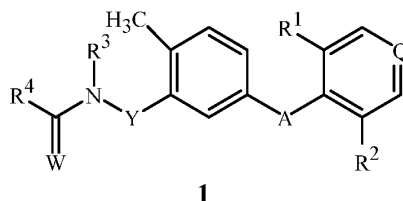


CLAIMS

What is claimed is:

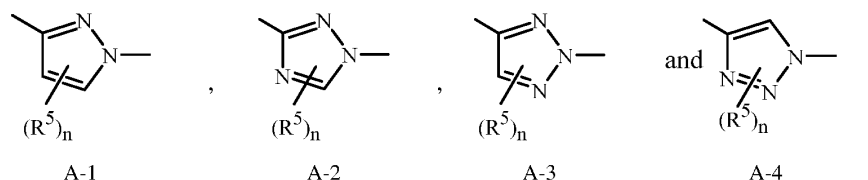
1. A fungicidal composition comprising:

- (a) at least one compound selected from the compounds of Formula 1 (including all stereoisomers), *N*-oxides, and salts thereof,



wherein

A is a radical selected from the group consisting of



wherein the bond extending to the right is attached to the ring containing Q and the bond extending to the left is attached to the phenyl ring bearing the Y-N(R³)C(=O)R⁴ substituent;

Q is CR⁶ or N;

Y is CR^{7a}R^{7b}, O or NR⁸;

W is O or S;

- R¹ and R² are each independently halogen, cyano, hydroxy, nitro, amino, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₂-C₆ alkenyl, C₂-C₆ haloalkenyl, C₂-C₆ alkynyl, C₂-C₆ haloalkynyl, C₂-C₆ cyanoalkyl, C₃-C₆ cycloalkyl, C₃-C₆ halocycloalkyl, C₄-C₈ cycloalkylalkyl, C₂-C₆ alkoxyalkyl, C₁-C₆ alkoxy, C₁-C₆ haloalkoxy, C₂-C₆ alkenyloxy, C₂-C₆ haloalkenyloxy, C₂-C₆ alkynyloxy, C₂-C₆ haloalkynyloxy, C₂-C₆ cyanoalkoxy, C₃-C₆ cycloalkoxy, C₄-C₈ cycloalkylalkoxy, C₂-C₆ alkoxyalkoxy, C₁-C₆ alkylthio, C₁-C₆ haloalkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ haloalkylsulfinyl, C₁-C₆ alkylsulfonyl or C₁-C₆ haloalkylsulfonyl;

R³ is H, C₁-C₃ alkyl, C₁-C₃ haloalkyl, cyclopropyl, C₂-C₄ alkylcarbonyl, C₂-C₄ haloalkylcarbonyl, C₂-C₄ alkoxy carbonyl or C₂-C₄ haloalkoxy carbonyl;

- R⁴ is C₁-C₃ alkyl, C₁-C₃ haloalkyl, C₁-C₃ alkoxy, C₁-C₃ haloalkoxy, C₁-C₃ alkylamino or C₂-C₄ dialkylamino;

each R⁵ is independently halogen, cyano, C₁-C₃ alkyl, C₁-C₃ haloalkyl, C₁-C₃ alkoxy or C₁-C₃ haloalkoxy;

n is 0, 1 or 2;

