25	20 (Ec = 10, Diff. = +10)

Table 253: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	60
pyrasulfotole	100	15
A1-14 + pyrasulfotole	10 + 100	80 (Ec = 66, Diff. = +14)

Table 254: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	60
pyrasulfotole	25	0
A1-14 + pyrasulfotole	10 + 25	70 (Ec = 60, Diff. = +10)

Table 255: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	50
pyrasulfotole	100	15
A1-14 + pyrasulfotole	2.5 + 100	70 (Ec = 57.5, Diff. = +12.5)

Table 256: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	20
pyrasulfotole	100	60
A1-14 + pyrasulfotole	10 + 100	85 (Ec = 68, Diff. = +17)

Table 257: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	20
pyrasulfotole	25	50
A1-14 + pyrasulfotole	10 + 25	95 (Ec = 60, Diff. = +35)

Table 258: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	20
pyrasulfotole	100	60
A1-14 + pyrasulfotole	2.5 + 100	75 (Ec = 68, Diff. = +7)

Table 259: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	20
pyrasulfotole	25	50
A1-14 + pyrasulfotole	2.5 + 25	65 (Ec = 60, Diff. = +5)

Table 260: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	15
flurtamone	320	15
A1-36 + flurtamone	10 + 320	40 (Ec = 27.75, Diff. = +12.25)

Table 261: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	15
flurtamone	80	0
A1-36 + flurtamone	10 + 80	30 (Ec = 15, Diff. = +15)

Table 262: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	320	15
A1-36 + flurtamone	2.5 + 320	30 (Ec = 15, Diff. = +15)

Table 263: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	80	0
A1-36 + flurtamone	2.5 + 80	15 (Ec = 0, Diff. = +15)

Table 264: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	320	10
A1-36 + flurtamone	2.5 + 320	15 (Ec = 10, Diff. = +5)

Table 265: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	80	0
A1-36 + flurtamone	2.5 + 80	15 (Ec = 0, Diff. = +15)

Table 266: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	3
flurtamone	80	30
A1-36 + flurtamone	10 + 80	60 (Ec = 32.1, Diff. = +27.9)

Table 267: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	30
flurtamone	320	50
A1-36 + flurtamone	10 + 320	75 (Ec = 65, Diff. = +10)

Table 268: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	30
flurtamone	80	40
A1-36 + flurtamone	10 + 80	65 (Ec = 58, Diff. = +7)

Table 269: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	320	50
A1-36 + flurtamone	2.5 + 320	85 (Ec = 50, Diff. = +35)

Table 270: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	25
flurtamone	320	80
A1-36 + flurtamone	10 + 320	100 (Ec = 85, Diff. = +15)

Table 271: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	25
flurtamone	80	40
A1-36 + flurtamone	10 + 80	60 (Ec = 55, Diff. = +5)

Table 272: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	5
flurtamone	80	40
A1-36 + flurtamone	2.5 + 80	70 (Ec = 43, Diff. = +27)

Table 273: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	40
flurtamone	320	50
A1-36 + flurtamone	10 + 320	97 (Ec = 70, Diff. = +27)

Table 274: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	40
flurtamone	80	50
A1-36 + flurtamone	10 + 80	97 (Ec = 70, Diff. = +27)

Table 275: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	15
flurtamone	320	50
A1-36 + flurtamone	2.5 + 320	90 (Ec = 57.5, Diff. = +32.5)

Table 276: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	15
flurtamone	80	50
A1-36 + flurtamone	2.5 + 80	80 (Ec = 57.5, Diff. = +22.5)

Table 277: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	320	30
A1-36 + flurtamone	2.5 + 320	40 (Ec = 30, Diff. = +10)

Table 278: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	80	50
A1-36 + flurtamone	2.5 + 80	70 (Ec = 50, Diff. = +20)

Table 279: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	0
fluroxypyr	80	0
A2-1 + fluroxypyr	50 + 80	20 (Ec = 0, Diff. = +20)

Table 280: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	0
fluroxypyr	80	0
A2-1 + fluroxypyr	12.5 + 80	15 (Ec = 0, Diff. = +15)

Table 281: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	0
fluroxypyr	80	0
A2-1 + fluroxypyr	12.5 + 80	15 (Ec = 0, Diff. = +15)

Table 282: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	0
fluroxypyr	80	0
A2-1 + fluroxypyr	50 + 80	20 (Ec = 0, Diff. = +20)

Table 283: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	0
fluroxypyr	80	0
A2-1 + fluroxypyr	12.5 + 80	20 (Ec = 0, Diff. = +20)

Table 284: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	15
fluroxypyr	80	15
A2-1 + fluroxypyr	12.5 + 80	35 (Ec = 27.75, Diff. = +7.25)

Table 285: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	15
fluroxypyr	20	0
A2-1 + fluroxypyr	12.5 + 20	20 (Ec = 15, Diff. = +5)

Table 286: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	70
fluroxypyr	20	70
A2-1 + fluroxypyr	50 + 20	100 (Ec = 91, Diff. = +9)

Table 287: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	25
A1-55 + glufosinate-ammonium	2.5 + 100	40 (Ec = 25, Diff. = +15)

Table 288: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	10 (Ec = 0, Diff. = +10)

Table 289: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	5
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	2.5 + 100	40 (Ec = 19.25, Diff. = +20.75)

Table 290: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	15
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	20 (Ec = 15, Diff. = +5)

Table 291: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	25
A1-55 + glufosinate-ammonium	2.5 + 100	40 (Ec = 25, Diff. = +15)

Table 292: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	15 (Ec = 0, Diff. = +15)

Table 293: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	25
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	10 + 100	65 (Ec = 36.25, Diff. = +28.75)

Table 294: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	25
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	50 (Ec = 25, Diff. = +25)

Table 295: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	2.5 + 100	65 (Ec = 15, Diff. = +50)

Table 296: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	40 (Ec = 0, Diff. = +40)

Table 297: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	20
glufosinate-ammonium	100	0
A1-55 + glufosinate-ammonium	10 + 100	40 (Ec = 20, Diff. = +20)

Table 298: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	5
glufosinate-ammonium	100	0
A1-55 + glufosinate-ammonium	2.5 + 100	30 (Ec = 5, Diff. = +25)

Table 299: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	30
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	60 (Ec = 30, Diff. = +30)

Table 300: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	30 (Ec = 0, Diff. = +30)

Table 301: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	30
glufosinate-ammonium	100	30
A1-55 + glufosinate-ammonium	10 + 100	95 (Ec = 51, Diff. = +44)

Table 302: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	30
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	95 (Ec = 30, Diff. = +65)

Table 303: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	30
A1-55 + glufosinate-ammonium	2.5 + 100	80 (Ec = 30, Diff. = +50)

