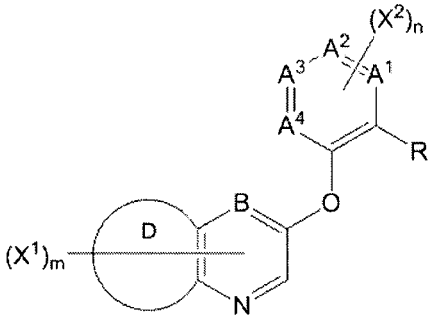
CLAIMS

1. A nitrogenated heterocyclic compound represented by formula (I), or a salt thereof:

[Chemical Formula 1]



(I)

(wherein,

R represents a group represented by $CR^1R^2R^3$ or a cyano group;

R^1 to R^3 respectively and independently represent a hydrogen atom, an unsubstituted or substituted C1-8 alkyl group, an unsubstituted or substituted C2-8 alkenyl group, an unsubstituted or substituted C2-8 alkynyl group, an unsubstituted or substituted C3-8 cycloalkyl group, an unsubstituted or substituted C4-8 cycloalkenyl group, an unsubstituted or substituted C6-10 aryl group, an unsubstituted or substituted heterocyclic group, an unsubstituted or substituted C1-8 acyl group, an unsubstituted or substituted (1-imino)C1-8 alkyl group, an unsubstituted or substituted carboxyl group, an unsubstituted or substituted carbamoyl group, an unsubstituted or substituted hydroxyl group, an

unsubstituted or substituted amino group, an unsubstituted or substituted mercapto group, a substituted sulfonyl group, a halogeno group, a cyano group or a nitro group,

provided that, R^1 to R^3 are not all hydrogen atoms, R^1 to R^3 are not all unsubstituted C1-8 alkyl groups, in a case any one of R^1 to R^3 is a hydrogen atom, the remaining two are not unsubstituted C1-8 alkyl groups, in a case any one of R^1 to R^3 is an unsubstituted C1-8 alkyl group, the remaining two are not hydrogen atoms, and R^1 to R^3 may together form an unsubstituted or substituted 5- to 8-membered ring or may form a group represented by =O, a group represented by $=CR^aR^b$ (wherein, R^a and R^b respectively and independently represent a hydrogen atom or an unsubstituted or substituted C1-8 alkyl group), or a group represented by =N-R' (wherein, R' represents an unsubstituted or substituted hydroxyl group or an unsubstituted or substituted C1-8 alkyl group);

X^1 respectively and independently represents an unsubstituted or substituted C1-8 alkyl group, an unsubstituted or substituted C2-8 alkenyl group, an unsubstituted or substituted C2-8 alkynyl group, an unsubstituted or substituted hydroxyl group, a halogeno group, a cyano group or a nitro group;

m represents a number of X^1 and is an integer of 0 to 5;

X^2 respectively and independently represents an unsubstituted or substituted C1-8 alkyl group, an unsubstituted

or substituted C2-8 alkenyl group, an unsubstituted or substituted C2-8 alkynyl group, an unsubstituted or substituted C3-8 cycloalkyl group, an unsubstituted or substituted C4-8 cycloalkenyl group, an unsubstituted or substituted C6-10 aryl group, an unsubstituted or substituted heterocyclic group, an unsubstituted or substituted C1-8 acyl group, an unsubstituted or substituted (1-imino)C1-8 alkyl group, an unsubstituted or substituted carboxyl group, an unsubstituted or substituted carbamoyl group, an unsubstituted or substituted hydroxyl group, an unsubstituted or substituted amino group, an unsubstituted or substituted mercapto group, a substituted sulfonyl group, a halogeno group, a cyano group or a nitro group;

n represents a number of X^2 and is an integer of 0 to 3;

any one of R^1 to R^3 and any one of X^2 may together form an unsubstituted or substituted 5- to 8-member ring;

B represents a carbon atom or a nitrogen atom;

D represents an unsubstituted or X^1-substituted 5- to 7-membered hydrocarbon ring or an unsubstituted or X^1-substituted 5- to 7-membered heterocycle; and,

A^1, A^2, A^3 and A^4 respectively and independently represent a carbon atom or a nitrogen atom, provided that in a case B is a nitrogen atom, A^1 to A^4 are not all carbon atoms.