- R^6 is H, halogen, cyano, hydroxy, nitro, amino, 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_2 - C_6 cyanoalkyl, C_1 - C_6 hydroxyalkyl, C_2 - C_6 alkoxyalkyl, C_1 - C_6 alkoxy, C_1 - C_6 haloalkoxy, C_2 - C_6 alkenyloxy, C_2 - C_6 haloalkenyloxy, C_2 - C_6 alkynyloxy, C_2 - C_6 haloalkynyloxy, C_2 - C_6 cyanoalkoxy, C_2 - C_6 alkoxyalkoxy, C_1 - C_6 alkylamino, C_1 - C_6 haloalkylamino, C_2 - C_6 dialkylamino, C_1 - C_6 alkylthio, C_1 - C_6 haloalkylthio, C_1 - C_6 alkylsulfinyl, C_1 - C_6 haloalkylsulfinyl, C_1 - C_6 alkylsulfonyl, C_1 - C_6 haloalkylsulfonyl, $-ZC(=O)V$, $CR^{10a}=NOR^{10b}$, $ON=CR^{11a}R^{11b}$, $CR^{12a}=NNR^{12b}R^{12c}$ or $-L-J$;
- R^{7a} is H, hydroxy, halogen, cyano, C_1 - C_3 alkyl, C_1 - C_3 haloalkyl, C_2 - C_3 alkoxyalkyl, C_1 - C_3 alkoxy, C_1 - C_3 haloalkoxy, C_1 - C_3 alkylsulfinyl or C_1 - C_3 alkylsulfonyl; R^{7b} is H, C_1 - C_3 alkyl, C_1 - C_3 haloalkyl, C_2 - C_3 alkoxyalkyl, C_1 - C_3 alkoxy or C_1 - C_3 haloalkoxy; R^8 is H, C_1 - C_3 alkyl, C_1 - C_3 haloalkyl, C_2 - C_3 alkylcarbonyl or C_2 - C_3 haloalkylcarbonyl;
- Z is a direct bond, O, S or NH; or CH_2 optionally substituted with up to 2 substituents independently selected from halogen, methyl or methoxy; V is R^9 or OR^9 ; R^9 , R^{10b} , R^{11a} and R^{12c} are each H, C_1 - C_3 alkyl, C_1 - C_3 haloalkyl, C_2 - C_4 alkenyl, C_2 - C_4 haloalkenyl, C_2 - C_4 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_6 halocycloalkyl or C_4 - C_8 cycloalkylalkyl; R^{10a} , R^{11b} , R^{12a} and R^{12b} are each independently H, C_1 - C_3 alkyl or C_1 - C_3 haloalkyl; L is a direct bond, CH_2 , O, S, NR^{13} , OCH_2 , CH_2O , $C(=O)$, $S(=O)$ or $S(=O)_2$; J is a 3- to 6-membered nonaromatic carbocyclic ring, wherein up to 3 carbon atom ring members are independently selected from $C(=O)$ and $C(=S)$, each ring optionally substituted with up to 4 substituents independently selected from R^{14} ; or J is a 3- to 6-membered heterocyclic ring, each ring containing ring members selected from carbon atoms and 1 to 4 heteroatoms independently selected from up to 2 O, up to 2 S and up to 4 N atoms, wherein up to 3 carbon atom ring members are independently selected from $C(=O)$ and $C(=S)$, each ring optionally substituted with up to 4 substituents independently selected from R^{14} ; R^{13} is H, C_1 - C_3 alkyl, C_1 - C_3 haloalkyl, C_2 - C_3 alkylcarbonyl or C_2 - C_3 haloalkylcarbonyl; each R^{14} is independently halogen, hydroxy, cyano, nitro, C_1 - C_4 alkyl, C_1 - C_4 haloalkyl, C_2 - C_4 alkenyl, C_2 - C_4 haloalkenyl, C_1 - C_4 alkoxy, C_1 - C_4 haloalkoxy or $C(=O)OR^{15}$; and

each R¹⁵ is independently H, C₁-C₃ alkyl, C₁-C₃ haloalkyl, C₂-C₄ alkenyl, C₂-C₄ haloalkenyl, C₂-C₄ alkynyl, C₃-C₆ cycloalkyl or C₃-C₆ halocycloalkyl; and

(b) at least one additional fungicidal compound.

2. The composition of Claim 1 wherein component (a) comprises a compound of Formula 1 or salt thereof, wherein

A is A-1, A-3 or A-4;

Q is CR⁶;

Y is CR^{7a}R^{7b};

W is O;

R¹ and R² are each independently halogen, cyano, C₁-C₃ alkyl, C₁-C₃ haloalkyl, C₂-C₄ alkoxyalkyl, C₁-C₃ alkoxy, C₁-C₃ haloalkoxy, C₂-C₄ alkenyloxy, C₂-C₄ haloalkenyloxy, C₂-C₄ alkoxyalkoxy or C₁-C₃ alkylthio;

R³ is H, methyl, methylcarbonyl or methoxycarbonyl;

R⁴ is methyl, methoxy, ethoxy, methylamino or dimethylamino;

each R⁵ is independently halogen or methyl;

R⁶ is H, halogen, cyano, nitro, amino, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₂-C₆ alkenyl, C₂-C₆ haloalkenyl, C₂-C₆ alkynyl, C₂-C₆ haloalkynyl, C₂-C₆ alkoxyalkyl, C₁-C₆ alkoxy, C₁-C₆ haloalkoxy, C₂-C₆ alkenyloxy, C₂-C₆ haloalkenyloxy, C₂-C₆ alkynyloxy, C₂-C₆ haloalkynyloxy, C₂-C₆ alkoxyalkoxy, C₁-C₆ alkylthio, C₁-C₆ haloalkylthio,

