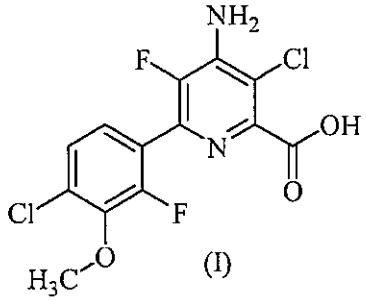
WHAT IS CLAIMED IS:

1. A synergistic herbicidal composition comprising a herbicidally effective amount of (a) a compound of the formula (I)



(I)

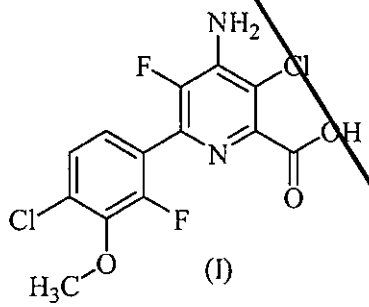
or an agriculturally acceptable salt or ester thereof and (b) at least one compound, or an agriculturally acceptable salt, carboxylic acid, carboxylate salt, or ester thereof, selected from the group consisting of: bromobutide, daimuron, oxaziclomefone, and pyributicarb.

2. The composition of claim 1, wherein (a) is the compound of formula (I), a C_{1-4} alkyl ester of the compound of formula (I), or a benzyl ester of the compound of formula (I).

3. The composition of any of claims 1-2, further comprising an agriculturally acceptable adjuvant or carrier.

4. The composition of any of claims 1-3, further comprising a herbicide safener.

5. A method of controlling undesirable vegetation which comprises contacting the vegetation or the locus thereof with or applying to the soil or water to prevent the emergence or growth of vegetation a herbicidally effective amount of (a) a compound of the formula (I)



(I)

or an agriculturally acceptable salt or ester thereof and (b) at least one compound, or an agriculturally acceptable salt, carboxylic acid, carboxylate salt, or ester thereof, selected from the group consisting of: bromobutide, daimuron, oxaziclomefone, and pyributicarb.

6. The method of claim 5, wherein (a) is the compound of formula (I), a C_{1-4} alkyl ester of the compound of formula (I), or a benzyl ester of the compound of formula (I).

7. The method of any of claims 5-6, wherein the undesirable vegetation is controlled in direct-seeded, water-seeded and transplanted rice, cereals, wheat, barley, oats, rye, sorghum, corn/maize, sugarcane, sunflower, oilseed rape, canola, sugar beet, soybean, cotton, pineapple, pastures, grasslands, rangelands, fallowland, turf, tree and vine orchards, aquatics, industrial vegetation management (IVM) or rights of way (ROW).

8. The method of any of claims 5-7, wherein the (a) and (b) are applied pre-emergently to the weed or the crop.

9. The method of any of claims 5-8, wherein the undesirable vegetation is controlled in glyphosate-, 5-enolpyruvylshikimate-3-phosphate (EPSP) synthase inhibitor-, glufosinate-, glutamine synthetase inhibitor-, dicamba-, phenoxy auxin-, pyridyloxy auxin-, synthetic auxin-, auxin transport inhibitor-, aryloxyphenoxypropionate-, cyclohexanedione-, phenylpyrazoline-, acetyl CoA carboxylase (ACCase) inhibitor-, imidazolinone-, sulfonylurea-, pyrimidinylthiobenzoate-, triazolopyrimidine-, sulfonylaminocarbonyltriazolinone-, acetolactate synthase (ALS) or acetohydroxy acid synthase (AHAS) inhibitors-, 4-hydroxyphenyl-pyruvate dioxygenase (HPPD) inhibitor-, phytoene desaturase inhibitor-, carotenoid biosynthesis inhibitor-, protoporphyrinogen oxidase (PPO) inhibitor-, cellulose biosynthesis inhibitor-, mitosis inhibitor-, microtubule inhibitor-, very long chain fatty acid inhibitor-, fatty acid and lipid biosynthesis inhibitor-, photosystem I inhibitor-, photosystem II inhibitor-, triazine-, or bromoxynil- tolerant crops.

