(54) **Title:** SYNERGISTIC HERBICIDAL ACTIVE SUBSTANCE COMBINATIONS

(57) **Abstract:**
The invention relates to novel herbicidal synergistic active substance combinations which comprise tritosulfuron and conventional herbicidally effective compounds and, optionally, compounds that improve the compatibility of cultivated plants. The inventive synergistic herbicidal active substance combinations can be used with particularly good success in selectively killing weeds in different useful plant crops, especially in crops consisting of cereals and corn.
Synergistic herbicidal active compound combinations

Abstract

The invention relates to novel herbicidal synergistic active compound combinations comprising tritosulfuron and known herbicidally active compounds and optionally compounds which improve crop plant compatibility, which combinations can be used with particularly good results for the selective control of weeds in various crops of useful plants, in particular cereals and maize.
Synergistic herbicidal active compound combinations

The invention relates to novel synergistic herbicidally active compound combinations comprising tritosulfuron and known herbicidally active compounds and optionally compounds which improve crop plant compatibility, which combinations can be used with particularly good results for the selective control of weeds in various crops of useful plants.

As a herbicide with broad action, tritosulfuron (N-[[4-methoxy-6-(trifluoromethyl)-1,3,5-triazin-2-yl]amino]carbonyl]-2-trifluoromethyl-benzenesulphonamide) forms part of the subject-matter of a number of patent applications (cf. DE-A 40 38 430, WO-A 97/10714). However, this active compound has gaps in its activity.

Surprisingly, it has now been found that tritosulfuron, used jointly with known herbicidally active compounds from different substance classes, shows pronounced synergistic effects with respect to the activity against weeds, and that such broadly active combination preparations can be used particularly advantageously for the selective control of weeds in crops of useful plants, such as, for example wheat and maize.

Surprisingly, it has also been found that it may be possible to achieve additional advantageous effects using mixtures of tritosulfuron with further known herbicidally active compounds applied jointly with the crop-plant-compatibility-improving compounds (safeners/antidotes) described below.

The present invention provides compositions, characterized in that they comprise a synergistically effective amount of an active compound combination consisting of

(a) tritosulfuron

and
(b) one or more compounds from a group of herbicides consisting of the active compounds mentioned below:

(5-trifluoromethyl-1,3,4-thiadiazol-2-yl-oxy)-N-isopropyl-N-(4-fluorophenyl)-acetamide (flufenacet, DE-A-38 21 600), 2-(2-methoxycarbonyl-phenylsulphonylamino)carbonyl)-4-methyl-5-n-propoxy-2,4-dihydro-3H-1,2,4-triazol-3-one or the sodium salt of this compound (propoxycarbzone(-sodium)), EP-A-507 171), 2-(2-trifluoromethoxy-phenylsulphonylamino)carbonyl)-4-methyl-5-methoxy-2,4-dihydro-3H-1,2,4-triazol-3-one or the sodium salt of this compound (flucarbazone(-sodium)), EP-A-507 171), N-(3,4-dichlorophenyl)propanamide (propanil, DE-A-10 39 779), N-2-benzothiazolyl-N,N'-dimethylurea (methabenzthiazuron, GB-A-1085430), 4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one (metribuzin, DE-A-17 95 784), 4-(2-chlorophenyl)-N-cyclohexyl-N-ethyl-4,5-dihydro-5-oxo-1H-tetrazole-1-carboxamide (fentrazamide, EP-A-612 735), 4-amino-3-methyl-6-phenyl-1,2,4-triazin-5(4H)-one (metamitron, DE-A-21 38 031), 2-(2-benzothiazolyl)oxy)-N-methyl-N-phenylacetamide (mefenacet, DE-A-28 22 155), 4-amino-6-(1,1-dimethylethyl)-3-(ethylthio)-1,2,4-triazin-5(4H)-one (ethiozin, DE-A-15 42 873), 1-methylethyl 5-[4-bromo-1-methyl-5-(trifluoromethyl)-1H-pyrazol-3-yl]-2-chloro-4-fluorobenzoate (fluazolate, WO-A 9206962)

("active compounds of group 1")

and optionally

(c) one or more compounds from a second group of herbicides which consists of the active compounds mentioned below:

2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methyl-phenyl)-acetamide (acetochlor), 5-(2-chloro-4-trifluoromethyl-phenoxy)-2-nitro-benzoic acid sodium salt
(acifluorfen-sodium), 2-chloro-6-nitro-3-phenoxy-benzenamine (aclonifen), 2-chloro-N-(methoxymethyl)-N-(2,6-diethyl-phenyl)-acetamide (alachlor), N-ethyl-N'-i-propyl-6-methylthio-1,3,5-triazine-2,4-diamine (ametryn), 4-amino-N-(1,1-dimethyl-ethyl)-4,5-dihydro-3-(1-methyl-ethyl)-5-oxo-1H-1,2,4-triazole-1-carboxamide (amicarbazone), N-(4,6-dimethoxypyrimidin-2-yl)-N'-(N-methyl-N-methylsulphonyl-sulphamoyl)-urea (amidosulfuron), 1H-1,2,4-triazole-3-amine (amitrole), 6-chloro-4-ethylamino-2-isopropylamino-1,3,5-triazine (atrazine), 2-[2,4-dichloro-5-(2-propynyloxy)-phenyl]-5,6,7,8-tetrahydro-1,2,4-triazolo-[4,3-a]-pyridin-3(2H)-one (azafenidin), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-[1-methyl-4-(2-methyl-2H-tetrazol-5-yl)-1H-pyrazol-5-ylsulphonyl]-urea (azimsulfuron), N-benzyl-2-(4-fluoro-3-trifluoromethyl-phenoxy)-butanamide (beflubutamide), 4-chloro-2-oxo-3(2H)-benzothiazoleacetic acid (benazolin), N-butyl-N-ethyl-2,6-dinitro-4-trifluoromethyl-benzenamine (benfluralin), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(2-methoxycarbonyl-phenylmethylsulphonyl)-urea (bensulfuron), methyl 2-[2-[4-(3,6-dihydro-3-methyl-2,6-dioxo-4-trifluoromethyl-1(2H)-pyrimidinyl-phenoxymethyl]-5-ethyl-phenoxy-propanoate (benzfendizone), 3-(2-chloro-4-methylsulphonyl-benzoyl)-4-phenylthio-bicyclo-[3.2.1]-oct-3-en-2-one (benzbicyclon), ethyl N-benzoyl-N-(3,4-dichloro-phenyl)-DL-alanine (benzoylprop-ethyl), 3-i-propyl-1H-2,1,3-benzothiadiazin-4(3H)-one (bentazon), methyl 5-(2,4-dichloro-phenoxy)-2-nitro-benzoate (bifenox), 2,6-bis-(4,6-dimethoxy-pyrimidin-2-yl-oxo)-benzoic acid sodium salt (bispyribac-sodium), 2-bromo-3,3-dimethyl-N-(1-methyl-1-phenyl-ethyl)-butanamide (bromobutide), 3,5-dibromo-4-hydroxy-benzaldehyde O-(2,4-dinitro-phenyl) oxime (bromofenoxim), 3,5-dibromo-4-hydroxy-benzonitrile (bromoxynil), N-butoxymethyl-2-chloro-N-(2,6-diethyl-phenyl)-acetamide (butachlor), [1,1-dimethyl-2-oxo-2-(2-propenylxylo)]-ethyl 2-chloro-5-(3,6-dihydro-3-methyl-2,6-dioxo-4-trifluoromethyl-1(2H)-pyrimidinyl)-benzoate (butafenacil-allyl), 2-(1-ethoximino-propyl)-3-hydroxy-5-[2,4,6-trimethyl-3-(1-oxo-butyl)-phenyl]-2-cyclohexen-1-one (butroxydim), S-ethyl bis-(2-methyl-propyl)-thiocarbamate (butylate), N,N-diethyl-3-(2,4,6-trimethyl-phenylsulphonyl)-
1H-1,2,4-triazole-1-carboxamide (cafennstrole), 2-[1-[(3-chloro-2-propenyl)-oxy-imino]-propyl]-3-hydroxy-5-(tetrahydro-2H-pyran-4-yl)-2-cyclohexen-1-one (caloxydim, tepraloxydim), 2-(4-chloro-2-fluoro-5-(2-chloro-2-ethoxy-carbonyl-ethyl)-phenyl)-4-difluoromethyl-5-methyl-2,4-dihydro-3H-1,2,4-triazol-3-one (carfentrazone-ethyl), 2,4-dichloro-1-(3-methoxy-4-nitrobenzoxy)-benzene (chloethoxyfen), 3-amino-2,5-dichloro-benzoic acid (chloramben), N-(4-chloro-6-methoxy-pyrimidin-2-yl)-N'-(2-ethoxycarbonylphenylsulphonyl)-urea (chlorimuron-ethyl), 1,3,5-trichloro-2-(4-nitrophenoxy)-benzene (chlornitrofen), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-chloro-phenylsulphonyl)-urea (chiorlsulfuron), N'-(3-chloro-4-methyl-phenyl)-N,N-dimethyl-urea (chlorotoluuron), ethyl 2-chloro-3-[2-chloro-5-(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)-phenyl]-2-propanoate (cindon-ethyl), N-(4,6-dimethoxy-1,3,5-triazin-2-yl)-N'-(2-(2-methoxy-ethoxy)-phenylsulphonyl)-urea (cinosulfuron), 2-[1-[(4-chloro-phenoxy)-propoxy-aminobutyl]-5-(tetrahydro-2H-thiopyran-3-yl)-1,3-cyclohexanedione (clefloxylid), (E,E)-(+-)2-[1-[[3-chloro-2-propenyl-oxy]-imino]-propyl]-3-hydroxy-2-cyclohexen-1-one (clethodim), 2-propyl (R)-2-[4-(5-chloro-3-fluoro-pyridin-2-yl-oxo)-phenoxy-propanoate (clodinafop-propargyl)], 3,6-dichloro-pyridine-2-carboxylic acid (clopyralid), methyl 3-chloro-2-[(5-ethoxy-7-fluoro[1,2,4]triazolo[1,5-c]pyrimidin-2-yl-sulphonyl]-amino]-benzoate (cloransulam-methyl), 2-chloro-4-ethylamino-6-(1-cyano-1-methyl-ethylamino)-1,3,5-triazine (cyazine), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(2-cyclopropylcarbonyl-phenylsulphonyl)-urea (cyclosulfamuron), 2-(1-ethoxyiminobutyl)-3-hydroxy-5-(tetrahydro-2H-thiopyran-3-yl)-2-cyclohexen-1-one (cycloxydim), butyl (R)-2-[4-(4-cyano-2-fluoro-phenoxy)-phenoxy]-propanoate (cyhalofop-butyrl), 2,4-Dichloro-phenoxyacetic acid (2,4-D), 3,6-dichloro-2-methoxy-benzoic acid (dicamba), (R)-2-(2,4-dichloro-phenoxy)-propanoic acid (dichlorprop-P), methyl 2-[4-(2,4-dichloro-phenoxy)-phenoxy]-propanoate (diclofop-methyl), N-(2,6-dichloro-phenyl)-5-ethoxy-7-fluoro-[1,2,4]triazolo[1,5-c]-pyrimidine-2-sulphonamide (diclosulam), 1,2-dimethyl-3,5-diphenyl-1H-pyrazolium methyl sulphate (difenoquat), N-(2,4-
difluoro-phenyl)-2-(3-trifluoromethyl-phenoxy)-pyridine-3-carboxamide (diflufenican), 2-{1-[(3,5-difluoro-phenyl)-amino-carbonyl-hydrazono]-ethyl}-pyridine-3-carboxylic acid (diflufenopyr), S-(1-methyl-1-phenyl-ethyl) 1-piperidine carbothioate (dimepiperate), (S-) 2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methyl-ethyl)-acetamide ((S-) (dimethenamid), 2-amino-4-(1-fluoro-1-methyl-ethyl)-6-(1-methyl-2-(3,5-dimethyl-phenoxy)-ethyl-amino)-1,3,5-triazine (dimexyflam), N3,N3-diethyl-2,4-dinitro-6-trifluoromethyl-1,3-diamino-benzene (dinitramine), 6,7-dihydro-dipyrido[1,2-a:2',1'-c]pyrazinediium (diquat), S,S-dimethyl-2-difluoromethyl-4-i-butyl-6-trifluoromethyl-pyridine 3,5-dicarbothioate (dithiopyr), N'-[(3,4-dichlorophenyl)-N,N-dimethyl-urea (diuron), 2-{2-(3-chloro-phenyl)-oxiranylmethyl]-2-ethyl-1H-indene-1,3(2H)-dione (epronopan), S-ethyl dipropyliothiocarbamate (EPTC), S-(phenylmethyl) N-ethyl-N-(1,2-dimethyl-propyl)-thiocarbamate (esprocarb), N-ethyl-N-(2-methyl-2-propenyl)-2,6-dinitro-4-trifluoromethyl-benzenamine (ethalfluralin), (2-ethoxy-1-methyl-2-oxoethyl) (S)-2-chloro-5-(2-chloro-4-trifluoromethyl-phenoxy)-benzoate (ethoxyfen), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(2-ethoxy-phenoxy-sulphonyl)-urea (ethoxy-sulfuron), ethyl (R)-2-[4-(6-chloro-benzoxazol-2-yl-oxy)-phenoxy]-propoanate (fenoxaprop-(P)-ethyl), 4-(2-chloro-phenyl)-N-cyclohexyl-N-ethyl-4,5-dihydro-5-oxo-1H-tetrazole-1-carboxamide (fentrazamide), isopropyl N-benzoyl-N-(3-chloro-4-fluoro-phenyl)-DL-alaninate (flamprop-isopropyl), isopropyl N-benzoyl-N-(3-chloro-4-fluoro-phenyl)-L-alaninate (flamprop-isopropyl-L), methyl N-benzoyl-N-(3-chloro-4-fluoro-phenyl)-DL-alaninate (flamprop-methyl), N-(2,6-difluoro-phenyl)-8-fluoro-5-methoxy-[1,2,4]-triazolo-[1,5-c]-pyrimidine-2-sulphonamide (florasulam), butyl (R)-2-[4-(5-trifluoromethyl-pyridin-2-yl-oxy)-phenoxy]-propoanate (fluazifop, -butyl, -P-butyl), i-propyl 5-(4-bromo-1-methyl-5-trifluoromethyl-1H-pyrazol-3-yl)-2-chloro-4-fluoro-benzoate (fluazolocate), 4,5-dihydro-3-methoxy-4-methyl-5-oxo-N-[2-(trifluoromethoxy-phenyl)-sulphonyl]-1H-1,2,4-triazole-1-carboxamide sodium salt (flucarbazone-sodium), N-(4-fluoro-phenyl)-N-i-propyl-2-(5-trifluoromethyl-1,3,4-thiadiazol-2-yl-oxy)-acetamide (flufenacet), N-(2,6-
difluoro-phenyl)-5-methyl-1,2,4-triazolo[1,5-a]-pyrimidine-2-sulphonamide (flumetsulam), pentyl [2-chloro-4-fluoro-5-(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)-phenoxy]-acetate (flumiclorac-pentyl), 2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3-dione (flumioxazin), 2-[4-chloro-2-fluoro-5-[(1-methyl-2-propynyl)-oxy]-phenyl]-4,5,6,7-tetrahydro-1H-isooindole-1,3(2H)-dione (flumipropyn), 3-chloro-4-chloromethyl-1-(3-trifluoromethyl-phenyl)-2-pyrrolidinone (fluorochloridone), ethoxycarbonylmethyl 5-(2-chloro-4-trifluoromethyl-phenoxy)-2-nitro-benzoate (fluoroglycofen-ethyl), 1-(4-chloro-3-(2,2,3,3,3-pentafluoro-propoxymethyl)-phenyl)-5-phenyl-1H-1,2,4-triazole-3-carboxamide (flupoxam), 1-isopropyl-2-chloro-5-(3,6-dihydro-3-methyl-2,6-dioxo-4-trifluoromethyl-1(2H)-pyrimidyl)-benzoate (flupropacil), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(3-methoxycarbonyl-6-trifluoromethyl-pyridin-2-yl-sulphonyl)-urea sodium salt (flupysulfuron-methyl-sodium), 9-hydroxy-9H-fluorene-9-carboxylic acid (fluremol), (2-butoxy-1-methyl-ethyl, 1-methyl-heptyl) (4-amino-3,5-dichloro-6-fluoro-pyridin-2-yl-oxy)-acetate (fluroxypyr, -butoxypropyl, -meptyl), 5-methylamino-2-phenyl-4-(3-trifluoromethyl-phenyl)-3(2H)-furanone (flurtamone), methyl [(2-chloro-4-fluoro-5-(tetrahydro-3-oxo-1H,3H-[1,3,4]-thiadiazolo-[3,4-a]-pyridazin-1-ylidene)-amino-phenyl]-thio-acetate (fluthiacet-methyl), 5-(2-chloro-4-trifluoromethyl-phenoxy)-N-methylsulphonyl-2-nitro-benzamide (fomesafen), 2-[[(((4,6-dimethoxy-2-pyrimidinyl)-amino-carbonyl)-amino]-sulphonyl]-4-formylamino-N,N-dimethyl-benzamide (foramsulfuron), 2-amino-4-(hydroxymethylphosphinyl)-butanoic acid (ammonium salt) (glufosinate (-ammonium)), N-phosphonomethyl-glycine (isopropylammonium salt), (glyphosate, (-isopropylammonium)), (methyl, 2-ethoxy-ethyl, butyl) (R)-2-[4-(3-chloro-5-trifluoromethyl-pyridin-2-yl-oxy)-phenoxy]-propanoate (haloxyfop, -methyl, -P-methyl, -ethoxyethyl, -butyl), 3-cyclohexyl-6-dimethylamino-1-methyl-1,3,5-triazine-2,4(1H,3H)-dione (hexazinone), methyl 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-4-methyl-benzoate (imazamethabenz-methyl), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-
imidazol-2-yl)-5-methyl-pyridine-3-carboxylic acid (imazamethapyr), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-5-methoxymethyl-pyridine-3-carboxylic acid (imazamox), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-quinoline-3-carboxylic acid (imazaquin), 2-(4,5-dihydro-4-methyl-4-i-propyl-5-oxo-1H-imidazol-2-yl)-5-ethyl-pyridine-3-carboxylic acid (imazethapyr), N-(4,6-dimethoxy-pyrimidin-2-yl)-N’-(2-chloro-imidazo[1,2-a]-pyridin-3-yl-sulphonyl)-urea (imazosulphuron), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(5-iodo-2-methoxycarbonyl-phenyl-sulphonyl)-urea sodium salt (iodosulfuron-methyl-sodium), 4-hydroxy-3,5-diiodo-benzonitrile (ioxynil), N,N-dimethyl-N’-(4-isopropyl-phenyl)-urea (isoproturon), N-(3-(1-ethyl-1-methyl-propyl)-isoxazol-5-yl)-2,6-dimethoxy-benzamide (isoxaben), (4-chloro-2-methylsulphonyl-phenyl)-(5-cyclopropyl-isoxazol-4-yl)-methaneone (isoxachlorlortole), (5-cyclopropyl-isoxazol-4-yl)-(2-methylsulphonyl-4-trifluoromethyl-phenyl)-methaneone (isoxaflutole), 2-[2-[4-(3,5-dichloro-2-pyridinyl)-oxy]-phenoxy]-1-oxo-propyl]-isoxazolidine (isoxapyrifop), 2-ethoxy-1-methyl-2-oxo-ethyl 5-(2-chloro-4-trifluoromethyl-phenoxy)-2-nitro-benzoate (lactofen), N’-(3,4-dichloro-phenyl)-N-methoxy-N-methyl-urea (linuron), (4-chloro-2-methyl-phenoxy)-acetic acid (MCPA), 2-(4-chloro-2-methyl-phenoxy)-propionic acid (mecoprop), 2-(2-benzothiazol-yl-oxy)-N-methyl-N-phenyl-acetamide (mefenacet), 2-(4-methylsulphonyl-2-nitro-benzoyl)-1,3-cyclohexanedione (mesotrione), 4-amino-3-methyl-6-phenyl-1,2,4-triazin-5(4H)-one (metamitron), 2-chloro-N-(2,6-dimethyl-phenyl)-N-(1H-pyrazol-1-yl-methyl)-acetamide (metazachlor), N’-(4-(3,4-dihydro-2-methoxy-2,4,4-trimethyl-2H-1-benzopyran-7-yl-oxy)-phenyl)-N-methoxy-N-methyl-urea (metobenzuron), N’-(4-bromo-phenyl)-N-methoxy-N-methylurea (metobromuron), (S)-2-chloro-N-(2-ethyl-6-methyl-phenyl)-N-(2-methoxy-1-methyl-ethyl)-acetamide (metolachlor, S-metolachlor), N-(2,6-dichloro-3-methyl-phenyl)-5,7-dimethoxy-1,2,4-triazolo[1,5-a]-pyrimidine-2-sulphonamide (metosulam), N’-(3-chloro-4-methoxy-phenyl)-N,N-dimethylurea (metoxuron), 4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (metribuzin), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(2-methoxy-
carbonyl-phenylsulphonyl)-urea (metsulfuron-methyl), S-ethyl hexahydro-1H-
azepine 1-carbothioate (molinate), 2-(2-naphthoxy)-N-phenyl-propanamide
(naproanilide), N-butyl-N'(3,4-dichloro-phenyl)-N-methyl-urea (neburon), N-
(4,6-dimethoxy-pyrimidin-2-yl)-N'(3-dimethylcarbamoyl-pyridin-2-yl-
sulphonyl)-urea (nicosulfuron), S-(2-chloro-benzyl) N,N-diethyl-thiocarbamate (orbencarb), 4-dipropylamino-3,5-dinitro-benzenesulphonamide
(oryzalin), 3-[2,4-dichloro-5-(2-propinlyoxy)-phenyl]-5-(t-butyl)-1,3,4-oxadia-
azol-2(3H)-one (oxadiargyl), 3-[2,4-dichloro-5-(1-methyl-ethoxy)-phenyl]-5-
(t-butyl)-1,3,4-oxadiazol-2(3H)-one (oxadiazon), N-(4,6-dimethyl-pyrimidin-
2-yl)-N'(2-oxetan-3-yl-oxycarbonyl-phenylsulphonyl)-urea (oxasulfuron),
3-[1-(3,5-dichloro-phenyl)-1-i-propyl]-2,3-dihydro-6-methyl-5-phenyl-4H-
1,3-oxazin-4-one (oxaziclomefone), 2-chloro-1-(3-ethoxy-4-nitro-phenoxy)-
4-trifluoromethyl-benzene (oxyfluorfen), 1,1'-dimethyl-4,4'-bipyrindinium
(parquat), 1-amino-N-(1-ethyl-propyl)-3,4-dimethyl-2,6-dinitro-benzene
(pendimethalin), 4-(t-butyl)-N-(1-ethyl-propyl)-2,6-dinitro-benzenamine
(pendralin), 4-amino-3,5,6-trichloro-pyridine-2-carboxylic acid (picloram), 2-
chloro-N-(2,6-di-phenyl)-N-(2-propoxy-ethyl)-acetamide (pretilachlor),
N-(4,6-bis-difluoromethoxy-pyrimidin-2-yl)-N'-(2-methoxycarbonyl-phenyl-
sulphonyl)-urea (primisulfuron-methyl), 1-chloro-N-[2-chloro-4-fluoro-5-
[(6S,7aR)-6-fluoro-tetrahydro-1,3-dioxo-1H-pyrrolo[1,2-c]imidazol-2(3H)-
yl]-phenyl]-methanesulphonamide (profluazol), 2-chloro-N-isopropyl-N-
phenyl-acetamide (propachlor), N-(3,4-dichloro-phenyl)-propanamide
(propanil), (R)-2-[(1-methyl-ethylidene)-amino]-oxy]-ethyl]-2-[4-(6-chloro-
2-quinoxalinlyoxy)-phenoxy]-propanoate (propaquizafop), 2-chloro-N-(2-
ethyl-6-methyl-phenyl)-N'-(1-methyl-ethoxy)-methyl-acetamide (propio-
chlor), methyl 2-[[4-(5-dihydro-4-methyl-5-oxo-3-propoxy-1H-1,2,4-triazol-
1-yl)-carbonyl]-amino]-sulphonyl]-benzoate sodium salt (propoxycarbazone-
sodium), S-phenylmethyl N,N-dipropyl-thiocarbamate (prosulfocarb), N-(4-
methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-(3,3,3-trifluoro-propyl)-phenyl-
sulphonyl)-urea (prosulfuron), ethyl [2-chloro-5-(4-chloro-5-difluoro-
methoxy-1-methyl-1H-pyrazol-3-yl)-4-fluoro-phenoxy]-acetate (pyraflufen-
ethyl), 1-(3-chloro-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyridin-2-yl)-5-(methyl-2-propinylamino)-1H-pyrazole-4-carbonitrile (pyrazogyl), 4-(2,4-dichlorobenzoyl)-1,3-dimethyl-5-(4-methyl-phenylsulphonyloxy)-pyrazole (pyrazolate), 4-(2,4-dichlorobenzoyl)-1,3-dimethyl-5-(phenylcarbonyl methoxy)pyrazole (pyrazoxyfen), N-(4,6-dimethoxy-pyrimidin-2-yl)-N′-(4-ethoxy carbonyl-1-methyl-pyrazol-5-yl-sulphonyl)-urea (pyrazosulfuron-ethyl), di-phenylmethanone O-[2,6-bis-(4,6-dimethoxy-pyrimidin-2-yl-oxy)-benzoyl] oxime (pyribenzoxim), 6-chloro-3-phenyl-4-pyridazinole (pyridafol), O-(6-chloro-3-phenyl-pyridazine-4-yl) S-octyl thiocarbonate (pyridate), 6-chloro-3-phenyl-pyridazine-4-ol (pyridatol), 7-[(4,6-dimethoxy-2-pyrimidinyl)-thio]-3-methyl-1(3H)-isobenzofuranone (pyrithialid), methyl 2-(4,6-dimethoxy-pyrimidin-2-yl-oxy)-benzoate (pyriminobac-methyl), 2-chloro-6-(4,6-dimethoxy-pyrimidin-2-yl-thio)-benzoic acid sodium salt (pyrithiobac-sodium), 3,7-dichloro-quinoline-8-carboxylic acid (quinchlorac), 7-chloro-3-methylquinoline-8-carboxylic acid (quinmerac), (ethyl, tetrahydro-2-furanyl-methyl) 2-[4-(6-chloro-2-quinoxalinyloxy)-phenoxy]-propanoate (quizalofop, -ethyl, -P-ethyl, -P-tefuryl), N-(4,6-dimethoxy-pyrimidin-2-yl)-N′-(3-ethylsulphonyl-pyridin-2-yl-sulphonyl)-urea (risulfuron), 2-(1-ethoximinobutyl)-5-(2-ethylthiopropyl)-3-hydroxy-2-cyclohexen-1-one (sethoxydim), 6-chloro-2,4-bis-ethylamino-1,3,5-triazine (simazine), 2-(2-chloro-4-methylsulphonyl benzoyl)-cyclohexane-1,3-dione (sulcotrine), 2-(2,4-dichloro-5-methylsulphonylamino-phenyl)-4-difluoromethyl-5-methyl-2,4-dihydro-3H-1,2,4-triazol-3-one (sulfentrazone), N-phosphonomethyl-glycine-trimethylsulphonium (sulfosate), N-(4,6-dimethoxy-pyrimidin-2-yl)-N′-(2-ethylsulphonyl-imidazo[1,2-a]pyridin-3-yl)sulphonamide (sulfosulfuron), 6-chloro-4-ethylamino-2-tert-butylamino-1,3,5-triazine (terbuthylazine), 2-tert-butylamino-4-ethylamino-6-methylthio-1,3,5-triazine (terbutryn), 2-chloro-N-(2,6-dimethyl-phenyl)-N-(3-methoxy-2-thienyl-methyl)-acetamide (thenylchlor), methyl 2-difluoromethyl-5-(4,5-dihydro-thiazol-2-yl)-4-(2-methylpropyl)-6-trifluoromethyl-pyridine-3-carboxylate (thiazopyr), 6-(6,7-dihydro-6,6-dimethyl-3H,5H-pyrrolo[2,1-c]-1,2,4-thiadiazol-3-ylideneamino)-7-
fluoro-4-(2-propinyl)-2H-1,4-benzoxazin-3(4H)-one (thidiazimin), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-methoxycarbonyl-thien-3-yl-sulphonyl)-urea (thifensulfuron-methyl), 2-(ethoximino-propyl)-3-hydroxy-5-(2,4,6-trimethyl-phenyl)-2-cyclohexen-1-one (tralkoxydim), S-(2,3,3-trichloro-2-propenyl) diisopropylecarbamothioate (triaallate), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-(2-chloro-ethoxy)-phenylsulphonyl)-urea (triasulfuron), N-methyl-N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-methoxycarbonyl-phenylsulfonyl)-urea (tribenuron-methyl), (3,5,6-trichloro-pyridin-2-yl-oxy-acetic acid (triclopyr), 2-(3,5-dichloro-phenyl)-2-(2,2,2-trichloro-ethyl)-oxirane (tridiphane), N-[(4,6-dimethoxy-2-pyrimidinyl)-amino]-carbonyl]-3-(2,2,2-trifluoro-ethoxy)-2-pyridinesulphonamide sodium salt (triflosulfuron), 1-amino-2,6-dinitro-N,N-dipropyl-4-trifluoromethyl-benzene (trifluralin), N-[4-dimethylamino-6-(2,2,2-trifluoro-ethoxy)-1,3,5-triazin-2-yl]-N'-(2-methoxycarbonyl-phenylsulphonyl)-urea (trifluralin-methyl), N-[(4,6-dimethoxy-2-pyrimidinyl)-amino]-carbonyl]-3-(N-methyl-N-methylsulphonyl-amino)-2-pyridinesulphonamide (cf. WO-A-92/10660), methyl 2-[[[(4,6-dimethoxy-2-pyrimidinyl)-amino]-carbonyl]-amino]-sulphonyl]-4-[[methylsulphonyl]-amino]-benzoate (cf. DE-A-4335297), 4-[4,5-dihydro-4-methyl-5-oxo-(3-trifluoromethyl)-1H-1,2,4-triazol-1-yl]-2-[(ethylsulphonyl)amino]-5-fluoro-benzenecarbothioamide (cf. WO-A-95/30661)