-ZC(=O)V, CR^{10a}=NOR^{10b}, CR^{12a}=NNR^{12b}R^{12c} or -L-J;

R^{7a} is H, halogen, methyl or methoxy;

R^{7b} is H or methyl;

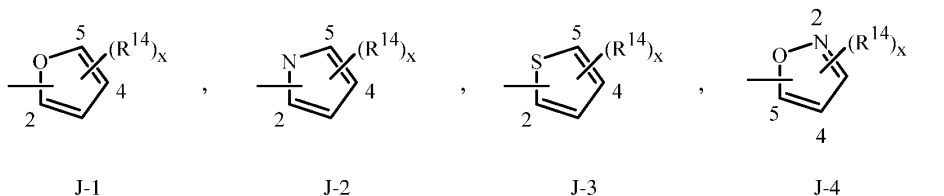
Z is a direct bond, O, NH, CH₂ or CH(OCH₃);

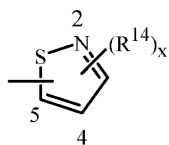
R⁹, R^{10b} and R^{12c} are each H, C₁-C₃ alkyl, C₁-C₃ haloalkyl, C₂-C₄ alkenyl or C₂-C₄ haloalkenyl;

R^{10a}, R^{12a} and R^{12b} are each independently H, methyl or halomethyl;

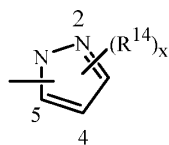
L is a direct bond, CH₂, O, OCH₂ or CH₂O;