Table 304: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	70 (Ec = 0, Diff. = +70)

Table 305: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	0
glufosinate-ammonium	100	25
A1-55 + glufosinate-ammonium	10 + 100	50 (Ec = 25, Diff. = +25)

Table 306: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	70 (Ec = 0, Diff. = +70)

Table 307: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	25
A1-55 + glufosinate-ammonium	2.5 + 100	50 (Ec = 25, Diff. = +25)

Table 308: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	15 (Ec = 0, Diff. = +15)

Table 309: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	0
aclonifen	800	0
A1-57 + aclonifen	50 + 800	50 (Ec = 0, Diff. = +50)

Table 310: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	0
aclonifen	200	0
A1-57 + aclonifen	50 + 200	20 (Ec = 0, Diff. = +20)

Table 311: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	0
aclonifen	800	0
A1-57 + aclonifen	12.5 + 800	35 (Ec = 0, Diff. = +35)

Table 312: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	0
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	5 (Ec = 0, Diff. = +5)

Table 313: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	40
aclonifen	800	0
A1-57 + aclonifen	50 + 800	50 (Ec = 40, Diff. = +10)

Table 314: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	0
aclonifen	800	0
A1-57 + aclonifen	12.5 + 800	40 (Ec = 0, Diff. = +40)

Table 315: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	0
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	10 (Ec = 0, Diff. = +10)

Table 316: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	35
aclonifen	800	0
A1-57 + aclonifen	50 + 800	40 (Ec = 35, Diff. = +5)

Table 317: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	0
aclonifen	800	0
A1-57 + aclonifen	12.5 + 800	10 (Ec = 0, Diff. = +10)

Table 318: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	70
aclonifen	200	0
A1-57 + aclonifen	50 + 200	85 (Ec = 70, Diff. = +15)

Table 319: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	50
aclonifen	800	40
A1-57 + aclonifen	12.5 + 800	85 (Ec = 70, Diff. = +15)

Table 320: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	50
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	60 (Ec = 50, Diff. = +10)

Table 321: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	50
aclonifen	800	30
A1-57 + aclonifen	50 + 800	85 (Ec = 65, Diff. = +20)

Table 322: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	50
aclonifen	200	0
A1-57 + aclonifen	50 + 200	80 (Ec = 50, Diff. = +30)

Table 323: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	15
aclonifen	800	30
A1-57 + aclonifen	12.5 + 800	70 (Ec = 40.5, Diff. = +29.5)

Table 324: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	15
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	45 (Ec = 15, Diff. = +30)

Table 325: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	60
aclonifen	200	20
A1-57 + aclonifen	50 + 200	80 (Ec = 68, Diff. = +12)

Table 326: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	30
aclonifen	200	20
A1-57 + aclonifen	12.5 + 200	65 (Ec = 44, Diff. = +21)

Table 327: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	85
aclonifen	800	0
A1-57 + aclonifen	50 + 800	95 (Ec = 85, Diff. = +10)

Table 328: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	60
aclonifen	800	0
A1-57 + aclonifen	12.5 + 800	93 (Ec = 60, Diff. = +33)

Table 329: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	60
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	75 (Ec = 60, Diff. = +15)

Table 330: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	65
aclonifen	800	10
A1-57 + aclonifen	12.5 + 800	85 (Ec = 68.5, Diff. = +16.5)

Table 331: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	65
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	85 (Ec = 65, Diff. = +20)

Table 332: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2.5	15
saflufenacil	2	0
A1-7 + saflufenacil	2.5 + 2	20 (Ec = 15, Diff. = +5)

Table 333: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2.5	0
saflufenacil	8	10
A1-7 + saflufenacil	2.5 + 8	15 (Ec = 10, Diff. = +5)

Table 334: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2.5	0
saflufenacil	2	0
A1-7 + saflufenacil	2.5 + 2	10 (Ec = 0, Diff. = +10)

Table 335: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	10	25
saflufenacil	8	10
A1-7 + saflufenacil	10 + 8	80 (Ec = 32.5, Diff. = +47.5)

Table 336: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	10	25
saflufenacil	2	0
A1-7 + saflufenacil	10 + 2	75 (Ec = 25, Diff. = +50)

Table 337: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2.5	10
saflufenacil	8	10
A1-7 + saflufenacil	2.5 + 8	93 (Ec = 19, Diff. = +74)

Table 338: Efficacy against POLCO, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2.5	10
saflufenacil	2	0
A1-7 + saflufenacil	2.5 + 2	75 (Ec = 10, Diff. = +65)

Table 339: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	0
isoproturon	1600	35
A1-60 + isoproturon	10 + 1600	50 (Ec = 35, Diff. = +15)

Table 340: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	0
isoproturon	400	0
A1-60 + isoproturon	10 + 400	50 (Ec = 0, Diff. = +50)

Table 341: Efficacy against AVEFA, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	400	0
A1-60 + isoproturon	2.5 + 400	15 (Ec = 0, Diff. = +15)

Table 342: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	15
isoproturon	1600	5
A1-60 + isoproturon	10 + 1600	60 (Ec = 19.25, Diff. = +40.75)

Table 343: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	15
isoproturon	400	0
A1-60 + isoproturon	10 + 400	40 (Ec = 15, Diff. = +25)

Table 344: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	1600	5
A1-60 + isoproturon	2.5 + 1600	20 (Ec = 5, Diff. = +15)

Table 345: Efficacy against BROST, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	400	0
A1-60 + isoproturon	2.5 + 400	15 (Ec = 0, Diff. = +15)

Table 346: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	0
isoproturon	1600	15
A1-60 + isoproturon	10 + 1600	50 (Ec = 15, Diff. = +35)

Table 347: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	0
isoproturon	400	0
A1-60 + isoproturon	10 + 400	30 (Ec = 0, Diff. = +30)

Table 348: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	1600	15
A1-60 + isoproturon	2.5 + 1600	25 (Ec = 15, Diff. = +10)

Table 349: Efficacy against LOLMU, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	400	0
A1-60 + isoproturon	2.5 + 400	15 (Ec = 0, Diff. = +15)

Table 350: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	25
isoproturon	1600	80
A1-60 + isoproturon	10 + 1600	95 (Ec = 85, Diff. = +10)

Table 351: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	25
isoproturon	400	35
A1-60 + isoproturon	10 + 400	85 (Ec = 51.25, Diff. = +33.75)

Table 352: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	10
isoproturon	400	35
A1-60 + isoproturon	2.5 + 400	50 (Ec = 41.5, Diff. = +8.5)

Table 353: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	10
isoproturon	1600	80
A1-60 + isoproturon	10 + 1600	90 (Ec = 82, Diff. = +8)

