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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



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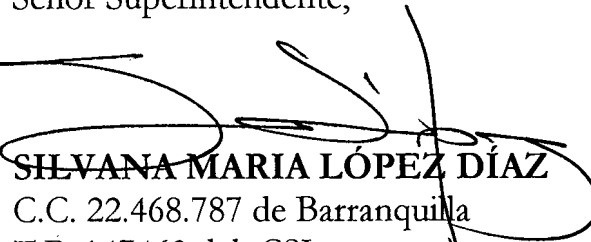
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES
E. S. D.

Re: Expediente No. **11-100879**
Solicitud de patente a nombre de **SYNGENTA LIMITED**

Yo, SILVANA MARIA LOPEZ DIAZ, identificada como aparece al pie de mi firma, domiciliada en la carrera 11 No. 86-53, piso 6, obrando como apoderada de **SYNGENTA LIMITED**, domiciliado en Surrey, Reino Unido, solicitante de la patente de la referencia, me permito informar lo siguiente:

Dando alcance al memorial presentado el 31 de julio de 2013, en respuesta al oficio No. 5079 notificado por fijación en lista el día 19 de marzo de 2013, me permito anexar el siguiente complemento de información para sustentar los argumentos de nivel inventivo presentados en dicho memorial.

Señor Superintendente,


SILVANA MARIA LÓPEZ DÍAZ

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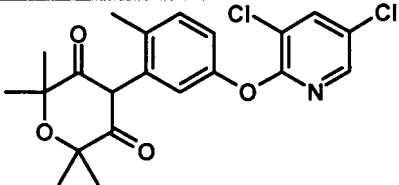
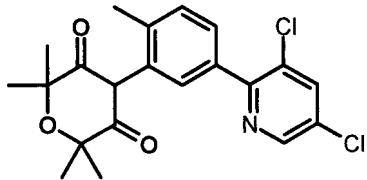
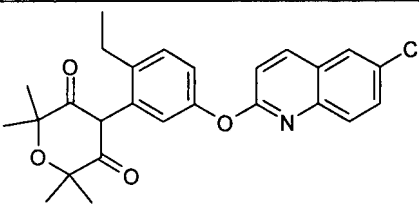
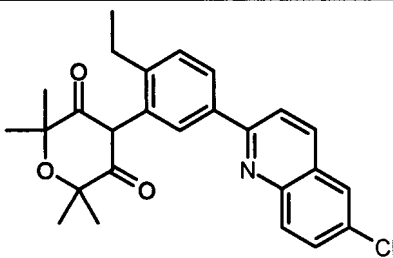
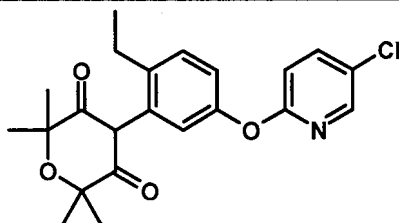
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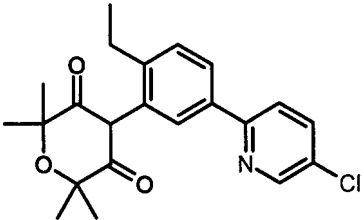
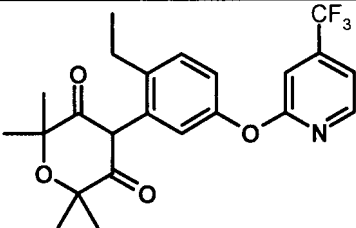
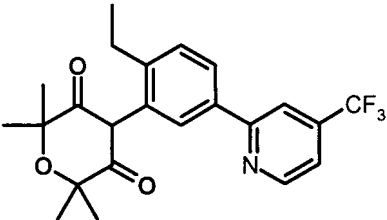
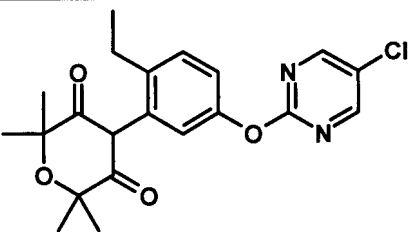
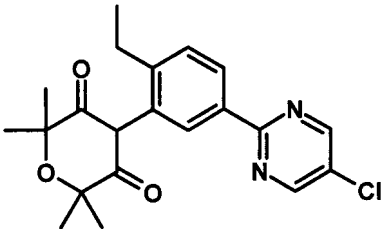
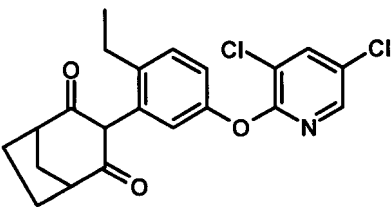
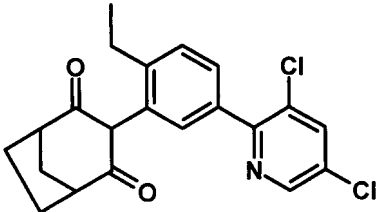
COMPLEMENTO DE INFORMACIÓN

