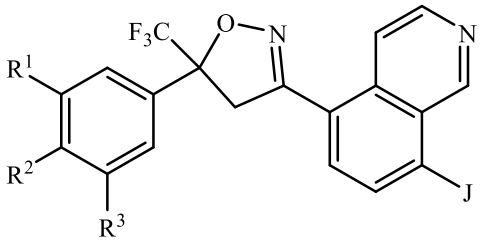
~~What is claimed is:~~The claims defining the invention are as follows:

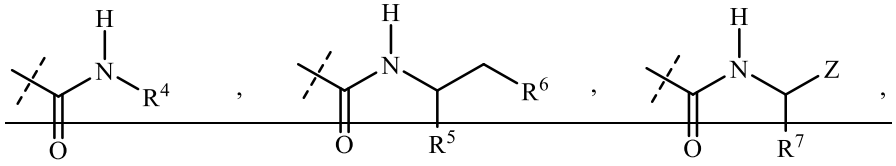
1. A compound selected from Formula **1**,



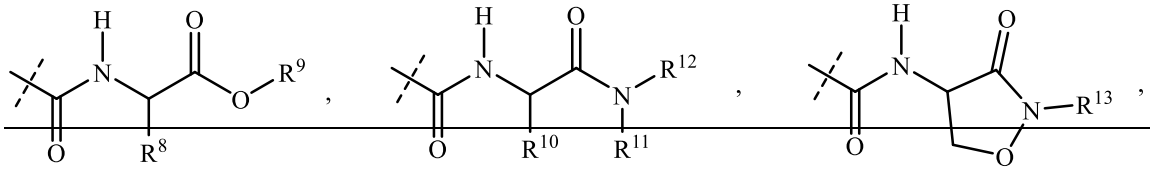
1

wherein

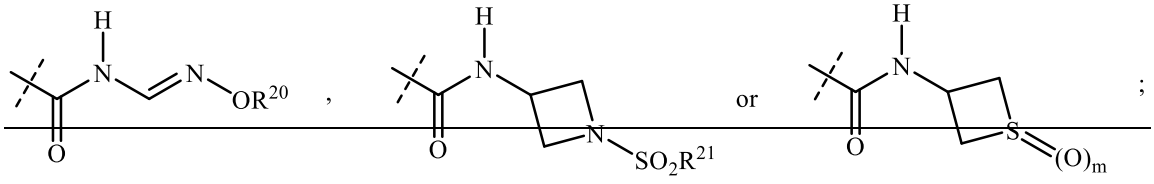
J is



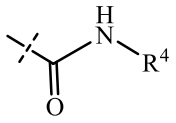
J-1 J-2 J-3



J-4 J-5 J-6



J-7 J-8 J-9



J-1

R^1 is H, Cl or CF_3;

R^2 is H, F or Cl;

R^3 is H, Cl or CF_3;

R^4 is c-Pr or CH_2-c-Pr; ~~C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkenyl, C_4-C_8 alkylcycloalkyl or C_4-C_8 cycloalkylalkyl,~~ each ~~unsubstituted or substituted with substituents independently selected from halogen, cyano and CO_2R^{18};~~

~~R^5 is H or C_1-C_4 alkyl;~~

~~R^6 is OR^{14} or $S(O)_nR^{15}$;~~

~~R^7 is H or C_1-C_4 alkyl;~~

~~R^8 is H or C_1-C_4 alkyl;~~

~~R^9 is H; or C_1-C_4 alkyl, unsubstituted or substituted with substituents independently selected from halogen, cyano, OR^{16}, $S(O)_nR^{17}$ and CO_2R^{18};~~

~~R^{10} is H or C_1-C_4 alkyl;~~

~~R^{11} is H or C_1-C_4 alkyl;~~

~~R^{12} is H; or C_1-C_4 alkyl, unsubstituted or substituted with substituents independently selected from halogen, cyano, OR^{16}, $S(O)_nR^{17}$ and CO_2R^{18};~~

~~R^{13} is H, C_1-C_4 alkyl or C_1-C_4 haloalkyl;~~

~~R^{14} is C_1-C_4 alkyl;~~

~~R^{15} is H, C_1-C_4 alkyl or C_1-C_4 haloalkyl;~~

~~each R^{16} is independently C_1-C_4 alkyl or C_1-C_4 haloalkyl;~~

~~each R^{17} is independently C_1-C_4 alkyl or C_1-C_4 haloalkyl;~~

~~each R^{18} is independently C_1-C_4 alkyl or C_1-C_4 haloalkyl;~~

~~Z is pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl or tetrahydrofuranyl, each unsubstituted or substituted with R^{19};~~