Table 354: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	10
isoproturon	400	60
A1-60 + isoproturon	10 + 400	95 (Ec = 64, Diff. = +31)

Table 355: Efficacy against POAAN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	1600	80
A1-60 + isoproturon	2.5 + 1600	85 (Ec = 80, Diff. = +5)

Table 356: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	30
isoproturon	1600	20
A1-60 + isoproturon	10 + 1600	65 (Ec = 44, Diff. = +21)

Table 357: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	30
isoproturon	400	10
A1-60 + isoproturon	10 + 400	65 (Ec = 37, Diff. = +28)

Table 358: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	25
isoproturon	1600	20
A1-60 + isoproturon	2.5 + 1600	65 (Ec = 40, Diff. = +25)

Table 359: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	25
isoproturon	400	10
A1-60 + isoproturon	2.5 + 400	60 (Ec = 32.5, Diff. = +27.5)

Table 360: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	30
indaziflam	40	10
A1-13 + indaziflam	10 + 40	60 (Ec = 37, Diff. = +23)

Table 361: Efficacy against PHAMI, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	30
indaziflam	40	10
A1-13 + indaziflam	2.5 + 40	70 (Ec = 37, Diff. = +33)

Table 362: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	50
indaziflam	40	60
A1-13 + indaziflam	10 + 40	95 (Ec = 80, Diff. = +15)

Table 363: Efficacy against GALAP, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	40
indaziflam	10	50
A1-13 + indaziflam	2.5 + 10	75 (Ec = 70, Diff. = +5)

Table 364: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	40
indaziflam	10	30
A1-13 + indaziflam	10 + 10	70 (Ec = 58, Diff. = +12)

Table 365: Efficacy against MATIN, 14 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	30
indaziflam	10	30
A1-13 + indaziflam	2.5 + 10	70 (Ec = 51, Diff. = +19)

Table 366: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	5	30
A1-3 + pinoxaden	20 + 5	40 (Ec = 33.5, Diff. = +6.5)

Table 367: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	20	80
A1-3 + pinoxaden	5 + 20	90 (Ec = 80, Diff. = +10)

Table 368: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	20	20
A1-3 + pinoxaden	20 + 20	80 (Ec = 24, Diff. = +56)

Table 369: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	5	10
A1-3 + pinoxaden	20 + 5	20 (Ec = 14.5, Diff. = +5.5)

Table 370: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	3
pinoxaden	20	0
A1-3 + pinoxaden	20 + 20	20 (Ec = 3, Diff. = +17)

Table 371: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	0
pinoxaden	20	0
A1-3 + pinoxaden	5 + 20	15 (Ec = 0, Diff. = +15)

Table 372: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	20	0
A1-3 + pinoxaden	20 + 20	30 (Ec = 5, Diff. = +25)

Table 373: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	5	0
A1-3 + pinoxaden	20 + 5	30 (Ec = 5, Diff. = +25)

Table 374: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	5	5
pinoxaden	20	0
A1-3 + pinoxaden	5 + 20	20 (Ec = 5, Diff. = +15)

Table 375: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	20	0
A1-3 + pinoxaden	20 + 20	15 (Ec = 5, Diff. = +10)

Table 376: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-3	20	5
pinoxaden	5	0
A1-3 + pinoxaden	20 + 5	15 (Ec = 5, Diff. = +10)

Table 377: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	3
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	10 + 10	15 (Ec = 3, Diff. = +12)

Table 378: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	0
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	2.5 + 10	15 (Ec = 0, Diff. = +15)

Table 379: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	5
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	10 + 10	20 (Ec = 5, Diff. = +15)

Table 380: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	0
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	2.5 + 10	35 (Ec = 0, Diff. = +35)

Table 381: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	0
mesosulfuron-methyl	2.5	0
A1-13 + mesosulfuron-methyl	2.5 + 2.5	20 (Ec = 0, Diff. = +20)

Table 382: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	5
mesosulfuron-methyl	10	15
A1-13 + mesosulfuron-methyl	10 + 10	35 (Ec = 19.25, Diff. = +15.75)

Table 383: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	20
mesosulfuron-methyl	10	5
A1-13 + mesosulfuron-methyl	10 + 10	40 (Ec = 24, Diff. = +16)

Table 384: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	15
mesosulfuron-methyl	10	5
A1-13 + mesosulfuron-methyl	2.5 + 10	30 (Ec = 19.25, Diff. = +10.75)

Table 385: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	15
mesosulfuron-methyl	2.5	0
A1-13 + mesosulfuron-methyl	2.5 + 2.5	20 (Ec = 15, Diff. = +5)

Table 386: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	10
mesosulfuron-methyl	10	40
A1-13 + mesosulfuron-methyl	2.5 + 10	60 (Ec = 46, Diff. = +14)

Table 387: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	0
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	10 + 10	15 (Ec = 0, Diff. = +15)

Table 388: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	0
mesosulfuron-methyl	10	0
A1-13 + mesosulfuron-methyl	2.5 + 10	10 (Ec = 0, Diff. = +10)

Table 389: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	5
iodosulfuron-methyl-sodium	2	5
A1-34 + iodosulfuron-methyl-sodium	200 + 2	15 (Ec = 9.75, Diff. = +5.25)

Table 390: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	35
iodosulfuron-methyl-sodium	2	0
A1-34 + iodosulfuron-methyl-sodium	200 + 2	40 (Ec = 35, Diff. = +5)

Table 391: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	15
iodosulfuron-methyl-sodium	2	0
A1-34 + iodosulfuron-methyl-sodium	50 + 2	20 (Ec = 15, Diff. = +5)

Table 392: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	200	40
iodosulfuron-methyl-sodium	2	25
A1-34 + iodosulfuron-methyl-sodium	200 + 2	70 (Ec = 55, Diff. = +15)

Table 393: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	20
iodosulfuron-methyl-sodium	0.5	0
A1-34 + iodosulfuron-methyl-sodium	50 + 0.5	40 (Ec = 20, Diff. = +20)

Table 394: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	50
iodosulfuron-methyl-sodium	0.5	70
A1-34 + iodosulfuron-methyl-sodium	50 + 0.5	90 (Ec = 85, Diff. = +5)

Table 395: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	0
iodosulfuron-methyl-sodium	2	0
A1-34 + iodosulfuron-methyl-sodium	50 + 2	15 (Ec = 0, Diff. = +15)

Table 396: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-34	50	0
iodosulfuron-methyl-sodium	0.5	0
A1-34 + iodosulfuron-methyl-sodium	50 + 0.5	15 (Ec = 0, Diff. = +15)

Table 397: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	0
pyrasulfotole	100	0
A1-14 + pyrasulfotole	10 + 100	5 (Ec = 0, Diff. = +5)