("active compounds of group 2"),

and/or optionally

(d) a compound which improves crop plant compatibility, from the group of compounds below:

4-dichloroacetyl-1-oxa-4-aza-spiro[4.5]-decane (AD-67), 1-dichloroacetyl-hexahydro-3,3,8a-trimethylpyrrolo[1,2-a]-pyrimidin-6(2H)-one (BAS-145138),
4-dichloroacetyl-3,4-dihydro-3-methyl-2H-1,4-benzoxazine (benoxacor), 1-methyl-hexyl 5-chloro-quinoxalin-8-oxo-acetate (cloquintocet-mexyl), α-(cyanomethoximino)-phenylacetonitrile (cyometrinil), 2,4-dichlorophenoxyacetic acid (2,4-D), 2,2-dichloro-N-(2-oxo-2-(2-propenylamino)-ethyl)-N-(2-propenyl)-acetamide (DKA-24), 2,2-dichloro-N,N-di-2-propenyl-acetamide (dichlorimid), N-(4-methyl-phenyl)-N'-(1-methyl-1-phenyl-ethyl)-urea (dymron), 4,6-dichloro-2-phenyl-pyrimidine (fenclorim), ethyl 1-(2,4-dichlorophenyl)-5-trichloromethyl-1H-1,2,4-triazole-3-carboxylate (fenchlorazol-ethyl), phenylmethyl 2-chloro-4-trifluoromethyl-thiazole-5-carboxylate (flurfazole), 4-chloro-N-(1,3-dioxolan-2-yl-methoxy)-α-trifluoro-acetophenone oxime (fluxofenim), 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine (furilazole, MON-13900), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazolcarboxylate (isoxadifen-ethyl), (4-chloro-2-methyl-phenoxy)-acetic acid (MCPA), (+/-)-2-(4-chloro-2-methylphenoxy)propanoic acid (mecoprop), diethyl 1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-dicarboxylate (mefenpyr-diethyl), 2-dichloromethyl-2-methyl-1,3-dioxolane (MG-191), 1,8-naphthalic anhydride, α-(1,3-dioxolan-2-yl-methoximino)-phenylacetonitrile (oxabetrinil), 2,2-dichloro-N-(1,3-dioxolan-2-yl-methyl)-N-(2-propenyl)-acetamide (PPG-1292) and 3-dichloroacetyl-2,2,5-trimethyl-oxazolidine (R-29148)

("active compounds of group 3").

Mixing components from the active compounds of group 2 which are particularly emphasized are:

2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methyl-phenyl)-acetamide (acetochlor), 2-chloro-N-(methoxymethyl)-N-(2,6-diethyl-phenyl)-acetamide (alachlor), 4-amino-N-(1,1-dimethyl-ethyl)-4,5-dihydro-3-(1-methyl-ethyl)-5-oxo-1H-1,2,4-triazole-1-carboxamide (amicarbazone), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(N-methyl-N-methyl-sulphonyl-sulphamoyl)-urea (amidosulfuron), 6-chloro-4-ethylamino-2-isopropyl-
amino-1,3,5-triazine (atrazine), N-benzyl-2-(4-fluoro-3-trifluoromethyl-phenoxy)-butanamide (biflubutamid), 3-i-propyl-1H-2,1,3-benzothiaziazin-4(3H)-one (benta-
zone), methyl 5-(2,4-dichloro-phenoxy)-2-nitro-benzoate (bifenox), 2,6-bis-(4,6-
dimethoxy-pyrimidin-2-yl-oxy)-benzoic acid sodium salt (bispirebac-sodium), 3,5-
dibromo-4-hydroxy-benzonitrile (bromoxynil), [1,1-dimethyl-2-oxo-2-(2-propenyl-
oxy)]ethyl 2-chloro-5-(3,6-dihydro-3-methyl-2,6-dioxo-4-trifluoromethyl-1(2H)-
pyrimidinyl)-benzoate (butafenacil-allyl), 2-(4-chloro-2-fluoro-5-(2-chloro-2-ethoxy-
carbonyl-ethyl)-phenyl)-4-difluoromethyl-5-methyl-2,4-dihydro-3H-1,2,4-triazol-3-
one (carfentrazone-ethyl), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(2-chloro-
phenylsulphonyl)-urea (chlorsulfuron), N’-(3-chloro-4-methyl-phenyl)-N,N-di-
ethyl-urea (chlorotoluron), ethyl 2-chloro-3-[2-chloro-5-(1,3,4,5,6,7-hexahydro-
1,3-dioxo-2H-isooindol-2-yl)-phenyl]-2-propanoate (cinidon-ethyl), 2-propinyl (R)-2-
[4-(5-chloro-3-fluoro-pyridin-2-yl-oxy)-phenoxy-propanoate (clodinafop-propargyl), 3,6-dichloro-pyridine-2-carboxylic acid (clopyralid), 2-chloro-4-ethylamino-6-(1-
cyano-1-methyl-ethylamino)-1,3,5-triazine (cyanazine), N-(4,6-dimethoxy-pyrimidin-
2-yl)-N’-(2-cyclopropylcarbonyl-phenylsulphonyl)-urea (cyclosulfamuron), 2,4-
dichloro-phenoxyacetic acid (2,4-D), 3,6-dichloro-2-methoxy-benzoic acid (dicamba), (R)-2-(2,4-dichloro-phenoxy)-propanoic acid (dichlorprop-P), methyl 2-[4-(2,4-
dichloro-phenoxy)-phenoxy]-propanoate (diclofop-methyl), 1,2-dimethyl-3,5-
diphenyl-1H-pyrazolium methyl sulphate (difenozoquat), N-(2,4-difluoro-phenyl)-2-
(3-trifluoromethyl-phenoxy)-pyridine-3-carboxamide (diflufengan), 2-[1-[3,5-
difluoro-phenyl]-amino-carbonyl-hydrazono]-ethyl]-pyridine-3-carboxylic acid 
(diflufenzopyr), (S)- 2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methyl-
ethyl)-acetamide (S-) (dimethenamid), S-ethyl dipropyl thiocarbamate (EPTC), (S-
(2-ethoxy-1-methyl-2-oxoethyl)-2-chloro-5-(2-chloro-4-trifluoromethyl-phenoxy)-
benzoate (ethoxyfen), N-(4,6-dimethoxy-pyrimidin-2-yl)-N’-(2-ethoxy-phenoxy-
sulphonyl)-urea (ethoxysulfuron), ethyl (R)-2-[4-(6-chloro-benzoxazol-2-yl-oxy)-
phenoxy]-propanoate (fenoxaprop-(P)-ethyl), isopropyl N-benzoyl-N-(3-chloro-4-
fluoro-phenyl)-DL-alaninate (flamprop-isopropyl), isopropyl N-benzoyl-N-(3-chloro-
4-fluoro-phenyl)-L-alaninate (flamprop-isopropyl-L), methyl N-benzoyl-N-(3-chloro-
4-fluoro-phenoxy)-DL-alaninate (flamprop-methyl), N-(2,6-difluoro-phenyl)-8-
fluoro-5-methoxy-[1,2,4]-triazolo-[1,5-c]-pyrimidine-2-sulphonamide (florasulam), i-propyl 5-(4-bromo-1-methyl-5-trifluoromethyl-1H-pyrazol-3-yl)-2-chloro-4-fluorobenzoate (fluazolate), 4,5-dihydro-3-methoxy-4-methyl-5-oxo-N-[(2-trifluoromethoxy-phenyl)sulphonyl]-1H-1,2,4-triazolo-1-carboxamide sodium salt (flucarbazone-sodium), N-(4-fluoro-phenyl)-N-i-propyl-2-(5-trifluoromethyl-1,3,4-thiadiazol-2-yl-oxy)-acetamide (flufenacet), N-(2,6-difluoro-phenyl)-5-methyl-1,2,4-triazolo[1,5-a]-pyrimidine-2-sulphonamide (flumetsulam), ethoxycarbonylmethyl 5-(2-chloro-4-trifluoromethyl-phenoxy)-2-nitro-benzoate (fluorglycofen-ethyl), 1-(4-chloro-3-(2,2,3,3,3-pentafluoro-propoxymethyl)-phenyl)-5-phenyl-1H-1,2,4-triazole-3-carboxamide (flupoxam), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-[3-methoxy-carbonyl-6-trifluoromethyl-pyridin-2-yl-sulphonyl]-urea sodium salt (flupyr sulfuron-methyl-sodium), 9-hydroxy-9H-fluorene-9-carboxylic acid (flurenol), (2-butoxy-1-methyl-ethyl, 1-methyl-heptyl) (4-amino-3,5-dichloro-6-fluoro-pyridin-2-yl-oxy)acetate, (fluroxypyr, -butoxypropyl, -nephtyl), 5-methylamino-2-phenyl-4-(3-trifluoromethyl-phenyl)-3(2H)-furanone (flurtamone), methyl [(2-chloro-4-fluoro-5-tetrahydro-3-oxo-1H,3H-[1,3,4]-thiadiazolo-[3,4-a]-pyridazin-1-ylidine)-amino-phenyl]-thio-acetate (fluthiacet-methyl), 2-[[[(4,6-dimethoxy-2-pyrimidinyl)-amino]-carbonyl]-amino]-sulphonyl]-4-formylamino-N,N-dimethyl-benzamide (foramsulfuron), 2-amino-4-(hydroxymethylphosphinyl)-butanoic acid (ammonium salt) (glufosinate (ammonium)), N-phosphonomethyl-glycine (isopropylammonium salt), (glyphosate, isopropylammonium), methyl 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-4-methyl-benzoate (imazamethabenz-methyl), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-5-methyl-pyridine-3-carboxylic acid (imazamethapryl), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-5-methoxymethyl-pyridine-3-carboxylic acid (imazamox), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-quinoline-3-carboxylic acid (imazaquin), 2-(4,5-dihydro-4-methyl-4-i-propyl-5-oxo-1H-imidazol-2-yl)-5-ethyl-pyridine-3-carboxylic acid (imazethapryl), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(5-iodo-2-methoxycarboxyl-phenylsulphonyl)-urea sodium salt (idosulfuron-methyl-sodium), 4-hydroxy-3,5-diiodo-benzonitrile (i oxy nil), N,N-dimethyl-N'-(4-isopropyl-phenyl)-urea (isoproturon), N-(3-(1-ethyl-1-methyl-propyl)-isoxazol-5-yl)-
2,6-dimethoxy-benzamide (isoxaben), (4-chloro-2-methylsulphonyl-phenyl)-(5-cyclopropyl-isoxazol-4-yl)-methanone (isoxachlor), (5-cyclopropyl-isoxazol-4-yl)-(2-methylsulphonyl-4-trifluoromethyl-phenyl)-methanone (isoxaflutole), (4-chloro-2-methyl-phenoxy)-acetic acid (MCPA), 2-(4-chloro-2-methyl-phenoxy)-propionic acid (mecoprop), 2-(4-methylsulphonyl-2-nitro-benzoyl)-1,3-cyclohexanedicione (mesotrione), 2-chloro-N-(2,6-dimethyl-phenyl)-N-(1H-pyrazol-1-yl-methyl-acetamide (metazachlor), (S)-2-chloro-N-(2-ethyl-6-methyl-phenyl)-N-(2-methoxy-1-methyl-ethyl)-acet-amide (metolachlor, S-metolachlor), N-(2,6-dichloro-3-methyl-phenyl)-5,7-dimethoxy-1,2,4-triazolo[1,5-a]-pyrimidine-2-sulphonamide (metosulam), 4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (metribuzin), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-methoxycarbonyl-phenylsulphonyl)urea (metsulfuron-methyl), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(3-dimethylcarbamoyl-pyridin-2-yl-sulphonyl)-urea (nicosulfuron), 1-amino-N-(1-ethyl-propyl)-3,4-dimethyl-2,6-dinitro-benzene (pendimethalin), N-(4,6-bis-difluoromethoxy-pyrimidin-2-yl)-N'-(2-methoxycarbonyl-phenylsulphonyl)-urea (primisulfuron-methyl), 2-chloro-N-isopropyl-N-phenyl-acetamide (propachlor), N-(3,4-dichloro-phenyl)-propanamide (propanil), methyl 2-[[[(4,5-dihydro-4-methyl-5-oxo-3-propoxy-1H-1,2,4-triazol-1-yl)-carbonyl]-amino]-sulphonyl]-benzoate sodium salt (propoxycarbazone-sodium), S-phenylmethyl N,N-dipropyl-thiocarbamate (prosulfcarb), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-(3,3,3-trifluoro-propoxy)-phenylsulphonyl)-urea (prosulfuron), ethyl [2-chloro-5-[(4-chloro-5-difluoromethoxy-1-methyl-1H-pyrazol-3-yl)-4-fluoro-phenoxy]-acetate (pyraflufen-ethyl), O-(6-chloro-3-phenyl-pyridazin-4-yl) S-octyl thiocarbonate (pyridate), 7-chloro-3-methyl-quinoline-8-carboxylic acid (quimnerac), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(3-ethoxysulfon-phenyl-2-yl-sulphonyl)-urea (rimsulfuron), 2-(1-ethoximinobutyl)-5-(2-ethylthiophenyl)-3-hydroxy-2-cyclohexen-1-one (sethoxydim), 6-chloro-2,4-bis-ethylamino-1,3,5-triazine (simazine), 2-(2-chloro-4-methylsulphonyl-benzoyl)-cyclohexane-1,3-dione (sulcotrione), N-phosphonomethylglycine-trimethylsulfonium (sulfosate), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(2-ethylsulphonyl-imidazo[1,2-a]pyridin-3-yl)sulphonamide (sulfosulfuron), 6-chloro-4-ethylamino-2-tert-butylamino-1,3,5-triazine (terbutylazine), 2-tert-butylamino-4-ethylamino-6-methylthio-1,3,5-triazine (terbutryn),
N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(2-methoxycarbonyl-thien-3-yl-sulphonyl)-urea (thifensulfuron-methyl), 2-(ethoximino-propyl)-3-hydroxy-5-(2,4,6-trimethyl-phenyl)-2-cyclohexen-1-one (tralkoxydim), S-(2,3,3-trichloro-2-propenyl) disopropylcarbamothioate (triallate), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-[2-(2-chloro-ethoxy)-phenylsulphonyl]-urea (triasulfuron), N-methyl-N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(2-methoxycarbonyl-phenylsulphonyl)-urea (tribenuron-methyl), 2-(3,5-dichloro-phenyl)-2-(2,2,2-trichloro-ethyl)-oxirane (tridiphane), N-[(4,6-dimethoxy-2-pyrimidinyl)-amino]-carbonyl]-3-(2,2,2-trifluoro-ethoxy)-2-pyridinesulphonamide sodium salt (trifloxysulfuron), 1-amino-2,6-dinitro-N,N-dipropyl-4-trifluoromethyl-benzene (trifluralin).

Mixing components from the active compounds of group 3 which are particularly emphasized are:

1-methylhexyl 5-chloro-quinoxalin-8-oxy-acetate (cloquintocet), ethyl 1-(2,4-dichloro-phenyl)-5-trichloromethyl-1H-1,2,4-triazole-3-carboxylate (fenchlorazol-ethyl), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazolecarboxylate (isoxadifen-ethyl), diethyl 1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-dicarboxylate (mefenpyr-diethyl) and 2,4-dichlorophenoxyacetic acid (2,4-D) and its derivatives.

The compounds diethyl 1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-dicarboxylate (mefenpyr-diethyl), 1-methylhexyl [(5-chloro-8-quinolinyl)oxy]acetate (cloquintocet-methyl) and ethyl 1-(2,4-dichlorophenyl)-5-(trichloromethyl)-1H-1,2,4-triazole-3-carboxylate (fenchlorazole-ethyl) are described in the following patent applications: DE-A-39 39 503, EP-A-191 736 and DE-A-35 25 205, respectively. 2,4-D is a known herbicide.

Surprisingly, it has now been found that the active compound combinations defined above of tritosulfuron and the abovementioned active compounds of group 1, optionally in combination with active compounds of group 2 and/or active compounds of group 3, have particularly high herbicidal activity combined with very good crop
plant compatibility and can be used in various crops, in particular in wheat, but additionally in maize and barley for the selective control of weeds.

Surprisingly, the herbicidal activity of the active compound combinations according to the invention of tritosulfuron and compounds of the abovementioned group 1 is considerably higher than the sum of the activities of the individual active compounds.

This means that there is not only a complementary action but also an unforeseeable synergistic effect. The novel active compound combinations are tolerated well by a large number of crops, and the novel active compound combinations also effectively control weeds which are otherwise difficult to control. The novel active compound combinations are therefore a valuable addition to the selective herbicides.

Furthermore, it has surprisingly been found that the active compound combinations defined above of tritosulfuron and a safener/antidote ("active compounds of group 3") in combination with one or more of the abovementioned active compounds of group 1 have particularly high herbicidal activity combined with very good crop plant compatibility and can be used in various crops, in particular in cereals, especially wheat, but also soya, potato, maize and rice, for the selective control of weeds.

Moreover, it has surprisingly been found that the safener role described above can also be played by the herbicidally active substance 2,4-dichlorophenoxy-acetic acid (2,4-D) and its derivatives.

Furthermore, it is surprising that, from a large number of known safeners or antidotes capable of antagonizing the damaging effect of a herbicide on the crop plants, there are specifically the active compounds of group 3 listed above which neutralize the damaging effect of tritosulfuron in combination with one or more of the abovementioned active compounds of group 1 on the crop plants virtually completely without adversely affecting the herbicidal activity against the weeds.
The particularly advantageous effect of the particularly preferred combination partners of group 3, in particular with respect to sparing cereal plants, such as, for example, rice, wheat, barley and rye, as crop plants, may be emphasized here.