J is selected from J-1 through J-71

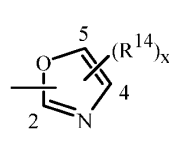




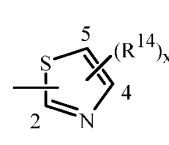
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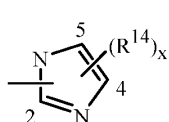
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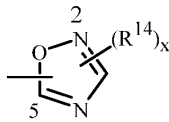
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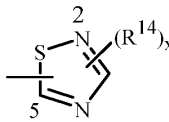
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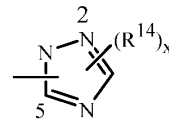
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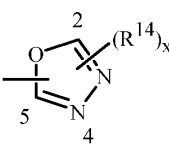
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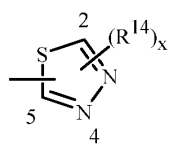
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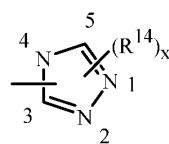
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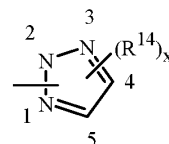
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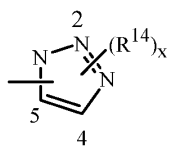
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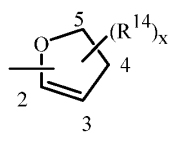
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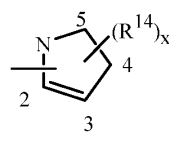
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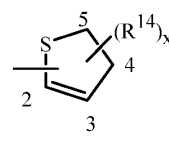
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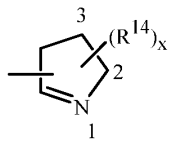
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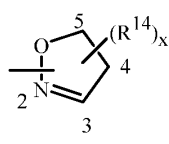
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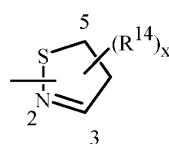
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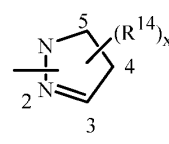
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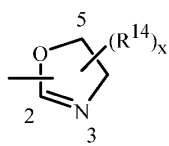
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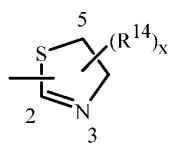
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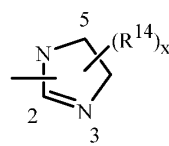
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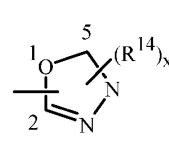
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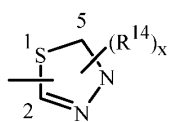
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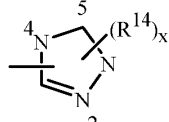
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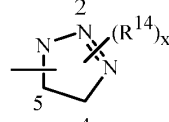
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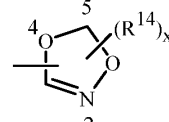
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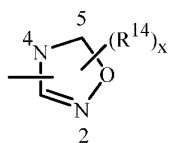
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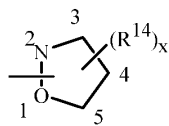
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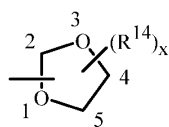
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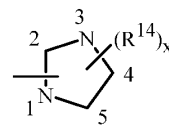
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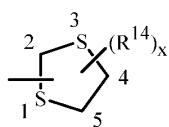
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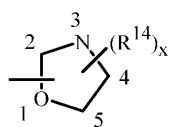
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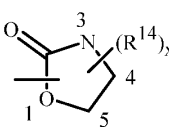
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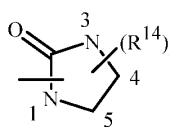
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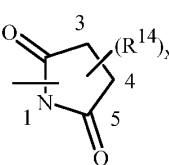
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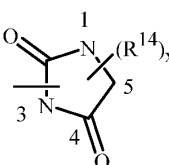
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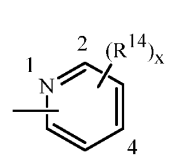
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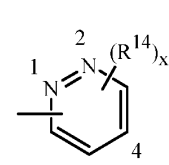
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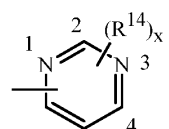
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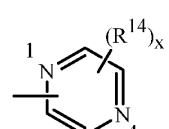
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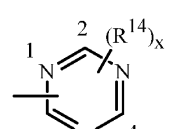
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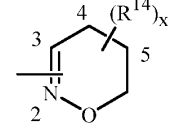
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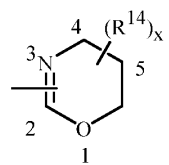
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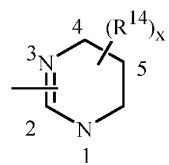
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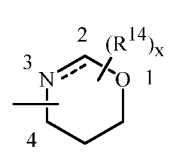
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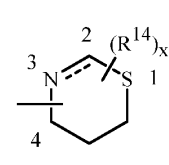
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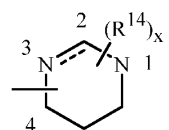
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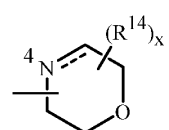
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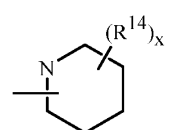
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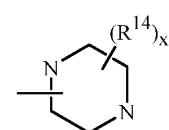
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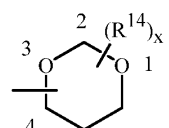
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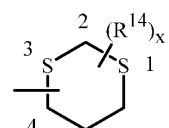
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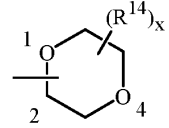
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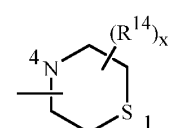
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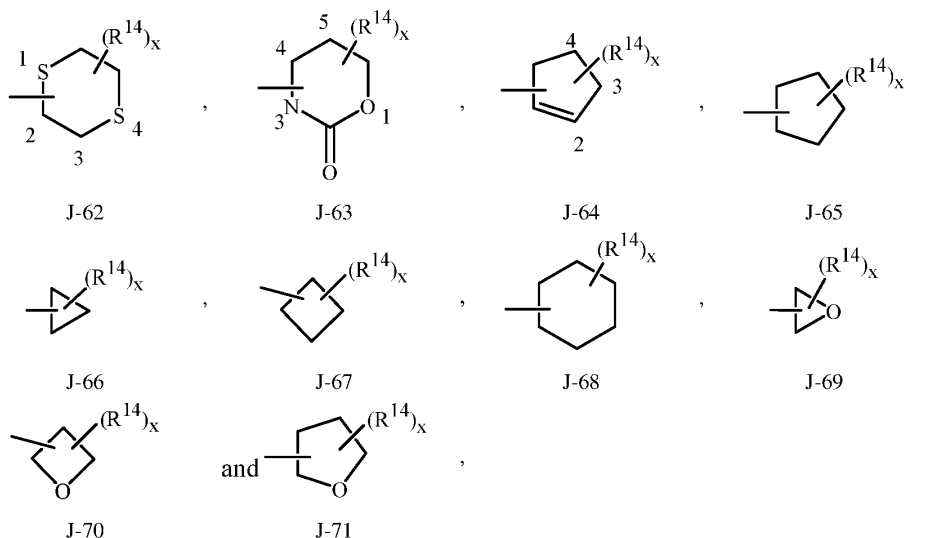
J-59