C. Comparative herbicidal data tables to support inventive step

Abbreviations: (NT) = not tested

Test plants: *Lolium perenne* (LOLPE), *Alopecurus myosuroides* (ALOMY), *Echinochloa crus-galli* (ECHCG), and *Avena fatua* (AVEFA). All four of these are grassy monocotyledonous weeds. LOLPE, ALOMY, AVEFA are "cool-season" grassy monocotyledonous weeds. ECHCG is a "warm-season" grassy monocotyledonous weed.

Compound	Compound structure	Application rate and timing	Herbicidal activity (%) against the specified grassy weed			
			LOLPE	ALOMY	ECHCG	AVEFA
PAIR 1						
Inventive compound 46.122 (PCT pages 140+151)		250 g/ha post / pre emergence	NT	<u>80</u> / 70	<u>100</u> / 100	NT
WO 2008/071405 A1 Compound A-114 (PCT p.102)		250 g/ha post / pre emergence	NT	<u>0</u> / 0	<u>60</u> / 20	<u>0</u> / 0
PAIR 2						
Inventive compound A-159 (PCT p.92)		250 g/ha post / pre emergence	<u>100</u> / 100	<u>80</u> / 30	<u>100</u> / 90	<u>80</u> / 40
Compound covered by WO 2008/071405 A1		250 g/ha post / pre emergence	<u>10</u> / 40	<u>10</u> / 0	<u>80</u> / 20	<u>10</u> / 0
			LOLPE	ALOMY	ECHCG	AVEFA
PAIR 3						
Inventive compound A-147 (PCT p.90)		62.5 g/ha post / pre emergence	<u>40</u> / 10	<u>50</u> / 30	<u>100</u> / 20	<u>30</u> / 0

WO 2008/ 071405 A1 Compound A-150 (PCT p.107)		62.5 g/ha post / pre emer- gence	NT / NT	<u>40</u> / 40	<u>90</u> / 70	<u>20</u> / 0
PAIR 4						
Inventive compound A-153 (PCT p.91)		250 g/ha post / pre emer- gence	<u>30</u> / 60	<u>70</u> / 50	<u>90</u> / 100	<u>80</u> / 20
Compound covered by WO 2008/ 071405 A1		250 g/ha post / pre emer- gence	<u>30</u> / 40	<u>20</u> / 20	<u>70</u> / 30	<u>20</u> / 0
PAIR 5						
Inventive compound A-107 (PCT p.83)		250 g/ha post / pre emer- gence	<u>40</u> / 100	<u>80</u> / 90	<u>100</u> / 100	<u>80</u> / 80
WO 2008/ 071405 A1 Compound 17.110 (PCT pages 141 +126 +129)		250 g/ha post / pre emer- gence	<u>60</u> / 80	<u>70</u> / 60	<u>100</u> / 100	<u>90</u> / 20
			LOLPE	ALOMY	ECHCG	AVEFA
PAIR 6						
Inventive compound A-336 (PCT p.129)		250 g/ha post / pre emer- gence	<u>100</u> / 100	<u>90</u> / 90	<u>100</u> / 100	<u>80</u> / 80
WO 2008/ 145336 A1 Compound T87 (PCT p. 111)		250 g/ha post / pre emer- gence	<u>70</u> / 30	<u>70</u> / 0	<u>100</u> / 100	<u>30</u> / 0

C.1. Specific advantages exhibited by the compounds from the above 6 pairs covered by claim 1:

For PAIR 1 – Inventive compound **46.122**, from the present PCT application + covered by claim 1, is superior to paired prior art compound **A-114** from **D1** (WO 2008/071405 A1):

- with respect to **superior spectrum of activity** (inventive compound 46.122 has **post-** and **pre-emergence** activity when applied at 250 g/ha vs **ALOMY** and **SETFA**, unlike A-114 from prior art D1);
- and in addition, has **superior activity post-** and **pre-emergence** (100% + 100%) vs **ECHCG** when applied at 250 g/ha, cf. A-114 from prior art D1 (60% + 20%).

[Note: **Additional data for PAIR 1** not shown in above table due to lack of space: inventive compound 46.122 exhibits post- and pre-emergence activities when applied at 250 g/ha of 100% and 100% respectively vs SETFA (the “warm-season” grassy monocotyledonous weed *Setaria faberi*); whereas compound A-114 from D1 (WO 2008/071405 A1) exhibits post- and pre-emergence activities at 250 g/ha of 0% and 0% respectively vs SETFA.]