Very particular emphasis is given to mixtures of tritosulfuron and propoxy-carbazone(-sodium) in combination with one or more of the following active compounds:

N-(4,6-dimethoxy-pyrimidin-2-yl)-N’-(N-methyl-N-methylsulphonyl-sulphamoyl)-urea (amidosulfuron), 2,6-bis-(4,6-dimethoxy-pyrimidin-2-yl-oxy)-benzoic acid sodium salt (bispyribac-sodium), 2-(4-chloro-2-fluoro-5-(2-chloro-2-ethoxycarbonyl-ethyl)-phenyl)-4-difluoromethyl-5-methyl-2,4-dihydro-3H-1,2,4-triazol-3-one (carfentrazone-ethyl), ethyl 2-chloro-3-[2-chloro-5-(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-indol-2-yl)-phenyl]-2-propanoate (cinidon-ethyl), 2,4-dichloro-phenyloxyacetic acid (2,4-D), (R)-2-(2,4-dichloro-phenoxy)-propanoic acid (dichlorprop-P), N-(2,4-difluoro-phenyl)-2-(3-trifluoromethyl-phenoxy)-pyridine-3-carboxamide (diflufenican), N-(4-fluoro-phenyl)-N-i-propyl-2-(5-trifluoromethyl-1,3,4-thiadiazol-2-yl-oxy)-acetamide (flufenacet), N-(4,6-dimethoxy-pyrimidin-2-yl)-N’-(3-methoxycarbonyl-6-trifluoromethyl-pyridin-2-yl-sulphonyl)-urea sodium salt (flupyr-sulfuron-methyl-sodium), (2-butoxy-1-methyl-ethyl, 1-methyl-heptyl) (4-amino-3,5-dichloro-6-fluoropyridin-2-yl-oxy)-acetate (fluoroxypr, -butoxypropyl, -methylyl), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(5-iodo-2-methoxycarbonyl-phenylsulphonyl)-urea sodium salt (iodosulfuron-methyl-sodium), N,N-dimethyl-N-(4-isopropyl-phenyl)-urea (isoproturon), 2-(4-chloro-2-methyl-phenoxy)-propionionic acid (mecoprop), 4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (metribuzin), N-[[4,6-dimethoxy-2-pyrimidinyl]-amino]-carbonyl]-3-(2,2,2-trifluoro-ethoxy)-2-pyridine-sulphonamide sodium salt (trifloxysulfuron).

Furthermore, very particular emphasis is given to mixtures of tritosulfuron and flucarbazone(-sodium) in combination with one or more of the following active compounds:
2,6-bis-(4,6-dimethoxy-pyrimidin-2-yl-oxy)-benzoic acid sodium salt (bispyribac-sodium), 3,5-dibromo-4-hydroxy-benzonitrile (bromoxynil), 2-(4-chloro-2-fluoro-5-(2-chloro-2-ethoxycarbonyl-ethyl)-phenyl)-4-difluoromethyl-5-methyl-2,4-dihydro-3H-1,2,4-triazol-3-one (carfentrazone-ethyl), ethyl 2-chloro-3-[2-chloro-5-(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isodindol-2-yl)-phenyl]-2-propanoate (cindon-ethyl), 2-propinyl (R)-2-[4-(5-chloro-3-fluoro-pyridin-2-yl-oxy)-phenoxy-propanoate (clodinafop-propargyl), 3,6-dichloro-pyridine-2-carboxylic acid (clopivalid), 2,4-dichloro-phenoxyacetic acid (2,4-D), 3,6-dichloro-2-methoxybenzoic acid (dicamba), ethyl (R)-2-[4-(6-chloro-benzoxazol-2-yl-oxy)-phenoxy]-propanoate (fenoxaprop-(P)-ethyl), N-(2,6-difluoro-phenyl)-8-fluoro-5-methoxy-[1,2,4]-triazolo-[1,5-c]-pyrimidine-2-sulphonamide (florasulam), N-(4-fluoro-phenyl)-N-i-propyl-2-(5-trifluoromethyl-1,3,4-thiadiazol-2-yl-oxy)-acetamide (flufenacet), N-(4,6-dimethoxy-pyrimidin-2-yl)-N’-(3-methoxycarbonyl-6-trifluoromethyl-pyridin-2-yl-sulphonyl)-urea sodium salt (flupyradifurac-methyl-sodium), (2-butoxy-1-methyl-ethyl, 1-methyl-heptyl) (4-amino-3,5-dichloro-6-fluoro-pyridin-2-yl-oxy)-acetate (fluroxypyr, -butoxypropyl, -meptyl), methyl 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-4-methyl-benzoate (imazamethabenz-methyl), 2-[(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-5-methoxymethyl-pyridine-3-carboxylic acid (imazamox), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(5-iodo-2-methoxycarbonyl-phenylsulphonyl)-urea sodium salt (idosulfuron-methyl-sodium), N,N-dimethyl-N’-(4-isopropyl-phenyl)-urea (isoproturon), (4-chloro-2-methyl-phenoxy)-acetic acid (MCPA), 2-(4-chloro-2-methyl-phenoxy)-propionic acid (mecoprop), 4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (metribuzin), methyl 2-[[[(4,5-dihydro-4-methyl-5-oxo-3-propoxy-1H-1,2,4-triazol-1-yl)-carbonyl]-amino]-sulphonyl]-benzoate sodium salt (propoxycarbazine-sodium), ethyl [2-chloro-5-(4-chloro-5-difluoromethoxy-1-methyl-1H-pyrazol-3-yl)-4-fluoro-phenoxy]-acetate (pyraflufen-ethyl), N-(4,6-dimethoxy-pyrimidin-2-yl)-N’-(2-ethylyl-sulphonyl-imidazo[1,2-a]pyridin-3-yl) sulphonamide (sulfosulfuron), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N’-(2-methoxycarbonyl-thien-3-yl-sulphonyl)-urea (thiefurson-ethyl), 2-(ethoximino-propyl)-3-hydroxy-5-
(2,4,6-trimethyl-phenyl)-2-cyclohexen-1-one (tralkoxydim), S-(2,3,3-trichloro-2-propenyl) diisopropyl carbamothioate (triallate), N-[(4,6-dimethoxy-2-pyrimidinyl)-amino]-carbonyl]-3-(2,2,2-trifluoro-ethoxy)-2-pyridinesulphonamide sodium salt (trifloxysulfuron).

The active compound combinations according to the invention can be used, for example, in connection with the following plants:

**Dicotyledonous weeds of 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.

**Dicotyledonous crops of the genera:** Gossypium, Glycine, Beta, Daucus, Phaseolus, Pisum, Solanum, Linum, Ipomoea, Vicia, Nicotiana, Lycopersicon, Arachis, Brassica, Lactuca, Cucumis, Cucurbita.


**Monocotyledonous crops of the genera:** Oryza, Zea, Triticum, Hordeum, Avena, Secale, Sorghum, Panicum, Saccharum, Ananas, Asparagus, Allium.

However, the use of the active compound combinations according to the invention is in no way restricted to these genera, but also extends in the same manner to other plants.
According to the invention, it is possible to treat all plants and parts of plants. By plants are understood here all plants and plant populations, such as desired and undesirable wild plants or crop plants (including naturally occurring crop plants). Crop plants can be plants which can be obtained by conventional breeding and optimization methods or by biotechnological and genetic engineering methods or combinations of these methods, including transgenic plants and including plant varieties which can or cannot be protected by varietal property rights. Parts of plants are to be understood as meaning all above-ground and below-ground parts and organs of plants, such as shoot, leaf, flower and root, examples which may be mentioned being leaves, needles, stems, trunks, flowers, fruit-bodies, fruits and seeds and also roots, tubers and rhizomes. Parts of plants also include vegetative and generative propagation material, for example seedlings, tubers, rhizomes, cuttings and seeds.

The treatment of the plants and parts of plants according to the invention with the active compounds is carried out directly or by action on their environment, habitat or storage area according to customary treatment methods, for example by dipping, spraying, evaporating, atomizing, broadcasting, brushing on and, in the case of propagation material, in particular in the case of seeds, furthermore by one- or multilayer coating.

The synergistic effect of the active compound combinations according to the invention is particularly strongly pronounced at certain concentration ratios. However, the ratios by weight of the active compounds in the active compound combinations can be varied within relatively wide ranges. In general, from 0.01 to 1000 parts by weight, preferably from 0.05 to 500 parts by weight and particularly preferably from 0.1 to 100 parts by weight of one of the compounds of group 1 are present per part by weight of tritosulfuron.

The advantageous effect of the crop plant compatibility of the active compound combinations according to the invention is likewise particularly strongly pronounced at certain concentration ratios. However, the ratios by weight of the active compounds in
the active compound combinations can be varied within relatively wide ranges. In general, from 0.001 to 1000 parts by weight, preferably from 0.01 to 100 parts by weight and particularly preferably from 0.1 to 10 parts by weight of active compound of group 3 are present per part by weight of tritosulfuron or its mixtures with active compounds of group 1 and optionally with active compounds of group 2.

The active compound combinations can be converted into the customary formulations, such as solutions, emulsions, wettable powders, suspensions, powders, dusts, pastes, soluble powders, granules, suspo-emulsion concentrates, natural and synthetic substances impregnated with active compound, and very fine encapsulations in polymeric substances.

These formulations are produced in a known manner, for example by mixing the active compounds with extenders, that is liquid solvents and/or solid carriers, optionally with the use of surface-active agents, that is emulsifying agents and/or dispersing agents and/or foam-forming agents.

If the extender used is water it is also possible to use, for example, organic solvents as auxiliary solvents. Suitable liquid solvents are in the main: aromatics, such as xylene, toluene or alkynaphthalenes, chlorinated aromatics and chlorinated aliphatic hydrocarbons, such as chlorobenzenes, chloroethylenes or methylene chloride, aliphatic hydrocarbons, such as cyclohexane or paraffins, for example petroleum fractions, mineral and vegetable oils, alcohols, such as butanol or glycol as well as their ethers and esters, ketones, such as acetone, methyl ethyl ketone, methyl isobutyl ketone or cyclohexanone, strongly polar solvents, such as dimethylformamide and dimethyl sulphoxide, as well as water.

Suitable solid carriers are:

for example ammonium salts and ground natural minerals, such as kaolins, clays, talc, chalk, quartz, attapulgite, montmorillonite or diatomaceous earth, and ground synthetic
minerals, such as finely divided silica, alumina and silicates; suitable solid carriers for granules are: for example crushed and fractionated natural rocks such as calcite, marble, pumice, sepiolite and dolomite, as well as synthetic granules of inorganic and organic meals, and granules of organic material such as sawdust, coconut shells, maize cobs and tobacco stalks; suitable emulsifying and/or foam-forming agents are: for example nonionic and anionic emulsifiers, such as polyoxyethylene fatty acid esters, polyoxyethylene fatty alcohol ethers, for example alkylaryl polyglycol ethers, alkylsulphonates, alkyl sulphates, arylsulphonates as well as protein hydrolysates; suitable dispersing agents are: for example lignin-sulphite waste liquors and methylcellulose.

Tackifiers such as carboxymethylcellulose and natural and synthetic polymers in the form of powders, granules or latexes, such as gum arabic, polyvinyl alcohol and polyvinyl acetate, as well as natural phospholipids, such as cephalins and lecithins, and synthetic phospholipids, can be used in the formulations. Other possible additives are 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 dyestuffs, such as alizarin dyestuffs, azo dyestuffs and metal phthalocyanine dyestuffs, and trace nutrients such as salts of iron, manganese, boron, copper, cobalt, molybdenum and zinc.

The formulations in general comprise between 0.1 and 95 per cent by weight, preferably between 0.5 and 90%, of active compounds, including the safeners.

In general, the active compound combinations according to the invention are applied in the form of ready mixes. However, the active compounds which the active compound combinations comprise can also be formulated individually and mixed upon use, i.e. applied in the form of tank mixes.
The novel active compound combinations can be used as such or in the form of their formulations, and furthermore also as mixtures with other known herbicides, ready mixes or tank mixes again being possible. They may also be mixed with other known active compounds, such as fungicides, insecticides, acaricides, nematicides, bird repellents, growth substances, plant nutrients and agents which improve soil structure.

For particular application purposes, in particular when applied post-emergence, it may furthermore be advantageous to incorporate, in the formulations, mineral or vegetable oils which are tolerated by plants (for example the commercial product "Rako Binol") or ammonium salts such as, for example, ammonium sulphate or ammonium thiocyanate, as further additives.

The novel active compound combinations can be used as such, in the form of their formulations or in the use forms prepared therefrom by further dilution, such as ready-to-use solutions, suspensions, emulsions, powders, pastes and granules. They are used in the customary manner, for example by watering, spraying, atomizing, dusting or scattering.

The active compound combinations according to the invention can be applied before and after the plants have emerged, that is to say pre-emergence and post-emergence. They can also be incorporated into the soil before sowing.

A synergistic effect in herbicides is always present when the herbicidal activity of the active compound combination exceeds the activity of the active compounds when applied individually.