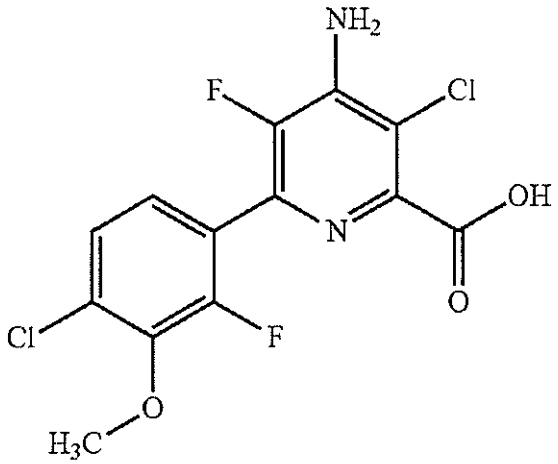
10. The method of claim 9, wherein the tolerant crop possesses multiple or stacked traits conferring tolerance to multiple herbicides or multiple modes of action.

11. The method of claims 6-10, wherein the undesirable vegetation comprises a herbicide resistant or tolerant weed.

CLAIMS

1. A herbicidal composition comprising a herbicidally effective amount of (a) a compound of the formula (I):

(I)



or an agriculturally acceptable salt or alkyl ester or benzyl ester thereof and (b) bromobutide, daimuron, or oxaziclomefone, or a salt thereof; wherein said (a) and (b) are present in the composition in a ratio such that the composition exhibits synergy.

2. The composition of claim 1, wherein (a) is a benzyl ester of compound (I).

3. The composition of claim 1, wherein (a) is the compound of formula (I), which is the carboxylic acid.

4. The composition of claim 1, wherein (b) is bromobutide, daimuron, or oxaziclomefone.

5. The composition of claim 1, wherein (a) is the compound of formula (I) or an agriculturally acceptable benzyl ester and (b) is bromobutide.

6. The composition of claim 1, wherein (a) is the compound of formula (I) or an agriculturally acceptable benzyl ester and (b) is daimuron.

7. The composition of claim 1, wherein (a) is the compound of formula (I) or an agriculturally acceptable benzyl ester and (b) is oxaziclomefone.

8. The composition of claim 1, further comprising a herbicide safener.

9. The composition of claim 1, wherein the weight ratio of compound of formula (I) or agriculturally acceptable salt or ester thereof to bromobutide or agriculturally acceptable salt or ester thereof is from about 1:272 to about 1:1.

10. The composition of claim 1, wherein the weight ratio of the compound of formula (I) or agriculturally acceptable salt or ester thereof to daimuron or agriculturally acceptable salt or ester thereof is from about 1:230 to about 2.5:1.

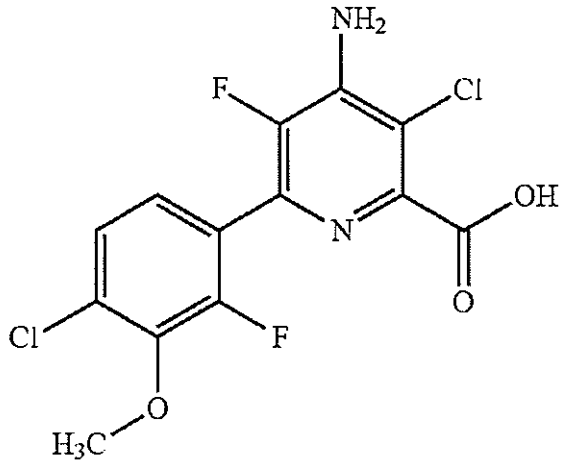
11. The composition of claim 1, wherein the weight ratio of the compound of formula (I) or agriculturally acceptable salt or ester thereof to oxaziclomefone or agriculturally acceptable salt or ester thereof is from about 1:40 to about 12:1.