J-60



J-61



wherein the floating bond is connected to L through any available carbon or nitrogen atom of the depicted ring; and x is 0, 1, 2 or 3;
 each R^{14} is independently halogen, methyl, methoxy or $C(=O)OR^{15}$; and
 each R^{15} is independently C_1 - C_3 alkyl, C_1 - C_3 haloalkyl or cyclopropyl.

- 5 3. The composition of Claim 2 wherein component (a) comprises a compound of Formula 1 or salt thereof, wherein
- A is A-1;
- R^1 and R^2 are each independently Br, Cl, F, methyl, trifluoromethyl, methoxy or trifluoromethoxy;
- 10 R^3 is H or methyl;
- R^4 is methyl, methoxy or ethoxy;
- each R^5 is methyl;
- R^6 is H, halogen, cyano, C_1 - C_3 alkyl, C_1 - C_3 haloalkyl, C_1 - C_3 alkoxy, C_1 - C_3 haloalkoxy, C_2 - C_4 alkenyloxy, C_2 - C_4 haloalkenyloxy, C_2 - C_4 alkynyloxy,
- 15 $CR^{10a}=NOR^{10b}$ or -L-J;
- R^{7a} is H or methyl;
- R^{10b} is H, methyl, ethyl or C_2 - C_4 alkenyl;
- R^{10a} is H or methyl;
- L is direct bond or O;
- 20 J is J-53, J-58, J-59, J-60, J-65, J-66, J-67 or J-68; and
- each R^{14} is independently halogen or methyl.
4. The composition of Claim 3 wherein component (a) comprises a compound of Formula 1 or salt thereof, wherein
- R^1 and R^2 are each independently Cl or F;

- R^3 is H;
 R^4 is methoxy;
 n is 0;
 R^6 is Br, Cl, methyl, *i*-propyl, CHF_2 , trifluoromethyl, methoxy, ethoxy, *i*-propyloxy,
 5 trifluoromethoxy, $\text{OCH}_2\text{C}\equiv\text{CH}$, $\text{C}(\text{Me})=\text{NOCH}_3$ or -L-J;
 R^{7a} is H;
 R^{7b} is H;
 L is a direct bond; and
 J is J-58, J-66 or J-67.
- 10 5. The composition of Claim 4 wherein component (a) comprises a compound of Formula 1 or salt thereof, wherein
 R^1 and R^2 are each F;
 R^6 is Br, Cl, methyl, *i*-propyl, CHF_2 , trifluoromethyl, *i*-propyloxy, $\text{C}(\text{CH}_3)=\text{NOCH}_3$
 or -L-J;
 15 J is J-66;
 x is 0, 1 or 2; and
 R^{14} is Br, Cl, F or methyl.
- 20 6. The composition of Claim 5 wherein component (a) comprises a compound of Formula 1 or salt thereof, wherein
 R^6 is Cl, *i*-propyl, trifluoromethyl or -L-J; and
 x is 0.
7. The composition of Claim 1 wherein component (a) comprises a compound selected from the group consisting of
 methyl *N*-[[5-[1-(2,6-difluoro-4-nitrophenyl)-1*H*-pyrazol-3-yl]-2-methyl-phenyl]methyl]carbamate;
 methyl *N*-[[5-[1-(2,6-difluoro-4-methoxyphenyl)-1*H*-pyrazol-3-yl]-2-methyl-phenyl]methyl]carbamate;
 methyl *N*-[[5-[1-(2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]-methyl]carbamate;
 methyl *N*-[[5-[1-(4-amino-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methyl-phenyl]methyl]carbamate;
 methyl *N*-[[5-[1-(4-chloro-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methyl-phenyl]methyl]carbamate;
 methyl *N*-[[5-[1-(4-bromo-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methyl-phenyl]methyl]carbamate;
 methyl *N*-[[5-[1-(2,6-difluoro-4-iodophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(2,6-difluoro-4-hydroxyphenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(4-ethoxy-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-(cyclobutyloxy)-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[2,6-difluoro-4-(1-methylethoxy)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-(difluoromethoxy)-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[2,6-difluoro-4-(2-propyn-1-yloxy)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(2,6-difluoro-4-methoxyphenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(4-cyclopropyl-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-[(1,1-dimethylethyl)thio]-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-[(difluoromethyl)thio]-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(4-ethynyl-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[2,6-difluoro-4-(1-methylethyl)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[2,6-difluoro-4-(trifluoromethyl)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(2,6-dichloro-4-cyclopropylphenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-(cyclopropyloxy)-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(2,6-difluoro-4-formylphenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(4-acetyl-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl 3,5-difluoro-4-[3-[3-[[[(methoxycarbonyl)amino]methyl]-4-methylphenyl]-1*H*-pyrazol-1-yl]benzoate;