2. The nitrogenated heterocyclic compound or salt thereof

according to claim 1, wherein D in formula (I) represents a benzene ring.

3. The nitrogenated heterocyclic compound or salt thereof according to claim 2, wherein A^1 in formula (I) represents a nitrogen atom and A^2, A^3 and A^4 represent carbon atoms.

4. The nitrogenated heterocyclic compound or salt thereof according to claim 3, wherein B in formula (I) represents a carbon atom.

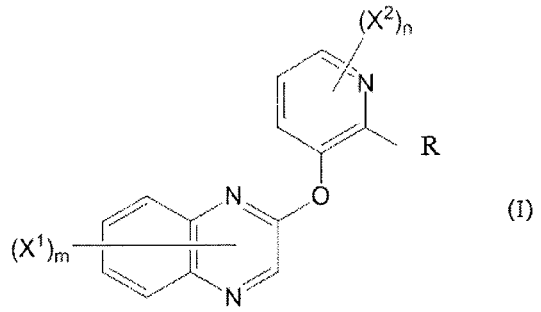
5. The nitrogenated heterocyclic compound or salt thereof according to claim 2, wherein B in formula (I) represents a nitrogen atom and A^2, A^3 and A^4 represent carbon atoms.

6. The nitrogenated heterocyclic compound or salt thereof according to claim 5, wherein A^1 in formula (I) represents a nitrogen atom.

7. An agricultural or horticultural fungicide comprising as an active ingredient thereof at least one compound selected from the group consisting of nitrogenated heterocyclic compounds or salts thereof, according to any one of claims 1 to 6.

CLAIMS

1. A nitrogenated heterocyclic compound represented by formula (I), or a salt thereof:



(I)

wherein,

R represents a group represented by $CR^1R^2R^3$ or a cyano group;

R^1 to R^3 respectively and independently represent a hydrogen atom, an unsubstituted C1-8 alkyl group, a hydroxyl C1-6 alkyl group, an unsubstituted C2-8 alkenyl group, an unsubstituted C2-8 alkynyl group, an unsubstituted C3-8 cycloalkyl group, an unsubstituted C4-8 cycloalkenyl group, an unsubstitutedC6-10 aryl group, an unsubstituted C1-8 acyl group, a C1-6 alkoxycarbonyl group, a di-C1-6 alkylcarbamoyl group, an unsubstituted (1-imino)C1-8 alkyl group, an unsubstituted carboxyl group, an unsubstituted carbamoyl group, a hydroxyl group, a C1-6 alkoxy group, a C2-6 alkenyloxy group, an unsubstituted amino group, an unsubstituted mercapto group, a halogeno group, a cyano group or a nitro group,

provided that, R^1 to R^3 are not all hydrogen atoms, R^1 to R^3 are not all unsubstituted C1-8 alkyl groups, in a case any one of R^1 to R^3 is a hydrogen atom, the remaining two are not unsubstituted C1-8 alkyl groups, and, in a case any one of R^1 to R^3 is an unsubstituted C1-8 alkyl group, the remaining two are not hydrogen atoms;

X^1 respectively and independently represents an unsubstituted C1-8 alkyl group, an unsubstituted C2-8 alkenyl group, an unsubstituted C2-8 alkynyl group, a hydroxyl group, a

halogeno group, a cyano group or a nitro group;

m represents a number of X^1 and is an integer of 0 to 5;

X^2 respectively and independently represents an unsubstituted C1-8 alkyl group, an unsubstituted C2-8 alkenyl group, an unsubstituted C2-8 alkynyl group, an unsubstituted C3-8 cycloalkyl group, an unsubstituted C4-8 cycloalkenyl group, an unsubstituted C6-10 aryl group, an unsubstituted heterocyclic group, an unsubstituted C1-8 acyl group, an unsubstituted (1-imino)C1-8 alkyl group, an unsubstituted carboxyl group, an unsubstituted carbamoyl group, a hydroxyl group, an unsubstituted amino group, an unsubstituted mercapto group, a halogeno group, a cyano group or a nitro group; and

n represents a number of X^2 and is an integer of 0 to 3.

2. An agricultural or horticultural fungicide comprising as an active ingredient thereof at least one compound selected from the group consisting of nitrogenated heterocyclic compounds and salts thereof, according to claim 1.