12. The composition of claim 1, further comprising an agriculturally acceptable adjuvant or carrier.

13. A method of controlling undesirable vegetation which comprises contacting the vegetation or the locus thereof with, or applying to soil or to prevent the emergence or growth of vegetation, a herbicidally effective amount of a combination comprising:

(a) a compound of the formula (I):

(I)



or an agriculturally acceptable salt or alkyl ester or benzyl ester thereof and

(b) bromobutide, daimuron, oxaziclomefone, or a salt thereof; wherein said (a) and (b) are present in the combination in a ratio such that the combination exhibits synergy and wherein the undesirable vegetation is in rice, cereal, wheat, barley, oat, rye, sorghum, maize or canola crop.

14. The method of claim 13, wherein the undesirable vegetation is immature.

15. The method of claim 13, wherein the composition is applied to the water.

16. The method of claim 15, wherein the water is part of a flooded rice paddy.

17. The method of claim 13, wherein the (a) and (b) are applied pre-emergently to the undesirable vegetation or to the rice, cereal, wheat, barley, oat, rye, sorghum, maize or canola crop.

18. The method of claim 13, wherein the (a) and (b) are applied post-emergently to the undesirable vegetation or to the rice, cereal, wheat, barley, oat, rye, sorghum, maize or canola crop.

19. The method of claim 13, wherein the undesirable vegetation is controlled in glyphosate-, 5-enolpyruvylshikimate-3-phosphate synthase inhibitor-, glufosinate-, glutamine synthetase inhibitor-, dicamba-, phenoxy auxin-, pyridyloxy auxin-, synthetic auxin-, auxin transport inhibitor-, aryloxyphenoxypropionates-, cyclohexanedione-, phenylpyrazoline-, acetyl CoA carboxylase inhibitor-, imidazolinone-, sulfonylurea-, pyrimidinylthiobenzoate-, triazolopyrimidine-, sulfonylaminocarbonyltriazolinone-, acetolactate synthase or acetohydroxy acid synthase inhibitor-, 4-hydroxyphenyl-pyruvate dioxygenase inhibitor-, phytoene desaturase inhibitor-, carotenoid biosynthesis inhibitor-, protoporphyrinogen oxidase -inhibitor-, cellulose biosynthesis inhibitor-, mitosis inhibitor-, microtubule inhibitor-, very long chain fatty acid inhibitor-, fatty acid and lipid biosynthesis inhibitor-, photosystem I inhibitor-, photosystem II inhibitor-, triazine-, or bromoxynil-tolerant crops.

20. The method of claim 19, wherein the tolerant crop possesses multiple or stacked traits conferring tolerance to multiple herbicides.

21. The method of claim 13, wherein the undesirable vegetation comprises a herbicide resistant or tolerant plant.

22. The method of claim 13, wherein the resistant or tolerant plant is resistant or tolerant to multiple herbicides.

23. The method of claim 21, wherein the resistant or tolerant plant is resistant or tolerant to acetolactate synthase or acetohydroxy acid synthase inhibitors, photosystem II inhibitors, acetyl CoA

carboxylase inhibitors, synthetic auxins, auxin transport inhibitors, photosystem I inhibitors, 5-enolpyruvylshikimate-3-phosphate synthase inhibitors, microtubule assembly inhibitors, fatty acid and lipid synthesis inhibitors, protoporphyrinogen oxidase inhibitors, carotenoid biosynthesis inhibitors, very long chain fatty acid inhibitors, phytoene desaturase inhibitors, glutamine synthetase inhibitors, 4-hydroxyphenyl-pyruvate-dioxygenase inhibitors, mitosis inhibitors, cellulose biosynthesis inhibitors, herbicides with multiple modes-of-action, quinclorac, arylaminopropionic acids, difenzoquat, endothall, or organoarsenicals.