methyl *N*-[[5-[1-[2,6-difluoro-4-(hydroxymethyl)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[2,6-difluoro-4-(trifluoromethoxy)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl (*E*)-*N*-[[5-[1-[2,6-difluoro-4-[1-(methoxyimino)ethyl]phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-(difluoromethyl)-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-(2,2-difluorocyclopropyl)-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-[(1,1-dimethylethoxy)-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl (*Z*)-*N*-[[5-[1-[2,6-difluoro-4-[1-(methoxyimino)ethyl]phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[2-[2,6-difluoro-4-(1-methylethyl)phenyl]-2*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[2-[2,6-difluoro-4-methylphenyl]-2*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[2-[4-cyclopropyl-2,6-difluorophenyl]-2*H*-1,2,3-triazol-4-yl]-2-methylbenzyl]carbamate;

methyl *N*-[[5-[2-(4-amino-2,6-difluorophenyl)-2*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[2-(4-chloro-2,6-difluorophenyl)-2*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[2-(2,6-difluoro-4-nitrophenyl)-2*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(4-chloro-2,6-difluorophenyl)-1*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(4-amino-2,6-difluorophenyl)-1*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-(2,6-difluoro-4-nitrophenyl)-1*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[4-(1,3-dioxan-2-yl)-2,6-difluorophenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl *N*-[[5-[1-[2,6-dichloro-4-(1,1-dimethylethyl)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;

methyl (*E*)-*N*-[[5-[2-[2,6-difluoro-4-[1-(methoxyimino)ethyl]phenyl]-2*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate; and

methyl *N*-[[5-[2-[2,6-difluoro-4-(1-methylpropyl)phenyl]-2*H*-1,2,3-triazol-4-yl]-2-methylphenyl]methyl]carbamate.

8. The composition of Claim 7 wherein component (a) comprises a compound selected from the group consisting of

methyl *N*-[[5-[1-(4-chloro-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;
methyl *N*-[[5-[1-(4-cyclopropyl-2,6-difluorophenyl)-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate;
methyl *N*-[[5-[1-[2,6-difluoro-4-(1-methylethyl)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate; and
methyl *N*-[[5-[1-[2,6-difluoro-4-(trifluoromethyl)phenyl]-1*H*-pyrazol-3-yl]-2-methylphenyl]methyl]carbamate.

9. The composition of any one of Claims 1 through 8 wherein component (b) includes at least one fungicidal compound selected from the group consisting of:

- 5 (b1) methyl benzimidazole carbamate (MBC) fungicides;
- (b2) dicarboximide fungicides;
- (b3) demethylation inhibitor (DMI) fungicides;
- (b4) phenylamide (PA) fungicides;
- (b5) amine/morpholine fungicides;
- 10 (b6) phospholipid biosynthesis inhibitor fungicides;
- (b7) succinate dehydrogenase inhibitor (SDHI) fungicides;
- (b8) hydroxy(2-amino)pyrimidine fungicides;
- (b9) anilinopyrimidine (AP) fungicides;
- (b10) *N*-phenyl carbamate fungicides;
- 15 (b11) quinone outside inhibitor (QoI) fungicides;
- (b12) phenylpyrrole (PP) fungicides;
- (b13) azanaphthalene fungicides;
- (b14) cell peroxidation inhibitor fungicides;
- (b15) melanin biosynthesis inhibitor-reductase (MBI-R) fungicides;
- 20 (b16a) melanin biosynthesis inhibitor-dehydratase (MBI-D) fungicides;
- (b16b) melanin biosynthesis inhibitor-polyketide synthase (MBI-P) fungicides;
- (b17) keto reductase inhibitor (KRI) fungicides;
- (b18) squalene-epoxidase inhibitor fungicides;
- (b19) polyoxin fungicides;
- 25 (b20) phenylurea fungicides;
- (b21) quinone inside inhibitor (QiI) fungicides;
- (b22) benzamide and thiazole carboxamide fungicides;
- (b23) enopyranuronic acid antibiotic fungicides;
- (b24) hexopyranosyl antibiotic fungicides;

