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**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO**

**DIVISION DE NUEVAS CREACIONES**

E. S. D.

**RESPUESTA A OFICIO 8974 DEL 16 DE JULIO DE 2010**

REF: Expediente No. 03-075632 - Solicitud de Patente

Corresp. a la Solicitud Internacional PCT/US02/06709

a favor de **MONSANTO TECHNOLOGY LLC.**

Titulada: COMPOSICIONES PESTICIDAS QUE CONTIENEN ÁCIDO OXÁLICO

**JUAN PABLO CADENA SARMIENTO**, vecino de Bogotá, portador de la tarjeta profesional No. 57.492, obrando como apoderado de la sociedad **MONSANTO TECHNOLOGY LLC**, según el documento de poder presentado ante esa División, de acuerdo con el artículo 46 de la Decisión 486 de la Comisión de la Comunidad Andina, presento respuesta al oficio arriba mencionado.

Este requerimiento, notificado por fijación en lista el 16 de julio de 2010, fue expedido bajo el número de expediente 06-073817 que corresponde a otra solicitud; sin embargo, de acuerdo a la materia reclamada en la presente solicitud y su historial en la Oficina Europea de Patentes, hemos identificado que el documento solicitado por el Señor Examinador es relevante a la presente solicitud mas no a la contenida en dicho expediente.

En virtud de lo anterior, me permito anexar copia de la siguiente publicación:

- RESEARCH DISCLOSURE 15334. January 1977 (1977-01) páginas 35-36. XP 002018087. Havant. GB.

De la señora Jefe atentamente,

**JUAN PABLO CADENA SARMIENTO**

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Calle 70A No. 4-41

Bogotá, 14 de septiembre de 2010

MXB/NFA

Anexo

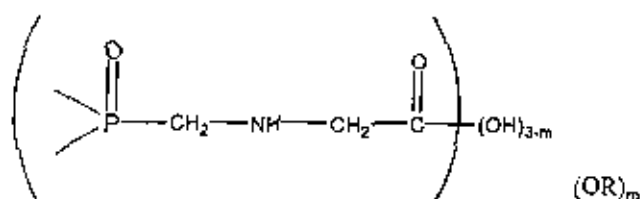
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Research Disclosure January 1977, p35-36

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# Herbicidal compositions containing N-phosphonomethyl glycines

The herbicidal use of N-phosphonomethyl glycines of the formula



wherein R is a lower alkyl and m is 0, 1 or 2, and the herbicidally acceptable salts thereof such as the sodium, lithium, potassium, rubidium, cesium, ammonium and organic ammonium salts is disclosed in US Patent No 3,799,758.

When herbicidal compositions containing N-phosphonomethyl glycine, the mono and di lower alkyl esters thereof or their herbicidally acceptable salts are diluted with locally available water which is classified as hard water, i.e. contains amounts of calcium ions or magnesium ions in the range of from 100 to 2000 or more parts by weight per million parts by weight water, the herbicidal activity of such compositions is decreased and therefore higher amounts of the herbicidal composition must be employed to obtain the destruction or control of the plants or weeds.

It has now been discovered that the inhibiting effect of hard water on N-phosphonomethylglycine herbicidal compositions (described in said US patent) can be substantially alleviated by adding to the water-diluted herbicidal composition oxalic acid or a water-soluble salt thereof such as the mono and di sodium, potassium, lithium, ammonium, or organic ammonium salts in amounts at least equal to 50% of the inhibiting ion present, i.e., calcium or magnesium as much as 200% or more of the inhibiting ion, but preferably in amount equivalent to the amount of inhibiting ions present in the hard water.

The post-emergent herbicidal activity of the N-phosphonomethyl glycine compositions employed in the method of this invention was tested as follows. Two-week old quackgrass plants grown from rhizomes were sprayed with a composition comprising N-phosphonomethyl glycine isopropylammonium salt, a surfactant (a polyoxyethylated fatty acid amine having an average of twenty oxyethylene units), and deionized water (A in Table), which composition had been diluted with water containing various amounts of calcium ions or magnesium and/or oxalic acid, the amount of spray employed being that required to apply the active ingredient at the indicated rates in kg/ha and in a spray volume equivalent to 187 litres per hectare.

The observations were made 20 days after spraying and the plants then cut off and then observed 54 days after spraying for the amount of regrowth. The regrowth measurements were done both visually and by measuring weight of regrowth on two replicates. The results are shown in the following Table showing the percent control of the quackgrass at the various rates.