Table 398: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	100	0
A1-14 + pyrasulfotole	2.5 + 100	30 (Ec = 0, Diff. = +30)

Table 399: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	25	0
A1-14 + pyrasulfotole	2.5 + 25	20 (Ec = 0, Diff. = +20)

Table 400: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	100	0
A1-14 + pyrasulfotole	2.5 + 100	15 (Ec = 0, Diff. = +15)

Table 401: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	25	0
A1-14 + pyrasulfotole	2.5 + 25	15 (Ec = 0, Diff. = +15)

Table 402: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	15
pyrasulfotole	25	40
A1-14 + pyrasulfotole	10 + 25	60 (Ec = 49, Diff. = +11)

Table 403: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	25	40
A1-14 + pyrasulfotole	2.5 + 25	50 (Ec = 40, Diff. = +10)

Table 404: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	30
pyrasulfotole	100	3
A1-14 + pyrasulfotole	2.5 + 100	40 (Ec = 32.1, Diff. = +7.9)

Table 405: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	3
pyrasulfotole	100	30
A1-14 + pyrasulfotole	10 + 100	70 (Ec = 32.1, Diff. = +37.9)

Table 406: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	10	3
pyrasulfotole	25	0
A1-14 + pyrasulfotole	10 + 25	80 (Ec = 3, Diff. = +77)

Table 407: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	100	30
A1-14 + pyrasulfotole	2.5 + 100	60 (Ec = 30, Diff. = +30)

Table 408: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-14	2.5	0
pyrasulfotole	25	0
A1-14 + pyrasulfotole	2.5 + 25	50 (Ec = 0, Diff. = +50)

Table 409: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	15
flurtamone	320	0
A1-36 + flurtamone	10 + 320	40 (Ec = 15, Diff. = +25)

Table 410: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	15
flurtamone	80	0
A1-36 + flurtamone	10 + 80	30 (Ec = 15, Diff. = +15)

Table 411: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	10
flurtamone	320	0
A1-36 + flurtamone	2.5 + 320	30 (Ec = 10, Diff. = +20)

Table 412: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	10
flurtamone	80	0
A1-36 + flurtamone	2.5 + 80	20 (Ec = 10, Diff. = +10)

Table 413: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	5
flurtamone	320	10
A1-36 + flurtamone	2.5 + 320	20 (Ec = 14.5, Diff. = +5.5)

Table 414: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	5
flurtamone	80	0
A1-36 + flurtamone	2.5 + 80	15 (Ec = 5, Diff. = +10)

Table 415: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	0
flurtamone	80	20
A1-36 + flurtamone	10 + 80	60 (Ec = 20, Diff. = +40)

Table 416: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	20
flurtamone	80	40
A1-36 + flurtamone	10 + 80	80 (Ec = 52, Diff. = +28)

Table 417: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	25
flurtamone	320	70
A1-36 + flurtamone	10 + 320	95 (Ec = 77.5, Diff. = +17.5)

Table 418: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	25
flurtamone	80	0
A1-36 + flurtamone	10 + 80	60 (Ec = 25, Diff. = +35)

Table 419: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	80	0
A1-36 + flurtamone	2.5 + 80	70 (Ec = 0, Diff. = +70)

Table 420: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	15
flurtamone	320	30
A1-36 + flurtamone	10 + 320	97 (Ec = 40.5, Diff. = +56.5)

Table 421: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	15
flurtamone	80	25
A1-36 + flurtamone	10 + 80	98 (Ec = 36.25, Diff. = +61.75)

Table 422: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	320	30
A1-36 + flurtamone	2.5 + 320	80 (Ec = 30, Diff. = +50)

Table 423: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	2.5	0
flurtamone	80	25
A1-36 + flurtamone	2.5 + 80	60 (Ec = 25, Diff. = +35)

Table 424: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	3
flurtamone	320	30
A1-36 + flurtamone	10 + 320	40 (Ec = 32.1, Diff. = +7.9)

Table 425: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-36	10	3
flurtamone	80	0
A1-36 + flurtamone	10 + 80	30 (Ec = 3, Diff. = +27)

Table 426: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	0
fluroxypyr	80	0
A2-1 + fluroxypyr	50 + 80	15 (Ec = 0, Diff. = +15)

Table 427: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	0
fluroxypyr	80	0
A2-1 + fluroxypyr	12.5 + 80	15 (Ec = 0, Diff. = +15)

Table 428: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	0
fluroxypyr	80	0
A2-1 + fluroxypyr	50 + 80	15 (Ec = 0, Diff. = +15)

Table 429: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	0
fluroxypyr	80	0
A2-1 + fluroxypyr	50 + 80	10 (Ec = 0, Diff. = +10)

Table 430: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	15
fluroxypyr	80	0
A2-1 + fluroxypyr	50 + 80	30 (Ec = 15, Diff. = +15)

Table 431: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	0
fluroxypyr	80	0
A2-1 + fluroxypyr	12.5 + 80	20 (Ec = 0, Diff. = +20)

Table 432: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	0
fluroxypyr	80	10
A2-1 + fluroxypyr	12.5 + 80	15 (Ec = 10, Diff. = +5)

Table 433: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	0
fluroxypyr	20	0
A2-1 + fluroxypyr	12.5 + 20	10 (Ec = 0, Diff. = +10)

Table 434: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	85
fluroxypyr	80	50
A2-1 + fluroxypyr	50 + 80	98 (Ec = 92.5, Diff. = +5.5)

Table 435: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	85
fluroxypyr	20	20
A2-1 + fluroxypyr	50 + 20	95 (Ec = 88, Diff. = +7)

Table 436: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	80
fluroxypyr	80	50
A2-1 + fluroxypyr	12.5 + 80	95 (Ec = 90, Diff. = +5)

Table 437: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	80
fluroxypyr	20	20
A2-1 + fluroxypyr	12.5 + 20	93 (Ec = 84, Diff. = +9)

Table 438: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	50	60
fluroxypyr	20	80
A2-1 + fluroxypyr	50 + 20	100 (Ec = 92, Diff. = +8)

Table 439: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A2-1	12.5	20
fluroxypyr	20	80
A2-1 + fluroxypyr	12.5 + 20	90 (Ec = 84, Diff. = +6)

Table 440: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	10
glufosinate-ammonium	100	20
A1-55 + glufosinate-ammonium	10 + 100	40 (Ec = 28, Diff. = +12)

Table 441: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	20
A1-55 + glufosinate-ammonium	2.5 + 100	35 (Ec = 20, Diff. = +15)

Table 442: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	10
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	20 (Ec = 10, Diff. = +10)

Table 443: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	2.5 + 100	20 (Ec = 15, Diff. = +5)