- (b25) glucopyranosyl antibiotic: protein synthesis fungicides;
- (b26) glucopyranosyl antibiotic fungicides;
- (b27) cyanoacetamide-oxime fungicides;
- (b28) carbamate fungicides;
- 5 (b29) oxidative phosphorylation uncoupling fungicides;
- (b30) organo tin fungicides;
- (b31) carboxylic acid fungicides;
- (b32) heteroaromatic fungicides;
- (b33) phosphonate fungicides;
- 10 (b34) phthalamic acid fungicides;
- (b35) benzotriazine fungicides;
- (b36) benzene-sulfonamide fungicides;
- (b37) pyridazinone fungicides;
- (b38) thiophene-carboxamide fungicides;
- 15 (b39) complex I NADH oxidoreductase inhibitor fungicides;
- (b40) carboxylic acid amide (CAA) fungicides;
- (b41) tetracycline antibiotic fungicides;
- (b42) thiocarbamate fungicides;
- (b43) benzamide fungicides;
- 20 (b44) microbial fungicides;
- (b45) quinone outside inhibitor, stigmatellin binding (QoSI) fungicides;
- (b46) plant extract fungicides;
- (b47) cyanoacrylate fungicides;
- (b48) polyene fungicides;
- 25 (b49) oxysterol binding protein inhibitor (OSBPI) fungicides;
- (b50) aryl-phenyl-ketone fungicides;
- (b51) host plant defense induction fungicides;
- (b52) multi-site activity fungicides;
- (b53) biologicals with multiple modes of action;
- 30 (b54) fungicides other than fungicides of component (a) and components (b1) through (b53); and
- salts of compounds of (b1) through (b54).

10. The composition of Claim 9 wherein component (b) comprises at least one fungicidal compound from each of two different groups selected from (b1) through (b54).

- 35 11. The composition of any one of Claims 1 through 10 wherein component (b) includes at least one compound selected from acibenzolar-*S*-methyl, aldimorph, ametocetradin, amisulbrom, anilazine, azaconazole, azoxystrobin, benalaxyl, benalaxyl-M, benodanil,