If \( X = \) \% damage by herbicide A at an application rate of \( p \) kg/ha

and \( Y = \) \% damage by herbicide B at an application rate of \( q \) kg/ha
and \( E = \) the expected damage of the herbicides A and B at application rates of p and q kg/ha,
then \( E = X + Y - (X \cdot Y/100). \)

If the actual damage exceeds the calculated value, then the activity of the combination is superadditive, i.e. a synergistic effect exists.

For a combination of three herbicides, the formula is:

\[
E = X + Y + Z - ((X \cdot Y + X \cdot Z + Y \cdot Z)/100) + (X \cdot Y \cdot Z/10,000),
\]

where

\( Z = \) % damage by herbicide C at an application rate of r kg/ha.
Use Examples

Customary formulations of the active compounds in question were used. Propoxycarbazone-sodium was used as 70 WG and tritosulfuron as 71.4 WG formulation. From the active compounds, an aqueous spray liquor containing 0.1% of the additive Renex-36 was prepared.

Example A

Post-emergence/greenhouse

Test plants are grown in a greenhouse under controlled conditions (temperature and light conditions). When the plants have reached a height of 5 to 15 cm, they are sprayed with the test solution. The concentration of the spray liquor is chosen such that the particular amounts of active compound desired are applied in 500 l of water/ha.

After the spray treatment, the plant containers are stored in a greenhouse at constant light and temperature conditions.

After about 3 weeks, the degree of damage to the crop plants is rated in % damage in comparison to the development of the untreated control.

The figures denote:

0 % = no damage (like untreated control)
100 % = total destruction/damage

Active compounds, application rates, test plants and results are shown in the tables below, where the abbreviations used in the tables have the following meanings:

a.i. = active ingredient = active compound
Table A-1

<table>
<thead>
<tr>
<th></th>
<th>Application rate g of ai/ha</th>
<th>Bromus secalinus observed</th>
<th>Bromus secalinus calculated*</th>
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<tbody>
<tr>
<td>propoxycarbazone-sodium</td>
<td>30</td>
<td>95</td>
<td></td>
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<tr>
<td>tritosulfuron</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>propoxycarbazone-sodium + tritosulfuron</td>
<td>30+15</td>
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<td>95</td>
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<td>30+8</td>
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Table A-2

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<th>Abutilon theophrasti observed</th>
<th>Abutilon theophrasti calculated*</th>
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<td>propoxycarbazone-sodium</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
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<tr>
<td>tritosulfuron</td>
<td>30</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>propoxycarbazone-sodium + tritosulfuron</td>
<td>30+30</td>
<td>80</td>
<td>52</td>
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<tr>
<td></td>
<td>15+30</td>
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<td>40</td>
</tr>
<tr>
<td></td>
<td>30+15</td>
<td>70</td>
<td>20</td>
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<td></td>
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<td>70</td>
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<tr>
<td>tritosulfuron</td>
<td>8</td>
<td>40</td>
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<td>propoxycarbazone-sodium + tritosulfuron</td>
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<th>Polco conudvulus observed</th>
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<tr>
<td>tritosulfuron</td>
<td>30</td>
<td>50</td>
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</tr>
<tr>
<td></td>
<td>8</td>
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<td></td>
</tr>
<tr>
<td>propoxycarbazone-sodium + tritosulfuron</td>
<td>30+30</td>
<td>80</td>
<td>50</td>
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### Table A-5

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<td>50</td>
<td>50</td>
</tr>
<tr>
<td>15</td>
<td>50</td>
<td></td>
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<tr>
<td>tritosulfuron</td>
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<td></td>
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<td>30</td>
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<tr>
<td>8</td>
<td>30</td>
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<tr>
<td>propoxycarbazone-sodium +  tritosulfuron</td>
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### Table A-6

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<td>20</td>
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<tr>
<td>tritosulfuron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>propoxycarbazone-sodium +  tritosulfuron</td>
<td></td>
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</tr>
<tr>
<td>30+8</td>
<td>100</td>
<td>60</td>
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Table A-7

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<tr>
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<th>Application rate g of ai/ha</th>
<th>Veronica persica observed</th>
<th>Veronica persica calculated*</th>
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<td>tritosulfuron</td>
<td>30</td>
<td>40</td>
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<td>propoxycarbazone-sodium</td>
<td>30+30</td>
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<td>52</td>
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<tr>
<td>+ tritosulfuron</td>
<td></td>
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5

Table A-8

<table>
<thead>
<tr>
<th></th>
<th>Application rate g of ai/ha</th>
<th>Viola arvensis observed</th>
<th>Viola arvensis calculated*</th>
</tr>
</thead>
<tbody>
<tr>
<td>propoxycarbazone-sodium</td>
<td>30</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>tritosulfuron</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>propoxycarbazone-sodium</td>
<td>30+15</td>
<td>95</td>
<td>60</td>
</tr>
<tr>
<td>+ tritosulfuron</td>
<td>15+15</td>
<td>70</td>
<td>30</td>
</tr>
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* values calculated by the method of Colby
Le A 34 105-Foreign Countries

- 30 -

Patent Claims

1. Herbicidal compositions, characterized in that they comprise a synergistically effective amount of an active compound combination consisting of

5

(a) tritosulfuron

and

10 (b) one or more compounds from a second group of herbicides consisting of the active compounds mentioned below:

(5-trifluoromethyl-1,3,4-thiadiazol-2-yl-oxy)-N-isopropyl-N-(4-fluorophenyl)-acetamide (flufenacet), 2-(2-methoxycarbonyl-phenylsulphonylamino-carbonyl)-4-methyl-5-n-propoxy-2,4-dihydro-3H-1,2,4-triazol-3-one or the sodium salt of this compound (propoxycarbazone(-sodium)), 2-(2-trifluoromethoxy-phenylsulphonylaminocarbonyl)-4-methyl-5-methoxy-2,4-dihydro-3H-1,2,4-triazol-3-one or the sodium salt of this compound (flucarbazone(-sodium)), N-(3,4-dichlorophenyl)propanamide (propanil), N-2-benzothiazolyl-N,N'-dimethylurea (methylenebthiazuron), 4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one (metribuzin), 4-(2-chlorophenyl)-N-cyclohexyl-N-ethyl-4,5-dihydro-5-oxo-1H-tetrazole-1-carboxamide (fentrazamide), 4-amino-3-methyl-6-phenyl-1,2,4-triazin-5(4H)-one (metamitron), 2-(2-benzothiazolyl)oxy)-N-methyl-N-phenylacetamide (mefenacet), 4-amino-6-(1,1-dimethylethyl)-3-(ethylthio)-1,2,4-triazin-5(4H)-one (ethiozin), 1-methylethyl 5-[4-bromo-1-methyl-5-(trifluoromethyl)-1H-pyrazol-3-yl]-2-chloro-4-fluorobenzoate (fluazolate)

("active compounds of group 1")

30

and optionally
(c) one or more compounds from a second group of herbicides which consists of the active compounds mentioned below:

2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methyl-phenyl)-acetamide (acetochlor), 5-(2-chloro-4-trifluoromethyl-phenoxy)-2-nitro-benzoic acid sodium salt (acifluorfen-sodium), 2-chloro-6-nitro-3-phenoxy-benzenamine (acloflufen), 2-chloro-N-(methoxymethyl)-N-(2,6-diethyl-phenyl)-acetamide (alachlor), N-ethyl-N'-i-propyl-6-methylthio-1,3,5-triazine-2,4-diamine (ametryn), 4-amino-N-(1,1-dimethyl-ethyl)-4,5-dihydro-3-(1-methyl-ethyl)-5-oxo-1H-1,2,4-triazole-1-carboxamide (amicarbazone), N-(4,6-dimethoxypyrimidin-2-yl)-N'- (N-methyl-N-methylsulphonyl-sulphamoyl)-urea (amidosulfuron), 1H-1,2,4-triazole-3-amine (amitrole), 6-chloro-4-ethylamino-2-isopropylamino-1,3,5-triazine (atrazine), 2-[2,4-dichloro-5-(2-propinyloxy)-phenyl]-5,6,7,8-tetrahydro-1,2,4-triazolo-[4,3-a]-pyridin-3(2H)-one (azafenidin), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'[-1-methyl-4-(2-methyl-2H-tetrazol-5-yl)-1H-pyrazol-5-ylsulphonyl]-urea (azimsulfuron), N-benzyl-2-(4-fluoro-3-trifluoromethyl-phenoxy)-butanamide (biflorbutamid), 4-chloro-2-oxo-3(2H)-benzothiazole-2-acetic acid (benazolin), N-butyl-N-ethyl-2,6-dinitro-4-trifluoromethyl-benzenamine (benfluralin), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-[(2-methoxycarbonyl-phenylmethyl)sulphonyl]-urea (bensulfuron), methyl 2-[2-[4-(3,6-dihydro-3-methyl-2,6-dioxo-4-trifluoromethyl-1(2H)-pyrimidinyloxy methyl)-5-ethyl-phenoxy-propanoate (benzfendizone), 3-(2-chloro-4-methylsulphonyl-benzoyl)-4-phenylthio-bicyclo-[3.2.1]-oct-3-en-2-one (benzobicyclon), ethyl N-benzoyl-N-(3,4-dichloro-phenyl)-DL-alaninate (benzyolprop-ethyl), 3-i-propyl-1H-2,1,3-benzothiadiazin-4(3H)-one (bentazone), methyl 5-(2,4-dichloro-phenoxy)-2-nitro-benzoate (bifenox), 2,6-bis-(4,6-dimethoxy pyrimidin-2-ylox)-benzoic acid sodium salt (bispypribac-sodium), 2-bromo-3,3-dimethyl-N-(1-methyl-1-phenyl-ethyl)-butanamide (bromobutide), 3,5-dibromo-4-hydroxy-benzaldehyde O-(2,4-dinitro-phenyl) oxime (bromofenoxim), 3,5-dibromo-4-hydroxy-benzonitrile (bromoxynil), N-butoxymethyl-2-
chloro-N-(2,6-diethyl-phenyl)-acetamide (butachlor), [1,1-dimethyl-2-oxo-2-(2-propenyoxy)]-ethyl 2-chloro-5-(3,6-dihydro-3-methyl,2,6-dioxo-4-trifluoromethyl-1(2H)-pyrimidinyl)-benzoate (butafenacil-allyl), 2-(1-ethoximino-propyl)-3-hydroxy-5-[2,4,6-trimethyl-3-(1-oxo-butyl)-phenyl]-2-cyclohexen-1-one (butroxydim), S-ethyl bis-(2-methyl-propyl)-thiocarbamate (butylate), N,N-diethyl-3-(2,4,6-trimethyl-phenylsulphonyl)-1H-1,2,4-triazole-1-carboxamide (cafenstrole), 2-[1-[(3-chloro-2-propenyl)-oxy-imino]-propyl]-3-hydroxy-5-(tetrahydro-2H-pyran-4-yl)-2-cyclohexen-1-one (caloxydim, tepraloxydim), 2-(4-chloro-2-fluoro-5-(2-chloro-2-ethoxycarbonyl-ethyl)-phenyl)-4-difluoromethyl-5-methyl,2,4-dihydro-3H-1,2,4-triazol-3-one (carfentrazone-ethyl), 2,4-dichloro-1-(3-methoxy-4-nitro-phenoxy)-benzene (chlomethoxyfen), 3-amino,2,5-dichlorobenzoic acid (chloramben), N-(4-chloro-6-methoxy-pyrimidin-2-yl)-N'-{(2-ethoxycarbonyl-phenylsulphonyl)-urea (chlorimuron-ethyl), 1,3,5-trichloro-2-(4-nitro-phenoxy)-benzene (chlor-nitrofen), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-{(2-chloro-phenyl-sulphonyl)-urea (chorsulfuron), N'-{(3-chloro-4-methyl-phenyl)-N,N-dimethyl-urea (chlorotoluuron), ethyl 2-chloro-3-[2-chloro-5-(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoodindol-2-yl)-phenyl]-2-propanoate (cinidon-ethyl), N-(4,6-dimethoxy-1,3,5-triazin-2-yl)-N'(2-(2-methoxy-ethoxy)-phenylsulphonyl)-urea (cinosulfuron), 2-[1-2-(4-chloro-phenoxy)-propoximinobutyl]-5-(tetrahydro-2H-thiopyran-3-yl)-1,3-cyclohexanedione (clefoxydim), (E,E)-(+)2-[1-[(3-chloro-2-propenyl)-oxy]-imino]-propyl]-3-hydroxy-2-cyclohexen-1-one (clethodim), 2-propynyl (R)-2-[4-(5-chloro-3-fluoro-pyridin-2-yl-oxy)-phenoxy-propanoate (clodinafop-propargyl), 3,6-dichloro-pyridine-2-carboxylic acid (clopyparald), methyl 3-chloro-2-[(5-ethoxy-7-fluoro[1,2,4]triazolo[1,5-c]-pyrimidin-2-yl-sulphonyl]-amino]-benzoate (cloransulam-methyl), 2-chloro-4-ethylamino-6-(1-cyano-1-methyl-ethylamino)-1,3,5-triazine (cyanazine), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'(2-cyclopropylcarbonyl-phenylsulphonyl)-urea (cyclosulfamuron), 2-(1-ethoximinoobutyl)-3-hydroxy-5-(tetrahydro-2H-thiopyran-3-yl)-2-cyclohexen-1-one (cycloxydim), butyl (R)-2-[4-(4-cyano-2-fluoro-phenoxy)-phenoxy]-propanoate (cyhalofop-butyl), 2,4-Dichloro-
phenoxycetic acid (2,4-D), 3,6-dichloro-2-methoxy-benzoic acid (dicamba),
(R)-2-(2,4-dichloro-phenoxy)-propanoic acid (dichlorprop-P), methyl 2-[4-(2,4-dichloro-phenoxy)-phenoxy]-propanoate (diclofop-methyl), N-(2,6-dichloro-phenyl)-5-ethoxy-7-fluoro-[1,2,4]-triazolo-[1,5-c]-pyrimidine-2-sulphonamide (dicosulam), 1,2-dimethyl-3,5-diphenyl-1H-pyrazolium methyl sulphate (difenoquat), N-(2,4-difluoro-phenyl)-2-(3-trifluoromethyl-phenoxy)-pyridine-3-carboxamide (diflufenican), 2-[1-[(3,5-difluoromethyl)-
amino-carbonyl-hydrazono]-ethyl]pyridine-3-carboxylic acid (diflufenzopyr),
S-(1-methyl-1-phenyl-ethyl) 1-piperidine carbothioate (dimepiperate), (S-) 2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methyl-ethyl)-acetamide
((S-) (dimethenamid), 2-amino-4-(1-fluoro-1-methyl-ethyl)-6-(1-methyl-2-(3,5-dimethyl-phenoxy)-ethylenamino)-1,3,5-triazine (dimexyflam), N3,N3-
diethyl-2,4-dinitro-6-trifluoromethyl-1,3-diamino-benzene (dinitramine), 6,7-
dihydro-dipyrido[1,2-a:2',1'-c]pyrazinediium (diquat), S,S-dimethyl-2-
difluoromethyl-4-i-butyl-6-trifluoromethyl-pyridine 3,5-dicarbothioate (di-
 thiopyr), N'-[(3,4-dichloro-phenyl)-N,N-dimethyl-urea (diuron), 2-[2-(3-chloro-phenyl)-oxiranymethyl]-2-ethyl-1H-indene-1,3(2H)-dione (epropodan),
S-ethyl dipropylthiocarbamate (EPTC), S-(phenylmethyl) N-ethyl-N-(1,2-
dimethyl-propyl)-thiocarbamate (esprocarb), N-ethyl-N-(2-methyl-2-
propenyl)-2,6-dinitro-4-trifluoromethyl-benzanmine (ethalfluralin), (2-
ethoxy-1-methyl-2-oxoethyl) (S)-2-chloro-5-(2-chloro-4-trifluoromethyl-phenoxy)-
benzoate (ethoxyfen), N-(4,6-dimethoxy-pyrimidin-2-y1)-N'-(2-ethoxy-phen-
oxysulphonyl)-urea (ethoxysulfuron), ethyl (R)-2-[4-(6-chloro-benzoxazol-2-
yl-ox)-phenoxy]-propanoate (fenoxaprop-(P)-ethyl), 4-(2-chloro-phenyl)-N-
cyclohexyl-N-ethyl-4,5-dihydro-5-oxo-1H-tetrazole-1-carboxamide (fentraz-
amide), isopropyl N-benzoyl-N-(3-chloro-4-fluoro-phenyl)-DL-alanine
(flamprop-isopropyl), isopropyl N-benzoyl-N-(3-chloro-4-fluoro-phenyl)-L-
alanine (flamprop-isopropyl-L), methyl N-benzoyl-N-(3-chloro-4-fluoro-
phenoxy)-DL-alanine (flamprop-methyl), N-(2,6-difluoro-phenyl)-8-fluoro-
5-methoxy-[1,2,4]-triazolo-[1,5-c]-pyrimidine-2-sulphonamide (florasulam),
butyl (R)-2-[4-(5-trifluoromethyl-pyridin-2-yl-oxo)-phenoxy]-propanoate (flu-
azifop, -butyl, -P-butyl), i-propyl 5-(4-bromo-1-methyl-5-trifluoromethyl-1H-pyrazol-3-yl)-2-chloro-4-fluoro-benzoate (fluazolate), 4,5-dihydro-3-methoxy-4-methyl-5-oxo-N-[(2-trifluoromethoxy-phenyl)-sulphonyl]-1H-1,2,4-triazole-1-carboxamide sodium salt (flucarbazone-sodium), N-(4-fluoro-phenyl)-N-i-propyl-2-(5-trifluoromethyl-1,3,4-thiadiazol-2-yl-oxy)-acetamide (flufenacet), N-(2,6-difluoro-phenyl)-5-methyl-1,2,4-triazolo[1,5-a]pyrimidine-2-sulphonamide (flumetsulam), pentyl [2-chloro-4-fluoro-5-(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)-phenoxy]-acetate (flumiclorac-pentyl), 2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propinyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3-dione (flumioxazin), 2-[4-chloro-2-fluoro-5-[(1-methyl-2-propinyl)-oxy]-phenyl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione (flumipropyn), 3-chloro-4-chloromethyl-1-(3-trifluoromethyl-phenyl)-2-pyrroolidinone (fluorochloridone), ethoxy carbonylmethyl 5-(2-chloro-4-trifluoromethyl-phenoxo)-2-nitro-benzoate (fluoroglycofen-ethyl), 1-(4-chloro-3-(2,2,3,3,3-pentafluoro-propoxymethyl)-phenyl)-5-phenyl-1H-1,2,4-triazole-3-carboxamide (fluopaxam), 1-isopropyl-2-chloro-5-(3,6-dihydro-3-methyl-2,6-dioxo-4-trifluoromethyl-1(2H)-pyrimidyl)-benzoate (flupropacil), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(3-methoxycarbonyl-6-trifluoromethyl-pyridin-2-yl-sulphonyl)-urea sodium salt (flupyrsulfuron-methyl-sodium), 9-hydroxy-9H-fluorene-9-carboxylic acid (flurenol), (2-butoxy-1-methyl-ethyl, 1-methyl-heptyl) (4-amino-3,5-dichloro-6-fluoro-pyridin-2-yl-oxy)-acetate (fluroxypyr, -butoxypropyl, -meptyl), 5-methylamino-2-phenyl-4-(3-trifluoromethyl-phenyl)-3(2H)-furanone (flurtamone), methyl [[(2-chloro-4-fluoro-5-[(tetrahydro-3-oxo-1H,3H-[1,3,4]-thiadiazolo-[3,4-a]-pyridazin-1-ylidene)-amino-phenyl]-thio-acetate (fluthiacet-methyl), 5-(2-chloro-4-trifluoromethyl-phenoxo)-N-methylsulphonyl-2-nitro-benzoamide (fomesafen), 2-[[[(4,6-dimethoxy-2-pyrimidinyl)-amino]-carbonyl]-amino]-sulphonyl]-4-formylamino-N,N-dimethyl-benzoamide (foramsulfuron), 2-amino-4-(hydroxymethylphosphinyl)-butanoic acid (ammonium salt) (glufosinate (-ammonium)), N-phosphonomethyl-glycine (isopropylammonium salt), (glyphosate, (-isopropylammonium)), (methyl, 2-ethoxy-ethyl, butyl)
(R)-2-[4-(3-chloro-5-trifluoromethyl-pyridin-2-yl-oxy)-phenoxy]-propanoate (haloxyfop, -methyl, -P-methyl, -ethoxyethyl, -butyl), 3-cyclohexyl-6-dimethylamino-1-methyl-1,3,5-triazine-2,4(1H,3H)-dione (hexazinone), methyl 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-4-methylbenzoate (imazamethabenz-methyl), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-5-methyl-pyridine-3-carboxylic acid (imazamethapyr), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-5-methoxymethylpyridine-3-carboxylic acid (imazamox), 2-(4,5-dihydro-4-methyl-4-isopropyl-5-oxo-1H-imidazol-2-yl)-quinoline-3-carboxylic acid (imazaquin), 2-(4,5-dihydro-4-methyl-4-i-propyl-5-oxo-1H-imidazol-2-yl)-5-ethyl-pyridine-3-carboxylic acid (imazethapyr), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-[(2-chloro-imidazo[1,2-a]pyridin-3-yl-sulphonyl)-urea (imazosulphuron), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(5-iodo-2-methoxycarbonyl-phenyl-sulphonyl)-urea sodium salt (idosulfururon-methyl-sodium), 4-hydroxy-3,5-diido-benzonitrile (ioxynil), N,N-dimethyl-N'-(4-isopropyl-phenyl)-urea (isoproturon), N-(3-(1-ethyl-1-methyl-propyl)-isoxazol-5-yl)-2,6-dimethoxy-benzamide (isoxaben), (4-chloro-2-methylsulphonyl-phenyl)-(5-cyclopropyl-isoxazol-4-yl)-methanone (isoxachlor), (5-cyclopropyl-isoxazol-4-yl)-(2-methylsulphonyl-4-trifluoromethyl-phenyl)-methanone (isoxaflutole), 2-[2-[4-[(3,5-dichloro-2-pyridinyl)-oxy]-phenoxy]-1-oxo-propyl]-isoxazolidine (isoxapyrifop), 2-ethoxy-1-methyl-2-oxo-ethyl 5-(2-chloro-4-trifluoromethyl-phenoxy)-2-nitro-benzoate (lactofen), N'-(3,4-dichloro-phenyl)-N-methoxy-N-methyl-urea (linuron), (4-chloro-2-methylphenoxy)-acetic acid (MCFA), 2-(4-chloro-2-methylphenoxy)-propionic acid (mecoprop), 2-(2-benzothiazolyl-oxo)-N-methyl-N-phenyl-acetamide (mefenacet), 2-(4-methylsulphonyl-2-nitro-benzoyle)-1,3-cyclohexanedione (mesotrione), 4-amino-3-methyl-6-phenyl-1,2,4-triazin-5(4H)-one (metamitron), 2-chloro-N-(2,6-dimethyl-phenyl)-N-(1H-pyrazol-1-yl-methyl)-acetamide (metazachlor), N'-(4-(3,4-dihydro-2-methoxy-2,4,4-trimethyl-2H-1-benzopyran-7-yl-oxy)-phenyl)-N-methoxy-N-methyl-urea (metobenzuron), N'-(4-bromo-phenyl)-N-methoxy-N-methylurea (metobromuron), (S)-2-chloro-N-(2-ethyl-
6-methyl-phenyl)-N-(2-methoxy-1-methyl-ethyl)-acetamide (metolachlor, S-metolachlor), N-(2,6-dichloro-3-methyl-phenyl)-5,7-dimethoxy-1,2,4-triazolo[1,5-a]-pyrimidine-2-sulphonamide (metosulam), N'-((3-chloro-4-methoxy-phenyl)-N,N-dimethyl-urea (metoxuron), 4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (metribuzin), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-methoxycarbonyl-phenylsulphonyl)-urea (metsulfuron-methyl), S-ethyl hexahydro-1H-azepine 1-carbothioate (molate), (2-(2-naphthoxy)-N-phenyl-propanamide (naproanilide), N-butyl-N'-(3,4-dichloro-phenyl)-N-methyl-urea (neburon), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(3-dimethylcarbamoyl-pyridin-2-yl-sulphonyl)-urea (nicosulfuron), S-(2-chloro-benzyl) N,N-diethyl-thiocarbamate (orbencarb), 4-dipropylamino-3,5-dinitro-benzenesulphonamide (oryzalin), 3-[2,4-dichloro-5-(2-propionyloxy)-phenyl]-5-(t-butyl)-1,3,4-oxadiazo1-2(3H)-one (oxadiargyl), 3-[2,4-dichloro-5-(1-methyl-ethoxy)-phenyl]-5-(t-butyl)-1,3,4-oxadiazo1-2(3H)-one (oxadiazon), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(2-octan-3-yl-oxycarbonyl-phenylsulphonyl)-urea (oxasulfuron), 3-[1-(3,5-dichloro-phenyl)-1-isopropy1]-2,3-dihydro-6-methyl-5-phenyl-4H-1,3-oxazin-4-one (oxaziclo-mefone), 2-chloro-1-(3-ethoxy-4-nitro-phenoxy)-4-trifluoromethyl-benzene (oxyfluorfen), 1,1'-dimethyl-4,4'-bipyridinium (paraquat), 1-amino-N-(1-ethyl-propyl)-3,4-dimethyl-2,6-dinitro-benzene (pendimethalin), 4-(t-butyl)-N-(1-ethyl-propyl)-2,6-dinitro-benzenamine (pendralin), 4-amino-3,5,6-trichloro-pyridine-2-carboxylic acid (picloram), 2-chloro-N-(2,6-diyethylphenyl)-N-(2-propoxy-ethyl)-acetamide (pretilachlor), N-(4,6-bis-difluoromethoxy-pyrimidin-2-yl)-N'-(2-methoxycarbonyl-phenylsulphonyl)-urea (primisulfuron-methyl), 1-chloro-N-[2-chloro-4-fluoro-5-[(6S,7aR)-6-fluorotetrahydro-1,3-dioxo-1H-pyrrrolo[1,2-c]imidazol-2(3H)-yl]-phenyl]-methanesulphonamide (profluazol), 2-chloro-N-isopropyl-N-phenyl-acetamide (propachlor), N-(3,4-dichloro-phenyl)-propanamide (propanil), (R)[2-[[1-methyl-ethylidene-amino]-oxy]-ethyl]-2-[4-(6-chloro-2-quinoxalinoxy)-phenoxy]-propanoate (propaquizafop), 2-chloro-N-(2-ethyl-6-methyl-phenyl)-N-[1-methyl-ethoxy]-methyl]-acetamide (propisochlor), methyl 2-[[4,5-dihydro-
4-methyl-5-oxo-3-propoxy-1H-1,2,4-triazol-1-yl]-carbonyl]-amino]-
4-sulphonyl]-benzoate sodium salt (propoxycarbazone-sodium), S-phenyl-
methyl N,N-dipropyl-thiocarbamate (prosulfocarb), N-(4-methoxy-6-methyl-
1,3,5-triazin-2-yl)-N'-(2-(3,3,3-trifluoro-propyl)-phenylsulphonyl)-urea (pro-
sulfuron), ethyl [2-chloro-5-(4-chloro-5-difluoromethoxy-1-methyl-1H-
pyrazol-3-yl)-4-fluoro-phenoxy]-acetate (pyraflufen-ethyl), 1-(3-chloro-
4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyridin-2-yl)-5-(methyl-2-propynylamino)-
1H-pyrazole-4-carbonitrile (pyrazogyl), 4-(2,4-dichloro-benzoyl)-1,3-di-
methyl-5-(4-methyl-phenylsulphonyloxy)-pyrazole (pyrazolate), 4-(2,4-di-
chloro-benzoyl)-1,3-dimethyl-5-(phenylcarbonylmethoxy)-pyrazole (pyra-
oxifen), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(4-ethoxycarbonyl-1-methyl-
pyrazol-5-yl-sulphonyl)-urea (pyrazosulfuron-ethyl), diphenylmethanone O-
[2,6-bis-(4,6-dimethoxy-pyrimidin-2-yl-oxy)-benzoyl] oxime (pyribenzoxim),
6-chloro-3-phenyl-4-pyridazinone (pyridafol), O-(6-chloro-3-phenyl-pyrid-
azin-4-yl) S-octyl thiocarbonate (pyridate), 6-chloro-3-phenyl-pyridazin-4-ol 
(pyridatol), 7-[(4,6-dimethoxy-2-pyrimidinyl)-thio]-3-methyl-1(3H)-iso-
benzofuranone (pyrivaltalid, methyl 2-(4,6-dimethoxy-pyrimidin-2-yl-oxy)-
benzoate (pyriminobac-methyl), 2-chloro-6-(4,6-dimethoxy-pyrimidin-2-yl-thio)-benzoic acid sodium salt (pyrithiobac-sodium), 3,7-dichloro-quinoline-
8-carboxylic acid (quinchlorac), 7-chloro-3-methyl-quinoline-8-carboxylic 
acid (quinmerac), (ethyl, tetrahydro-2-furanyl-methyl) 2-[4-(6-chloro-2-quin-
oxalinyloxy)-phenoxy]-propanoate (quizalofop, -ethyl, -P-ethyl, -P-tefuryl),
N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(3-ethylsulphonyl-pyridin-2-yl-
sulphonyl)-urea (rimsulfuron), 2-(1-ethoximinobutyl)-5-(2-ethyliodopropyl)-3-
hydroxy-2-cyclohexen-1-one (sethoxydim), 6-chloro-2,4-bis-ethylamino-
1,3,5-triazine (simazine), 2-(2-chloro-4-methylsulphonyl-benzoyl)-cyclo-
hexane-1,3-dione (sulcotrione), 2-(2,4-dichloro-5-methylsulphonylaminophenyl)-4-difluoromethyl-5-methyl-2,4-dihydro-3H-1,2,4-triazol-3-one 
(sulfentrazone), N-phosphonomethyl-glycine-trimethylsulphonium (sulfo-
sate), N-(4,6-dimethoxy-pyrimidin-2-yl)-N'-(2-ethylsulphonyl-imidazo[1,2-
a]pyridin-3-yl)sulphonamide (sulfosulfuron), 6-chloro-4-ethylamino-2-tert-
butylamino-1,3,5-triazine (terbuthylazine), 2-tert-butylamino-4-ethylamino-6-
methylthio-1,3,5-triazine (terbutryn), 2-chloro-N-(2,6-dimethyl-phenyl)-N-(3-
methoxy-2-thienyl-methyl)-acetamide (thenylchlor), methyl 2-difluoromethyl-
5-(4,5-dihydro-thiazol-2-yl)-4-(2-methyl-propyl)-6-trifluoromethyl-pyridine-
3-carboxylate (thiazopyr), 6-(6,7-dihydro-6,6-dimethyl-3H,5H-pyrrolo[2,1-
c]-1,2,4-thiadiazol-3-ylideneamino)-7-fluoro-4-(2-propyl)-2H-1,4-benz-
oxazin-3(4H)-one (thidiazimin), N-(4-methoxy-6-methyl-1,3,5-triazin-2-
yl)-N'-(2-methoxycarbonyl-thien-3-yl-sulphonyl)-urea (thifensuluron-
methyl), 2-(ethoximino-propyl)-3-hydroxy-5-(2,4,6-trimethyl-phenyl)-2-
cyclohexen-1-one (tralkoxydim), S-(2,3,3-trichloro-2-propenyl) diisopropyl-
carbamothioate (triallate), N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-
(2-chloro-ethoxy)-phenylsulphonyl)-urea (triasulfuron), N-methyl-N-(4-
methoxy-6-methyl-1,3,5-triazin-2-yl)-N'-(2-methoxycarbonyl-phenyl-
sulfonyl)-urea (tribenuron-methyl), (3,5,6-trichloro)-pyridin-2-yl-oxy-acetic
acid (triclopyr), 2-(3,5-dichloro-phenyl)-2-(2,2,2-trichloro-ethyl)-oxirane (tri-
diphane), N-[[4,6-dimethoxy-2-pyrimidinyl]-amino]-carbonyl]-3-(2,2,2-
trifluoro-ethoxy)-2-pyridinesulphonamide sodium salt (trifloxsulfonur),
1-amino-2,6-dinitro-N,N-dipropyl-4-trifluoromethyl-benzene (trifluralin), N-
[4-dimethylamino-6-(2,2,2-trifluoro-ethoxy)-1,3,5-triazin-2-yl]-N'-(2-methoxy-
carbonyl-phenylsulphonyl)-urea (trifluran-sulphon-methyl), N-[[4,6-dimethoxy-2-
pyrimidinyl]-amino]-carbonyl]-3-(N-methyl-N-methylsulphonyl-amino)-2-
pyridinesulphonamide (cf. WO-A-92/10660), methyl 2-[[[4,6-dimethoxy-2-
pyrimidinyl]-amino]-carbonyl]-amino]-sulphonyl]-4-[[methylsulphonyl]-
amino)methyl]-benzoate (cf. DE-A-4335297), 4-[4,5-dihydro-4-methyl-5-
azo-(3-trifluoromethyl)-1H,1,2,4-triazol-1-yl]-2-[[ethysulphonylamino]-5-
fluoro-benzene-carbothioamide (cf. WO-A-95/30661)