Table 444: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	10
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	10 + 100	30 (Ec = 23.5, Diff. = +6.5)

Table 445: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	2.5 + 100	20 (Ec = 15, Diff. = +5)

Table 446: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	5
glufosinate-ammonium	100	10
A1-55 + glufosinate-ammonium	10 + 100	40 (Ec = 14.5, Diff. = +25.5)

Table 447: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	5
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	20 (Ec = 5, Diff. = +15)

Table 448: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	10
A1-55 + glufosinate-ammonium	2.5 + 100	40 (Ec = 10, Diff. = +30)

Table 449: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	20 (Ec = 0, Diff. = +20)

Table 450: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	0
glufosinate-ammonium	100	5
A1-55 + glufosinate-ammonium	10 + 100	15 (Ec = 5, Diff. = +10)

Table 451: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	5
A1-55 + glufosinate-ammonium	2.5 + 100	15 (Ec = 5, Diff. = +10)

Table 452: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	15
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	30 (Ec = 15, Diff. = +15)

Table 453: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	20
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	10 + 100	90 (Ec = 32, Diff. = +58)

Table 454: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	20
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	80 (Ec = 20, Diff. = +60)

Table 455: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	100	15
A1-55 + glufosinate-ammonium	2.5 + 100	70 (Ec = 15, Diff. = +55)

Table 456: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	2.5	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	2.5 + 25	40 (Ec = 0, Diff. = +40)

Table 457: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	0
glufosinate-ammonium	100	5
A1-55 + glufosinate-ammonium	10 + 100	15 (Ec = 5, Diff. = +10)

Table 458: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-55	10	0
glufosinate-ammonium	25	0
A1-55 + glufosinate-ammonium	10 + 25	20 (Ec = 0, Diff. = +20)

Table 459: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	0
aclonifen	800	0
A1-57 + aclonifen	12.5 + 800	15 (Ec = 0, Diff. = +15)

Table 460: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	15
aclonifen	800	0
A1-57 + aclonifen	50 + 800	20 (Ec = 15, Diff. = +5)

Table 461: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	0
aclonifen	800	0
A1-57 + aclonifen	12.5 + 800	10 (Ec = 0, Diff. = +10)

Table 462: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	20
aclonifen	800	15
A1-57 + aclonifen	12.5 + 800	40 (Ec = 32, Diff. = +8)

Table 463: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	20
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	30 (Ec = 20, Diff. = +10)

Table 464: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	35
aclonifen	800	10
A1-57 + aclonifen	50 + 800	85 (Ec = 41.5, Diff. = +43.5)

Table 465: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	35
aclonifen	200	0
A1-57 + aclonifen	50 + 200	60 (Ec = 35, Diff. = +25)

Table 466: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	10
aclonifen	800	10
A1-57 + aclonifen	12.5 + 800	40 (Ec = 19, Diff. = +21)

Table 467: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	40
aclonifen	800	20
A1-57 + aclonifen	50 + 800	70 (Ec = 52, Diff. = +18)

Table 468: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	50	80
aclonifen	800	0
A1-57 + aclonifen	50 + 800	85 (Ec = 80, Diff. = +5)

Table 469: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-57	12.5	50
aclonifen	200	0
A1-57 + aclonifen	12.5 + 200	60 (Ec = 50, Diff. = +10)

Table 470: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	10	5
saflufenacil	8	5
A1-7 + saflufenacil	10 + 8	15 (Ec = 9.75, Diff. = +5.25)

Table 471: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	10	10
saflufenacil	8	0
A1-7 + saflufenacil	10 + 8	60 (Ec = 10, Diff. = +50)

Table 472: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	10	10
saflufenacil	2	0
A1-7 + saflufenacil	10 + 2	40 (Ec = 10, Diff. = +30)

Table 473: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2.5	0
saflufenacil	8	0
A1-7 + saflufenacil	2.5 + 8	80 (Ec = 0, Diff. = +80)

Table 474: Efficacy against POLCO, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-7	2.5	0
saflufenacil	2	0
A1-7 + saflufenacil	2.5 + 2	50 (Ec = 0, Diff. = +50)

Table 475: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	5
isoproturon	1600	15
A1-60 + isoproturon	10 + 1600	40 (Ec = 19.25, Diff. = +20.75)

Table 476: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	5
isoproturon	400	0
A1-60 + isoproturon	10 + 400	40 (Ec = 5, Diff. = +35)

Table 477: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	400	0
A1-60 + isoproturon	2.5 + 400	10 (Ec = 0, Diff. = +10)

Table 478: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	5
isoproturon	1600	0
A1-60 + isoproturon	10 + 1600	30 (Ec = 5, Diff. = +25)

Table 479: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	5
isoproturon	400	0
A1-60 + isoproturon	10 + 400	15 (Ec = 5, Diff. = +10)

Table 480: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	3
isoproturon	1600	0
A1-60 + isoproturon	10 + 1600	30 (Ec = 3, Diff. = +27)

Table 481: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	3
isoproturon	400	0
A1-60 + isoproturon	10 + 400	15 (Ec = 3, Diff. = +12)

Table 482: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	20
isoproturon	400	15
A1-60 + isoproturon	10 + 400	80 (Ec = 32, Diff. = +48)

Table 483: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	400	15
A1-60 + isoproturon	2.5 + 400	20 (Ec = 15, Diff. = +5)

Table 484: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	20
isoproturon	400	30
A1-60 + isoproturon	10 + 400	80 (Ec = 44, Diff. = +36)

Table 485: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	0
isoproturon	1600	0
A1-60 + isoproturon	10 + 1600	40 (Ec = 0, Diff. = +40)

Table 486: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	0
isoproturon	400	0
A1-60 + isoproturon	10 + 400	50 (Ec = 0, Diff. = +50)

Table 487: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	1600	0
A1-60 + isoproturon	2.5 + 1600	40 (Ec = 0, Diff. = +40)

Table 488: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	400	0
A1-60 + isoproturon	2.5 + 400	40 (Ec = 0, Diff. = +40)

Table 489: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	10	40
isoproturon	400	90
A1-60 + isoproturon	10 + 400	100 (Ec = 94, Diff. = +6)

Table 490: Efficacy against MATIN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-60	2.5	0
isoproturon	400	90
A1-60 + isoproturon	2.5 + 400	100 (Ec = 90, Diff. = +10)

Table 491: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	3
indaziflam	40	10
A1-13 + indaziflam	10 + 40	20 (Ec = 12.7, Diff. = +7.3)

Table 492: Efficacy against AVEFA, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	0
indaziflam	40	10
A1-13 + indaziflam	2.5 + 40	30 (Ec = 10, Diff. = +20)