~~each R^{19} is independently halogen, cyano, nitro, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 haloalkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 haloalkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylsulfonyl, C_2-C_5 alkoxycarbonyl, C_2-C_5 alkylaminocarbonyl and C_3-C_5~~

~~dialkylaminocarbonyl;~~

~~R^{20} is H, C_1-C_4 alkyl or C_1-C_4 haloalkyl;~~

~~R^{21} is fluoro, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, amino or C_1-C_6 alkylamino;~~

~~m is 0, 1 or 2; and~~

~~each n is independently 0, 1 or 2;~~

provided that

(i) when J is J-1, R^1 is Cl, R^2 is H and R^3 is Cl, then R^4 is other than ~~$-CH_2CH_3$~~, ~~CH_2CF_3~~ or $-CH_2$(cyclopropyl);

~~(ii) when J is J-3, R^1 is Cl, R^2 is H, R^3 is Cl and R^7 is H, then Z is other than 2-pyridinyl; and~~

~~(iii) when J is J-5, R^1 is Cl, R^2 is H, R^3 is Cl, and R^{10} and R^{11} are H, then R^{12} is other than $-CH_2CF_3$.~~

(iv) when R^1 is H, then R^3 is other than H; and when R^3 is H, then R^1 is other than H.

2. The Compound of claim 1 wherein R^1 is H, Cl or CF_3, R^2 is H or F, and R^3 is Cl or CF_3.

3. The Compound of claim 1 or 2 wherein R^1 is H or Cl, R^2 is H or F, and R^3 is Cl or CF3.

4. The Compound of any one of claims 1 to 3 wherein R^1 is H or Cl, R^2 is H or F, and R^3 is CF3.

~~5. The Compound of any one of claims 1 to 4 wherein J **is J-1, J-2 or J-3**.~~

~~6. The Compound of any one of claims 1 to 5 wherein J is J-1.~~

~~7. The Compound of any one of claims 1 to 6 wherein R^4 is C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkenyl, C_4-C_8 alkylcycloalkyl.~~

8. ~~The Compound of claim 7 wherein R^4 is c-Pr or CH_2-c-Pr.~~

~~9. The Compound of claim 7 or 8 wherein R^4 is substituted with substituents independently selected from halogen, cyano and CO_2R^{18}.~~

~~10. The Compound of any one of claims 1 to 5 wherein J is J-3.~~

~~11. The Compound of any one of claims 1 to 5, and 10 wherein R^7 is H or Me.~~

~~12. The compound of any one of claims 1 to 5, and 10 to 11 wherein Z is 2-pyridinyl or 2-pyrimidinyl.~~

~~13~~.5. The Compound of claim 1 wherein the Compound is at least one selected from ~~5-[5-(3,5-dichloro-4-fluorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-(1,1-dimethylethyl)-8-~~isoquinolinecarboxamide (Compound 2), N-(cyclopropylmethyl)-5-[5-(3,5-dichloro-4-fluorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 3), ~~5-[5-(3,5-dichloro-4-fluorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-(2-pyrimidinylmethyl)-8-isoquinolinecarboxamide (Compound 4)~~, N-cyclopropyl-5-[5-(3,5-dichloro-4-fluorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 23), 5-[5-[3-chloro-5-(trifluoromethyl)phenyl]-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-(cyclopropylmethyl)-8-isoquinolinecarboxamide (Compound 36), N-cyclopropyl-5-[4,5-dihydro-5-(trifluoromethyl)-5-[3-(trifluoromethyl)phenyl]-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 16), N-(cyclopropylmethyl)-5-[4,5-dihydro-5-(trifluoromethyl)-5-[3-(trifluoromethyl)phenyl]-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 17), ~~N-(cyclopropylmethyl)-5-[5-[4-fluoro-3-(trifluoromethyl)phenyl]-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-8-isoquinolinecarboxamide~~ (Compound 58), 5-[5-[3-chloro-5-(trifluoromethyl)phenyl]-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-cyclopropyl-8-isoquinolinecarboxamide (Compound 35), ~~5-[5-[4-fluoro-3-(trifluoromethyl)phenyl]-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-2-propyn-1-yl-8-isoquinolinecarboxamide~~ (Compound 74), ~~5-[5-(3,5-dichloro-4-fluorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-ethyl-8-isoquinolinecarboxamide~~

(Compound 46), ~~5-[5-(3,5-dichloro-4-fluorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-2-propyn-1-yl-8-isoquinolinecarboxamide~~ (Compound 48), N-cyclopropyl-5-[5-(3,5-dichlorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 70), N-cyclopropyl-5-[5-[4-fluoro-3-(trifluoromethyl)phenyl]-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 55), S-N-cyclopropyl-5-[5-(3,5-dichloro-4-fluorophenyl)-4,5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 82), and S-N-(cyclopropylmethyl)-5-[4,5-dihydro-5-(trifluoromethyl)-5-[3-(trifluoromethyl)phenyl]-3-isoxazolyl]-8-isoquinolinecarboxamide (Compound 99).