For PAIR 2 - Inventive compound **A-159**, from the present PCT application + covered by claim 1 (in which A = 6-chloroquinolin-2-yl), is superior to paired “prior art” compound (having 6-chloroquinolin-2-yl directly linked to an inner phenyl) covered by D1 (WO 2008/071405 A1):

- with respect to **superior spectrum of activity** – specifically, inventive compound **A-159** has a far-superior (80-100%) **post-emergence** activity when applied at 250 g/ha vs the “cool-season” grassy weeds **LOLPE**, **ALOMY** and **AVEFA**, whereas “prior art” compound (having 6-chloroquinolin-2-yl directly linked to an inner phenyl) covered by D1 has a poor (10%) post-emergence activity at 250 g/ha against these 3 weeds;
- and in addition inventive compound **A-159** has **superior activity post-emergence** (100%) and **pre-emergence** (90%) when applied at 250 g/ha vs **ECHCG**, compared to the paired “prior art” (D1) compound (80% and 20% post- / pre-emergence).

For PAIR 3 - Inventive compound **A-147**, from the present PCT application + covered by claim 1, appears to be slightly superior to paired compound A-150 from D1 (WO 2008/071405 A1):

- with respect to slightly superior activity of inventive compound **A-147 post-emergence** at 62.5 g/ha vs the grassy weeds **ALOMY**, **ECHCG** and **AVEFA** (50%, 100%, and 30% respectively), compared to the paired compound A-150 from D1 (40%, 90%, and 20% respectively).

For PAIR 4 - Inventive compound **A-153**, from the present PCT application + covered by claim 1 (in which A = 4-trifluoromethyl-pyridin-4-yl), is superior to paired “prior art” compound (having 4-trifluoromethyl-pyridin-4-yl directly linked to an inner phenyl) covered by D1 (WO 2008/071405 A1):

- with respect to **superior spectrum of activity** – specifically, inventive compound **A-153** has a significantly superior (70-80%) **post-emergence** activity when applied at 250 g/ha vs the “cool-season” grassy weeds **ALOMY** and **AVEFA**, whereas “prior art” compound (having 4-trifluoromethyl-pyridin-4-yl directly linked to an inner phenyl) covered by D1 has a quite poor (20%) post-emergence activity when applied at 250 g/ha against these 2 weeds;
- and in addition inventive compound **A-153** has **superior activity post-emergence** (90%) and **pre-emergence** (100%) at 250 g/ha vs **ECHCG**, compared to the paired “prior art” (D1) compound (70% and 30% post- / pre-emergence).

For PAIR 5 - Inventive compound **A-107**, from the present PCT application + covered by claim 1, appears to be slightly superior to paired compound 17.110 from D1 (WO 2008/071405 A1):

- with respect to **superior activity** of the inventive compound **A-107** when applied **pre-emergence** at 250 g/ha vs the “cool season” grassy weeds **LOLPE**, **ALOMY** and **AVEFA** (100%, 90%, and 80% respectively), compared to the paired compound 17.110 from D1 (80%, 60%, and 20% respectively) ; and

✓

- both paired compounds have 100% **post-** and **pre-** emergence activities at 250 g/ha vs ECHCG.

For PAIR 6 - Inventive compound **A-336**, from the present PCT application + covered by claim 1 (in which the cyclic dione is a bridged-bicyclic carbocycle), is superior to paired prior art compound **T87** disclosed by D2 (WO 2008/145336 A1):

- with respect to **superior spectrum of activity** – specifically, inventive compound **A-336** has superior **post-** and **pre-** emergence activities when applied at 250 g/ha vs the “cool-season” grassy weeds **LOLPE, ALOMY and AVEFA** (100, 90, 80%); whereas compound **T87** disclosed by D2 exhibits medium (and lower) **post-** emergence activities (70, 70, 30%), and poor or quite poor **pre-** emergence activities (30%, 0%, 0%), when applied at 250 g/ha against these 3 weeds; and
- both paired compounds have 100% **post-** and **pre-** emergence activities at 250 g/ha vs ECHCG.

C.2. As previously mentioned, **the overall picture from the above evidence** is that the 3-(heteroaryl-oxy)-phenyl compounds within present amended claim 1 (including the single-compounds claimed in claim 1) are **generally superior as grassy-weed-herbicides**, when applied post-emergence and/or pre-emergence, e.g. at an application rate of 250 or 62.5 g/ha, compared to the corresponding 3-(heteroaryl)-phenyl compounds covered by the claims of D1 or D2.