Table 493: Efficacy against BROST, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	5
indaziflam	10	0
A1-13 + indaziflam	10 + 10	10 (Ec = 5, Diff. = +5)

Table 494: Efficacy against LOLMU, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	5
indaziflam	10	0
A1-13 + indaziflam	10 + 10	10 (Ec = 5, Diff. = +5)

Table 495: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	20
indaziflam	40	10
A1-13 + indaziflam	10 + 40	40 (Ec = 28, Diff. = +12)

Table 496: Efficacy against PHAMI, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	2.5	15
indaziflam	40	10
A1-13 + indaziflam	2.5 + 40	40 (Ec = 23.5, Diff. = +16.5)

Table 497: Efficacy against POAAN, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	20
indaziflam	10	0
A1-13 + indaziflam	10 + 10	40 (Ec = 20, Diff. = +20)

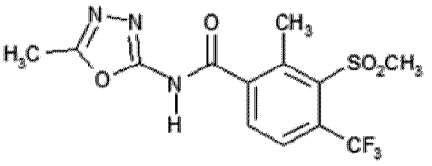
Table 498: Efficacy against GALAP, 21 days after application

Active ingredient	Dosage [g of a.i./ha]	Efficacy [%]
A1-13	10	60
indaziflam	40	35
A1-13 + indaziflam	10 + 40	85 (Ec = 74, Diff. = +11)

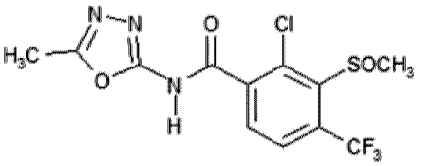
CLAIMS:

1. A herbicidal composition comprising

(A) one or more compounds of the formula A1-13 or A1-14 (component A) or salts thereof



A1-13



A1-14

and

(B) one or more herbicides (component B) selected from groups (B1) to (B11):

B1 1,3-diketo compounds comprising
prohexadione, prohexadione-calcium, trinexapac-ethyl,
alloxydim, alloxydim-sodium, butroxydim, clethodim, cycloxydim, ketospiradox,
profoxydim, sethoxydim, tepraloxydim, tralkoxydim,
mesotrione, sulcotrione, tefuryltrione, tembotrione, bicyclopyrone,
pinoxaden,

B2 (sulfon)amides comprising
beflubutamide, bromobutide, dimethenamide, dimethenamide-P, diphenamide,
napropamide, pethoxamid, N-[3-chloro-4-(1-methylethyl)-phenyl]-2-methylpentanamide,
propyzamide,
diflufenican, etobenzanid, flufenacet, mefenacet, mefluidide, picolinafen, propanil, N-
phenylphthalamic acid,
acetochlor, alachlor, amidochlor, butachlor, butenachlor, dimethachlor, metazachlor,
metolachlor, S-metolachlor, pretilachlor, propachlor, propisochlor, 2-chloro-6'-ethyl-N-
isopropoxymethylaceto-o-toluidide, thenylchlor,
asulam, carbaryl, carbetamide, chlorpropham, desmedipham, phenmedipham, propham,

butylate, cycloate, dimepiperate, EPTC, esprocarb, methasulfocarb, molinate, orbencarb, pebulate, prosulfocarb, pyributicarb, thiobencarb, tri-allate, vernolate, amidosulfuron, azimsulfuron, bensulfuron, bensulfuron-methyl, chlorimuron, chlorimuron-ethyl, chlorsulfuron, cinosulfuron, cyclosulfamuron, ethametsulfuron, ethametsulfuron-methyl, ethoxysulfuron, flazasulfuron, flucetosulfuron, flupyrsulfuron-methyl-sodium, foramsulfuron, halosulfuron-methyl, imazosulfuron, iodosulfuron, iodosulfuron-methyl-sodium, mesosulfuron, mesosulfuron-methyl, metazosulfuron, methiopyrsulfuron, metsulfuron, metsulfuron-methyl, monosulfuron, monosulfuron-ester, nicosulfuron, orthosulfamuron, oxasulfuron, primisulfuron-methyl, propyrisulfuron, prosulfuron, pyrazosulfuron, pyrazosulfuron-ethyl, rimsulfuron, sulfometuron, sulfometuron-methyl, sulfosulfuron, thifensulfuron, thifensulfuron-methyl, triasulfuron, tribenuron, tribenuron-methyl, trifloxysulfuron, trifloxysulfuron (sodium), triflusulfuron, triflusulfuron-methyl, tritosulfuron, benzoic acid, 2-[[[[[4-methoxy-6-(methylthio)-2-pyrimidinyl]amino]carbonyl]amino]sulfonyl]methyl ester, flucarbazone, flucarbazone-sodium, ipfencarbazone, propoxycarbazone, propoxycarbazone-sodium, thiencarbazone, thiencarbazone-methyl, cloransulam, cloransulam-methyl, diclosulam, florasulam, flumetsulam, metosulam, penoxsulam, pyroxsulam, 3-chloro-N-[(4,6-dimethoxypyrimidin-2-yl)carbamoyl]-1-methyl-4-(5-methyl-5,6-dihydro-1,4,2-dioxazin-3-yl)-1H-pyrazole-5-sulfonamide,

B3 arylnitriles comprising
bromoxynil, bromoxynil-butyrate, bromoxynil-potassium, bromoxynil-heptanoate, bromoxynil-octanoate, detosyl-pyrazolate (DTP), dichlobenil, ioxynil, ioxynil-octanoate, ioxynil-potassium, ioxynil-sodium, pyraclonil,

B4 azoles comprising
benzofenap, pyrazolynate, pyrazoxyfen, pyroxasulfone, topramezone, pyrasulfotole, 3-(3-chloro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 3-(3-iodo-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 1-ethyl-3-(3-fluoro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-5-(trifluoromethyl)-1H-pyrazole, pyraflufen, pyraflufen-ethyl, fenoxasulfone, isouron, isoxaben, isoxaflutole, imazamethabenz, imazamethabenz-methyl, imazamox, imazamox-ammonium, imazapic, imazapic-ammonium, imazapyr, imazapyr-isopropyl-ammonium, imazaquin, imazaquin-

ammonium, imazethapyr, imazethapyr-immonium, azafenidin, oxadiargyl, oxadiazon, amicarbazone, carfentrazone, carfentrazone-ethyl, sulfentrazone, amitrole, paclobutrazol, uniconazole, uniconazole-P, cafenstrole, fentrazamide,