~~14~~.6. A composition comprising a compound of any one of claims 1-5~~13~~ and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents, said composition optionally further comprising at least one additional biologically active compound or agent.

~~15~~.7. The composition of Claim ~~14~~6 wherein the at least one additional biologically active compound or agent is selected from insecticides, fungicides, bactericides, nematocides, and herbicides.

~~16~~.8. The composition of Claim 6 or 7 ~~14 or 15~~ wherein the at least one additional biologically active compound or agent is selected from abamectin, acephate, acequinocyl, acetamiprid, acrinathrin, acynonapyr, afidopyropen ([(3*S*,4*R*,4a*R*,6*S*,6a*S*,12*R*,12a*S*,12b*S*)-3-[(cyclopropylcarbonyl)oxy]-1,3,4,4a,5,6,6a,12,12a,12b-decahydro-6,12-dihydroxy-4,6a,12b-trimethyl-11-oxo-9-(3-pyridinyl)-2*H*,11*H*-naphtho[2,1-*b*]pyrano[3,4-

e]pyran-4-yl]methyl cyclopropanecarboxylate), amidoflumet, amitraz, avermectin, azadirachtin, azinphos-methyl, benfuracarb, bensultap, benzpyrimoxan, bifenthrin, kappa-bifenthrin, bifenazate, bistrifluron, borate, broflanilide, buprofezin, cadusafos, carbaryl, carbofuran, cartap, carzol, chlorantraniliprole, chlorfenapyr, chlorfluazuron, chloroprallethrin, chlorpyrifos, chlorpyrifos-e, chlorpyrifos-methyl, chromafenozide, clofentezin, chloroprallethrin, clothianidin, cyantraniliprole (3-bromo-1-(3-chloro-2-pyridinyl)-*N*-[4-cyano-2-methyl-6-[(methylamino)carbonyl]phenyl]-1*H*-pyrazole-5-carboxamide), cyclaniliprole (3-bromo-*N*-[2-bromo-4-chloro-6-[[(1-cyclopropylethyl)amino]carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-1*H*-pyrazole-5-carboxamide), cycloprothrin, cycloxaprid ((5*S*,8*R*)-1-[(6-chloro-3-pyridinyl)methyl]-2,3,5,6,7,8-hexahydro-9-nitro-5,8-Epoxy-1*H*-imidazo[1,2-*a*]azepine), cyenopyrafen, cyflumetofen, cyfluthrin, beta-cyfluthrin, cyhalodiamide, cyhalothrin, gamma-cyhalothrin, lambda-cyhalothrin, cypermethrin, alpha-cypermethrin, zeta-cypermethrin, cyromazine, deltamethrin, diafenthiuron, diazinon, dicloromezotiaz, dieldrin, diflubenzuron, dimefluthrin, dimehypo, dimethoate, dimpropyridaz, dinotefuran, diofenolan, emamectin, emamectin benzoate, endosulfan, esfenvalerate, ethiprole, etofenprox, epsilon-metofluthrin, etoxazole, fenbutatin oxide, fenitrothion, fenothiocarb, fenoxycarb, fenpropathrin, fenvalerate, fipronil, flometoquin (2-ethyl-3,7-dimethyl-6-[4-(trifluoromethoxy)phenoxy]-4-quinolinyl methyl carbonate), flonicamid, fluazaindolizine, flubendiamide, flucythrinate, flufenerim, flufenoxuron, flufenoxystrobin (methyl (α*E*)-2-[[2-chloro-4-(trifluoromethyl)phenoxy]methyl]-α-(methoxymethylene)benzeneacetate), fluensulfone (5-chloro-2-[(3,4,4-trifluoro-3-buten-1-yl)sulfonyl]thiazole), fluhexafon, fluopyram, flupiprole (1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-5-[(2-methyl-2-propen-1-yl)amino]-4-[(trifluoromethyl)sulfinyl]-1*H*-pyrazole-3-carbonitrile), flupyradifurone (4-[[(6-chloro-3-pyridinyl)methyl](2,2-difluoroethyl)amino]-2(5*H*)-furanone), flupyrimin, fluvalinate, tau-fluvalinate, fluxametamide, fonophos, formetanate, fosthiazate, gamma-cyhalothrin, halofenozide, heptafluthrin ([2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl]methyl 2,2-dimethyl-3-[(1*Z*)-3,3,3-trifluoro-1-propen-1-yl]cyclopropanecarboxylate), hexaflumuron, hexythiazox, hydramethylnon, imidacloprid, indoxacarb, insecticidal soaps, isofenphos, isocycloseram, kappa-tefluthrin, lambda-cyhalothrin, lufenuron, malathion, meperfluthrin ([2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl]methyl (1*R*,3*S*)-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate), metaflumizone, metaldehyde, methamidophos, methidathion, methiocarb, methomyl, methoprene, methoxychlor, metofluthrin, methoxyfenozide, epsilon-metofluthrin, epsilon-momfluorothrin, monocrotophos,