("active compounds of group 2"),

and/or optionally
(d) a compound which improves crop plant compatibility, from the group of compounds below:

4-dichloroacetyl-1-oxa-4-aza-spiro[4.5]-decane (AD-67), 1-dichloroacetyl-hexahydro-3,3,8a-trimethylpyrrolo[1,2-a]-pyrimidin-6(2H)-one (BAS-145138),
4-dichloroacetyl-3,4-dihydro-3-methyl-2H-1,4-benzoxazine (benoxacor), 1-methyl-hexyl 5-chloro-quinoxalin-8-oxy-acetic acid (cloquintocet-mexyl), α-(cyanomethoximino)-phenylacetonitrile (cyometrinil), 2,4-dichlorophenoxy-acetic acid (2,4-D), 2,2-dichloro-N-(2-oxo-2-(2-propenylamino)-ethyl)-N-(2-propenyl)acetamide (DKA-24), 2,2-dichloro-N,N-di-2-propenyl-acetamide (dichlormid), N-(4-methyl-phenyl)-N'-(1-methyl-1-phenyl-ethyl)-urea (dymron), 4,6-dichloro-2-phenyl-pyrimidine (fenclorim), ethyl 1-(2,4-dichlorophenyl)-5-trichloromethyl-1H-1,2,4-triazole-3-carboxylate (fenchlorazol-ethyl), phenylmethyl 2-chloro-4-trifluoromethyl-thiazole-5-carboxylate (fluralazole), 4-chloro-N-(1,3-dioxolan-2-yl-methoxy)-α-trifluoro-acetophenone oxime (fluxofenim), 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine (furilazole, MON-13900), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazole-carboxylate (isoxadifen-ethyl), (4-chloro-2-methyl-phenoxy)-acetic acid (MCPA), (+)-2-(4-chloro-2-methylphenoxy)propanoic acid (mecoprop), di-ethyl-1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-dicarboxylate (mefenpyr-diethyl), 2-dichloromethyl-2-methyl-1,3-dioxolane (MG-191), 1,8-naphthalic anhydride, α-(1,3-dioxolan-2-yl-methoximino)-phenylacetonitrile (oxabetrinil), 2,2-dichloro-N-(1,3-dioxolan-2-yl-methyl)-N-(2-propenyl)-acetamide (PPG-1292) and 3-dichloroacetyl-2,2,5-trimethyl-oxazolidine (R-29148)

("active compounds of group 3").

2. Herbicidal compositions according to Claim 1, characterized in that, as active compound of group 3, they comprise at least one compound which improves crop plant compatibility, from the following groups of compounds:
1-methylhexyl 5-chloro-quinoxalin-8-oxy-acetate (cloquintocet), ethyl 1-(2,4-dichloro-phenyl)-5-trichloromethyl-1H-1,2,4-triazole-3-carboxylate (fenchlorazol-ethyl), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazolecarboxylate (isoxadifen-ethyl), diethyl 1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-dicarboxylate (mefenpyr-diethyl) and 2,4-dichlorophenoxyacetic acid (2,4-D) and its derivatives.

3. Use of a composition according to Claim 1 or 2 for controlling undesirable plants.

4. Method for controlling undesirable plants, characterized in that compositions according to Claim 1 or 2 are allowed to act on the undesirable plants and/or their habitat.

5. Process for preparing a herbicidal composition, characterized in that a composition according to Claim 1 or 2 is mixed with surfactants and/or extenders.

Fetherstonhaugh & Co.
Ottawa, Canada
Patent Agents