TABLE 1

| Compounds | Rate of Application of A (kg/ha) | % Control |         | % Control Regrowth 54 DAT* |
|-----------|----------------------------------|-----------|---------|----------------------------|
|           |                                  | 20 DAT*   | 54 DAT* |                            |
| A         | 1.12                             | 100       | 100     | 100                        |
|           | .56                              | 100       | 100     | 100                        |
|           | .28                              | 95        | 85      | 72                         |
|           | .14                              | 55        | 50      | 50                         |
|           | .07                              | 20        | 20      | 20                         |

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710 A

|                                      |      |     |     |     |
|--------------------------------------|------|-----|-----|-----|
| A + Ca++<br>.0025 molar              | 1.12 | 100 | 100 | 100 |
|                                      | .56  | 100 | 100 | 100 |
|                                      | .28  | 60  | 80  | 68  |
|                                      | .14  | 25  | 20  | < 0 |
|                                      | .07  | 10  | 0   | < 0 |
|                                      |      |     |     |     |
| A + Ca++<br>.005 molar               | 1.12 | 100 | 100 | 100 |
|                                      | .56  | 100 | 100 | 100 |
|                                      | .28  | 75  | 95  | 91  |
|                                      | .14  | 20  | 10  | < 0 |
|                                      | .07  | 10  | 0   | < 0 |
|                                      |      |     |     |     |
| A+Ca++ .01M                          | 1.12 | 100 | 100 | 100 |
|                                      | .56  | 100 | 100 | 100 |
|                                      | .28  | 35  | 65  | 25  |
|                                      | .14  | 20  | 20  | < 0 |
|                                      | .07  | 0   | 0   | < 0 |
|                                      |      |     |     |     |
| A+Ca++ .02M                          | 1.12 | 100 | 100 | 100 |
|                                      | .50  | 90  | 80  | 68  |
|                                      | .28  | 65  | 45  | 38  |
|                                      | .14  | 40  | 20  | < 0 |
|                                      | .07  | 20  | 0   | < 0 |
|                                      |      |     |     |     |
| Oxalic Acid .02 M<br>A+ .02 % Oxalic |      | 30  | 25  | 19  |
|                                      | 1.12 | 100 | 100 | 100 |
|                                      | .56  | 100 | 100 | 100 |
|                                      | .28  | 100 | 100 | 100 |
|                                      | .14  | 90  | 100 | 100 |
| A+Ca++<br>.01 M + Oxalic<br>.01 M    | .07  | 75  | 50  | 66  |
|                                      | 1.12 | 100 | 100 | 100 |
|                                      | .56  | 100 | 100 | 100 |
|                                      | .28  | 100 | 100 | 100 |
|                                      | .14  | 80  | 75  | 62  |
| A+Ca++ .01 M+<br>Oxalic .02 M        | .07  | 20  | 20  | < 0 |
|                                      | 1.12 | 100 | 100 | 100 |
|                                      | .56  | 100 | 100 | 100 |
|                                      | .28  | 100 | 100 | 100 |
|                                      | .14  | 100 | 85  | 82  |
|                                      | .07  | 85  | 35  | 50  |

\*DAT means days after treatment

Additional tests were conducted using hard water containing magnesium ions to dilute composition A. The diluted composition A was applied to two-week old quackgrass plants in the same manner and observations of regrowth were made 54 days after spraying of the diluted composition.

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TABLE II

| Compound A<br>Rate kg/ha | Mg<br>Conc Molar | Oxalic Acid<br>Conc Molar | % Quackgrass<br>Control |
|--------------------------|------------------|---------------------------|-------------------------|
| 1.12                     | .01              | 0                         | 100                     |
| .56                      | .01              | 0                         | 98                      |
| .28                      | .01              | 0                         | 30                      |
| .14                      | .01              | 0                         | 62                      |
| 1.12                     | .02              | 0                         | 99                      |
| .56                      | .02              | 0                         | 52                      |
| .28                      | .02              | 0                         | 62                      |
| .14                      | .02              | 0                         | 35                      |
| 1.12                     | .01              | .01                       | 98                      |
| .56                      | .01              | .01                       | 80                      |
| .28                      | .01              | .01                       | 25                      |
| .14                      | .01              | .01                       | 35                      |
| 1.12                     | .02              | .02                       | 99                      |
| .56                      | .02              | .02                       | 14                      |
| .28                      | .02              | .02                       | 30                      |
| .14                      | .02              | .02                       | 30                      |
| 0                        | .01              | .01                       | 30                      |
| 0                        | .02              | .01                       | 30                      |

In the experiments showing the improved results obtained when hard water was employed as the diluent, it is to be noted that the combination of the N-phosphonomethyl glycine derivatives with a di basic acid such as oxalic acid results in a synergistic response when no calcium or magnesium ion is present. The synergism can be obtained by employing an admixture containing the N-phosphonomethyl glycine derivative and a lower molecular weight di basic acid such as oxalic, malonic, succinic, glutaric and adipic acid, i.e. C<sub>2</sub> to C<sub>6</sub> basic acids.

The weight ratio of the N-phosphonomethyl glycine compound to di basic acid in the synergistic composition ranges from 1 to 10 parts of the N-phosphonomethyl glycine compound per 1 to 10 parts di basic acid. Preferably the ratio is from 1 to 4 to 4 to 1.

Disclosed anonymously  
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