- benomyl, benthiavalicarb, benthiavalicarb-isopropyl, bethoxazin, binapacryl, biphenyl, bitertanol, bixafen, blasticidin-S, boscalid, bromuconazole, bupirimate, carboxin, carpropamid, captafol, captan, carbendazim, chloroneb, chlorothalonil, chlozoline, clotrimazole, copper salts, cyazofamid, cyflufenamid, cymoxanil, cyproconazole, cyprodinil,
- 5 dichlofluanid, diclocymet, diclomezine, dicloran, diethofencarb, difenoconazole, diflumetorim, dimethirimol, dimethomorph, dimoxystrobin, diniconazole, diniconazole-M, dinocap, dithianon, dodemorph, dodine, edifenphos, enestroburin, epoxiconazole, ethaboxam, ethirimol, etridiazole, famoxadone, fenamidone, fenarimol, fenbuconazole, fenfuram, fenhexamid, fenoxanil, fenpiclonil, fenpropidin, fenpropimorph, fenpyrazamine,
- 10 fentin acetate, fentin chloride, fentin hydroxide, ferbam, ferimzone, fluazinam, fludioxonil, flumetover, flumorph, fluopicolide, fluopyram, fluoroimide, fluoxastrobin, fluquinconazole, flusilazole, flusulfamide, flutianil, flutolanil, flutriafol, fluxapyroxad, folpet, fosetyl-aluminum, fuberidazole, furalaxyl, furametpyr, hexaconazole, hymexazol, guazatine, imazalil, imibenconazole, iminoctadine, iodocarb, ipconazole, ipfentrifluconazole,
- 15 iprobenfos, iprodione, iprovalicarb, isoprothiolane, isopyrazam, isotianil, kasugamycin, kresoxim-methyl, mancozeb, mandipropamid, maneb, mepronil, meptyldinocap, metalaxyl, metalaxyl-M, metconazole, methasulfocarb, metiram, metominostrobin, mepanipyrim, metrafenone, myclobutanil, naftifine, neo-asozin (ferric methanearsonate), nuarimol, oethilnone, ofurace, orysastrobin, oxadixyl, oxolinic acid, oxpoconazole, oxycarboxin,
- 20 oxytetracycline, penconazole, pencycuron, penflufen, penthiopyrad, pefurazoate, phosphorous acid and salts thereof, phthalide, picoxystrobin, piperalin, polyoxin, probenazole, prochloraz, procymidone, propamocarb, propamocarb-hydrochloride, propiconazole, propineb, proquinazid, prothiocarb, prothioconazole, pydiflumetofen, pyraclostrobin, pyrametostrobin, pyraoxystrobin, pyrazophos, pyribencarb, pyributicarb,
- 25 pyrifenox, pyrimethanil, pyriofenone, pyrisoxazole, pyroquilon, pyrrolnitrin, quinomethionate, quinoxifen, quintozone, sedaxane, silthiofam, simeconazole, spiroxamine, streptomycin, sulfur, tebuconazole, tebufloquin, tecloftalam, tecnazene, terbinafine, tetraconazole, thiabendazole, thifluzamide, thiophanate, thiophanate-methyl, thiram, tiadinil, tolclofos-methyl, tolylfluanid, tolnifanide, triadimefon, triadimenol, triazoxide, tricyclazole, tridemorph, triflumizole, tricyclazole, trifloxystrobin, triforine, trimorphamide, triticonazole,
- 30 uniconazole, validamycin, valifenalate, vinclozolin, zineb, ziram, zoxamide, *N*'-[4-[4-chloro-3-(trifluoromethyl)phenoxy]-2,5-dimethylphenyl]-*N*-ethyl-*N*-methylmethanimidamide, 5-chloro-6-(2,4,6-trifluorophenyl)-7-(4-methylpiperidin-1-yl)[1,2,4]triazolo[1,5*a*]pyrimidine (DPX-BAS600F), *N*-[2-[4-[[3-(4-chlorophenyl)-2-propyn-1-yl]oxy]-3-methoxy-
- 35 phenyl]ethyl]-3-methyl-2-[(methylsulfonyl)amino]butanamide, *N*-[2-[4-[[3-(4-chlorophenyl)-2-propyn-1-yl]oxy]-3-methoxyphenyl]ethyl]-3-methyl-2-[(ethylsulfonyl)amino]-butanamide, 4-fluorophenyl *N*-[1-[[[1-(4-cyanophenyl)ethyl]sulfonyl]-

5 methyl]propyl]carbamate, α -(methoxyimino)-*N*-methyl-2-[[[1-[3-(trifluoro-methyl)phenyl]ethoxy]imino]methyl]benzeneacetamide, *N'*-[4-[4-chloro-3-(trifluoro-methyl)phenoxy]-2,5-dimethylphenyl]-*N*-ethyl-*N*-methylmethanimidamide, 2-[[[3-(2,6-dichlorophenyl)-1-methyl-2-propen-1-ylidene]amino]oxy]methyl]- α -(methoxyimino)-*N*-methylbenzeneacetamide and 1-[(2-propenylthio)carbonyl]-2-(1-methylethyl)-4-(2-methyl-phenyl)-5-amino-1*H*-pyrazol-3-one, 5-ethyl-6-octyl-[1,2,4]triazolo[1,5-*a*]pyrimidin-7-ylamine.

10 12. The composition of Claim 11 wherein component (b) includes at least one compound selected from azoxystrobin, benzovindiflupyr, bixafen, chlorothalonil, cyproconazole, difenoconazole, epoxiconazole, fenpropimorph, fluindapyr, flutriafol, fluxapyroxad, manzate, picoxystrobin, prothioconazole, pydiflumetofen, pyraclostrobin, tebuconazole and trifloxystrobin.

15 13. A composition comprising the composition of any one of Claims 1 through 12 and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents.

14. A method for protecting a plant or plant seed from diseases caused by fungal pathogens comprising applying a fungicidally effective amount of the composition of any one of Claims 1 through 13 to the plant or plant seed.

20 15. A method for protecting a plant from a rust disease comprising applying to the plant or plant seed a fungicidally effective amount of the composition of any one of Claims 1 through 13 wherein component (b) includes at least one fungicidal compound selected from (b3) demethylation inhibitor fungicides, (b5) amine/morpholine fungicides, (b7) succinate dehydrogenase inhibitor fungicides, (b11) quinone outside inhibitor (QoI) fungicides and (b52) multi-site activity fungicides.