monofluorothrin ([2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl]methyl 3-(2-cyano-1-propen-1-yl)-2,2-dimethylcyclopropanecarboxylate), nicotine, nitenpyram, nithiazine, novaluron, noviflumuron, oxamyl, oxazosulfyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, profluthrin, propargite, protrifenbute, pyflubumide (1,3,5-trimethyl-*N*-(2-methyl-1-oxopropyl)-*N*-[3-(2-methylpropyl)-4-[2,2,2-trifluoro-1-methoxy-1-(trifluoromethyl)ethyl]phenyl]-1*H*-pyrazole-4-carboxamide), pymetrozine, pyrafluprole, pyrethrin, pyridaben, pyridalyl, pyrifluquinazon, pyriminostrobin (methyl (α*E*)-2-[[[2-[(2,4-dichlorophenyl)amino]-6-(trifluoromethyl)-4-pyrimidinyl]oxy]methyl]-α-(methoxymethylene)benzeneacetate), pydiflumetofen, pyriprole, pyriproxyfen, rotenone, ryanodine, silafluofen, spinetoram, spinosad, spirodiclofen, spiromesifen, spiropidion, spirotetramat, sulprofos, sulfoxaflor (*N*-[methyloxido[1-[6-(trifluoromethyl)-3-pyridinyl]ethyl]-λ^4-sulfanylidene]cyanamide), tebufenozide, tebufenpyrad, teflubenzuron, tefluthrin, kappa-tefluthrin, terbufos, tetrachlorantraniliprole, tetrachlorvinphos, tetramethrin, tetramethylfluthrin ([2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl]methyl 2,2,3,3-tetramethylcyclopropanecarboxylate), tetraniliprole, thiacloprid, thiamethoxam, thiodicarb, thiosultap-sodium, tioxazafen (3-phenyl-5-(2-thienyl)-1,2,4-oxadiazole), tolfenpyrad, tralomethrin, triazamate, trichlorfon, triflumezopyrim (2,4-dioxo-1-(5-pyrimidinylmethyl)-3-[3-(trifluoromethyl)phenyl]-2*H*-pyrido[1,2-*a*]pyrimidinium inner salt), triflumuron, tyclopyrazoflor, zeta-cypermethrin, *Bacillus thuringiensis* delta-endotoxins, entomopathogenic bacteria, entomopathogenic viruses, and entomopathogenic fungi.

~~17~~.9. The composition of Claim 6 ~~Claim 3~~ wherein the at least one additional biologically active compound or agent is selected from cyantraniliprole, acetamiprid, imidacloprid, spirotetramat, chlorantraniliprole, bifenthrin, indoxacarb, avermectin, *Bacillus* spp. and any active crystal proteins, buprofezin, carbofuran, chlorfenapyr, chlorpyrifos, clothianidin, cyromazine, diafenthiuron, dinotefuran, emamectin benzoate, fipronil, flonicamid, fluhexafon, flupyradifurone, methomyl, methoxyfenozide, novaluron, permethrin, pyriproxifen, sulfoxaflor, thiamethoxam, γ-cyhalothrin, or ζ-cypermethrin, broflanilide, dimpropyridaz, isocycloseram, tetrachlorantraniliprole, oxazosulfyl, tyclopyrazoflor, flupyrimin, spiropidion, acynonapyr, benzpyrimoxan, chloroprallethrin, epsilon-metofluthrin, kappa-bifenthrin, dicloromezotiaz, and kappa-tefluthrin.

~~18~~.10. A liquid or dry formulation comprising the compound or composition of any one of claims 1-~~17~~9 for use in a drip irrigation system, furrow during planting, handheld sprayer, backpack sprayer, boom sprayer, ground sprayer, aerial application, unmanned aerial vehicle, or a seed treatment.

~~19~~.11. A method for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biologically effective amount of a compound, composition or formulation of any one of claims 1-5, with the proviso that the method is not a method of treatment of the human or animal body~~1- 18~~.

~~20~~.12 A treated seed comprising a compound of Claim 1 in an amount of from ~~about~~ 0.0001 to 1 % by weight of the seed before treatment.