B5 other herbicides comprising
allidochlor, aminocyclopyrachlor, aminocyclopyrachlor-potassium, aminocyclopyrachlor-methyl, N-acetylthiazolidine-4-carboxylic acid, aminopyralid, ammonium pelargonate, ammonium sulfamate, aviglycine, benazolin, benazolin-ethyl, benfluralin, benfuresate, bentazone, benzobicyclon, 6-benzylaminopurine, brassinolide, bromofenoxim, butralin, chlorfenac, chlorfenac-sodium, chlorfenprop, chlorflurenol, chlorflurenol-methyl, chloridazon, chlormequat chloride, chlorphthalim, chlorthal-dimethyl, cinidon, cinidon-ethyl, cinmethylin, clofencet, clomazone, cloxyfonac, cyanamide, cyclanilide, cyclopyrimorate, 6-isopentylaminopurine, kinetin, zeatin, dalapon, daminozide, dazomet, n-decanol, difenzoquat metilsulfate, 2,6-diisopropylnaphthalene, dikegulac, dikegulac-sodium, dimethipin, dinitramine, dinoterb, diquat, diquat dibromide, dithiopyr, DNOC, endothal, endothal-dipotassium, endothal-disodium, endothal-mono(N,N-dimethylalkylammonium), ethafluralin, ethofumesate, ethylchlozate, flamprop, flamprop-M-isopropyl, flamprop-M-methyl, fluchloralin, flufenpyr, flufenpyr-ethyl, flumetralin, flumichlorac, flumiclorac-pentyl, flumioxazin, flupropanate, flurenol, flurenol-butyl, flurenol-dimethylammonium-methyl, fluridone, flurochloridone, flurtamone, fluthiacet, fluthiacet-methyl, gibberillic acid, halauxifen, indanofan, isoprothiolane, maleic hydrazide, mepiquat chloride, metam, methiozolin, methylarsonic acid, 1-methylcyclopropene, methyl isothiocyanate, nitrophenolate mixture, nonanoic acid, norflurazon, oleic acid, oryzalin, oxaziclomefone, paraquat, paraquat dichloride, pendimethalin, pentachlorophenol, pentoxazone, petroleum oils, prodiamine, n-propyl dihydrojasmonate, pyridafol, pyridate, quinoclamine, sintofen, TCA, TCA sodium, tecnazene, thiazopyr, triacontanol, triafamone, trifluralin, urea sulfate,

B6 (het)arylcarboxylic acids comprising
chloramben, dicamba, 2,3,6-TBA, clopyralid, fluroxypyr, fluroxypyr-meptyl, inabenfide, picloram, triclopyr, quinclorac, quinmerac, indol-3-ylacetic acid, 4-indol-3-yl-butyric acid, 2-(1-naphthyl)acetamide, 1-naphthylacetic acid, 2-naphthyloxyacetic acid,

B7 organic phosphorus compounds comprising

anilofos, bensulide, bilanafos, bilanafos-sodium, butamifos, clacyfos, fosamine, glufosinate, glufosinate salts, glufosinate-ammonium, glufosinate-sodium, glufosinate-P, L-glufosinate-ammonium, L-glufosinate-sodium, glyphosate, glyphosate salts, glyphosate-isopropyl-ammonium, glyphosate-ammonium, glyphosate-dimethylammonium, glyphosate-trimesium, glyphosate-diammonium, glyphosate-potassium, glyphosate-sodium, piperophos, ethephon, tribufos,

B8 phenyl ethers comprising
acifluorfen-sodium, aclonifen, fluoroglycofen, fluoroglycofen-ethyl, fomesafen, fomesafen-sodium, halosafen, lactofen, oxyfluorfen, acifluorfen, bifenox, ethoxyfen-ethyl, clomeprop, cloprop, dichlorprop, dichlorprop-P, mecoprop, mecoprop-sodium, mecoprop-butotyl, mecoprop-P, mecoprop-P-butotyl, mecoprop-P-dimethylammonium, mecoprop-P-2-ethylhexyl, mecoprop-P-patassium, 4-CPA, 2,4-D, 2,4-D-butotyl, 2,4-D-butyl, 2,4-D-dimethylammonium, 2,4-D-diolamine, 2,4-D-ethyl, 2,4-D-2-ethylhexyl, 2,4-D-isobutyl, 2,4-D-isooctyl, 2,4-D-isopropylammonium, 2,4-D-potassium, 2,4-D-triisopropanolammonium, 2,4-D-trolamine, MCPA, MCPA-butotyl, MCPA-dimethylammonium, MCPA-2-ethylhexyl, MCPA-isopropylammonium, MCPA-potassium, MCPA-sodium, 2,4-DB, MCPB, MCPB-methyl, MCPB-ethyl-sodium,
clodinafop-ethyl, clodinafop-propargyl, cyhalofop, cyhalofop-butyl, diclofop, diclofop-P, diclofop-methyl, diclofop-P-methyl, fenoxaprop, fenoxaprop-P, fenoxaprop-P-ethyl, fluazifop, fluazifop-P, fluazifop-butyl, fluazifop-P-butyl, haloxyfop, haloxyfop-P, metamifop, propaquizafop quizalofop, quizalofop-ethyl, quizalofop-P, quizalofop-P-ethyl, quizalofop-P-tefuryl,

B9 pyrimidines comprising
ancymidol, flurprimidol, pyrimisulfan, bispyribac, bispyribac-sodium, pyribenzoxim, pyriminobac, pyriminobac-methyl, pyribambenz, pyribambenz-isopropyl, pyribambenz-propyl, pyriftalid, pyrithiobac, pyrithiobac-sodium, bromacil, butafenacil, lenacil, saflufenacil, terbacil, tifenacil, 2-chloro-4-fluoro-5-[3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidin-1(2H)-yl]-N-[methyl(1-methylethyl)sulfamoyl]benzamide, ethyl [(3-{2-chloro-5-[2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidin-1(2H)-yl]-4-fluorophenoxy}pyridin-2-yl)oxy]acetate,

B10 (thio)ureas comprising
cumyluron, chlorbromuron, chlorotoluron, daimuron, diflufenzopyr, diflufenzopyr-sodium,

dimefuron, diuron, fluometuron, forchlorfenuron, isoproturon, karbutilate, linuron, metobromuron, metoxuron, monolinuron, neburon, siduron, terbucarb, thidiazuron, tebuthiuron, methabenzthiazuron,

B11 triazines comprising
triaziflam, indaziflam, atrazine, cyanazine, cyprazine, propazine, simazine, terbumeton, terbuthylazine, trietazine, prometon, ametryn, dimethametryn, prometryn, simetryn, terbutryn, ethiozin, hexazinon, metamitron, metribuzin.

2. The herbicidal composition as claimed in claim 1 comprising as component B one or more herbicides selected from groups B1 to B11:

B1 comprising clethodim, sethoxydim, tepraloxydim, mesotrione, sulcotrione, tefuryltrione, tembotrione, bicyclopyrone, pinoxaden, tralkoxydim,

B2 comprising dimethenamide, dimethenamide-P, napropamide, pethoxamid, propyzamide, diflufenican, flufenacet, mefenacet, picolinafen, propanil, acetochlor, alachlor, butachlor, metazachlor, metolachlor, S-metolachlor, pretilachlor, thenylchlor, asulam, carbetamide, desmedipham, phenmedipham, esprocarb, molinate, prosulfocarb, thiobencarb, amidosulfuron, chlorimuron-ethyl, cyclosulfamuron, ethoxysulfuron, flupyrsulfuron-methyl-sodium, foramsulfuron, iodosulfuron-methyl-sodium, mesosulfuron-methyl, nicosulfuron, orthosulfamuron, prosulfuron, pyrazosulfuron-ethyl, rimsulfuron, trifloxysulfuron (sodium), flucarbazone-sodium, propoxycarbazone-sodium, thiencarbazone-methyl, florasulam, metosulam, penoxsulam, metsulfuron-methyl, sulfosulfuron, thifensulfuron-methyl, tribenuron-methyl, tritosulfuron, pyroxsulam,

B3 comprising bromoxynil and ioxynil,

B4 comprising benzofenap, topramezone, pyrasulfotole, isoxaflutole, imazamox, imazethapyr, oxadiargyl, oxadiazon, amicarbazone, carfentrazone-ethyl, sulfentrazone, uniconazole, cafenstrole, fentrazamide, 3-(3-chloro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 3-(3-iodo-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 1-ethyl-3-(3-fluoro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-5-(trifluoromethyl)-1H-pyrazole, pyraflufen-ethyl,

B5 comprising aminopyralid, benazolin, benfuresate, bentazone, cinidon-ethyl, clomazone, diquat dibromide, ethofumesate, flumiclorac-pentyl, flumioxazin, flurtamone, oxaziclomefone, pendimethalin, pyridate and trifluralin,

B6 comprising dicamba, clopyralid, fluroxypyr, picloram, triclopyr, quinclorac,

B7 comprising anilofos, glufosinate-ammonium and L-glufosinate-ammonium, glyphosate, glyphosate-isopropyl-ammonium, glyphosate-ammonium, glyphosate-trimesium, glyphosate-diammonium, glyphosate-potassium,

B8 comprising acifluorfen-sodium, aclonifen, fluoroglycofen-ethyl, oxyfluorfen, bifenox, dichlorprop-P, mecoprop-P, 2,4-D, MCPA, clodinafop-propargyl, cyhalofop-butyl, diclofop-methyl, diclofop-P-methyl, fenoxaprop-P-ethyl, fluazifop-P-butyl, quizalofop-P,

B9 comprising bispyribac (sodium), pyriftalid, bromacil, lenacil, 2-chloro-4-fluoro-5-[3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydropyrimidine-1(2H)-yl]-N-[methyl(1-methylethyl)sulfamoyl]benzamide,

B10 comprising cumyluron, daimuron, diuron, isoproturon, diflufenzopyr,

B11 comprising atrazine, simazine, terbuthylazine, ametryn, terbutryn, metamitron, metribuzin.

3. The herbicidal composition as claimed in claim 1 or 2 comprising, as component B, one or more herbicides selected from groups B1, B2, B4, B5, B8, B9 and B11:

B1 comprising clethodim, sulcotrione, tefuryltrione, tembotrione, bicyclopyrone, pinoxaden,

B2 comprising dimethenamide-P, napropamide, diflufenican, flufenacet, mefenacet, acetochlor, metazachlor, S-metolachlor, asulam, desmedipham, phenmedipham, molinate, prosulfocarb, amidosulfuron, ethoxysulfuron, foramsulfuron, iodosulfuron-methyl-sodium, mesosulfuron-methyl, flucarbazone-sodium, propoxycarbazone-sodium, thiencarbazone-methyl, florasulam, metosulam, metsulfuron-methyl, sulfosulfuron, thifensulfuron-methyl, tribenuron-methyl, tritosulfuron, pyroxsulam,

B4 comprising pyrasulfotole, isoxaflutole, oxadiargyl, oxadiazon, amicarbazone, fentrazamide, 3-(3-chloro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 3-(3-iodo-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-1-methyl-5-(trifluoromethyl)-1H-pyrazole, 1-ethyl-3-(3-fluoro-5-{[1-methyl-3-(trifluoromethyl)-1H-pyrazol-5-yl]oxy}phenoxy)-5-(trifluoromethyl)-1H-pyrazole, pyraflufen-ethyl, imazamox,

B5 comprising aminopyralid, benfuresate, ethofumesate, flurtamone and oxaziclomefone,

B8 comprising aclonifen, diclofop-methyl, diclofop-P-methyl, fenoxaprop-P-ethyl, MCPA, 2,4-D, clodinafop-ethyl,

B9 comprising bispyribac (sodium), bromacil,

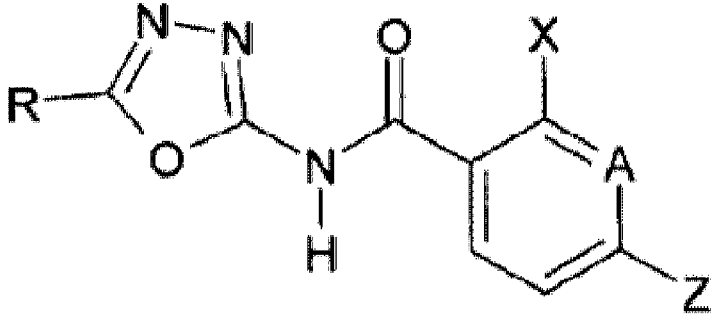
B11 comprising metamitron, metribuzin, terbuthylazine.

4. The herbicidal composition as claimed in any one of claims 1 to 3 additionally comprising, as component C, one or more safeners selected from the group consisting of benoxacor, cloquintocet-mexyl, cyprosulfamide, dichlormid, fenclorim, fenchlorazole, furilazole, isoxadifen-ethyl, mefenpyr-diethyl, 4-(dichloroacetyl)-1-oxa-4-azaspiro[4.5]decane, and 2,2,5-trimethyl-3-(dichloroacetyl)-1,3-oxazolidine.

5. A method of controlling harmful plants in crops, wherein a herbicidally active amount of a herbicidal composition as claimed in any one of claims 1 to 4 is applied to the harmful plants, plants, plant seeds or the area on which the plants grow.

6. The method as claimed in claim 5, wherein the plants are selected from the group consisting of sugar cane, corn, wheat, rye, barley, oats, rice, sorghum, cotton and soya.

7. The method as claimed in claim 5 or 6, wherein the plants have been genetically modified.



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