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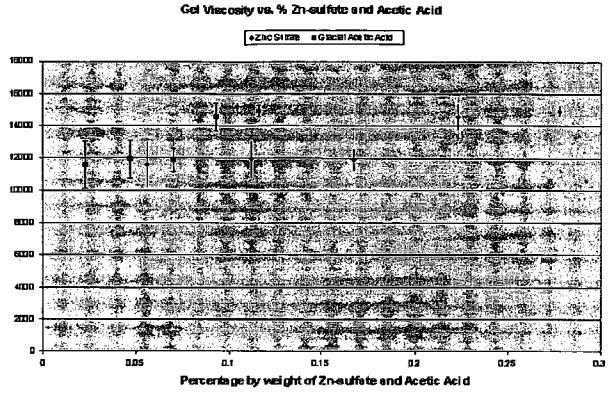
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Declarations under Rule 4.17:
— *as to the identity of the inventor (Rule 4.17(i))*
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

[Continued on next page]

(54) Title: MOISTURIZING AGENT WITH NUTRIENTS

FIGURE 1



Graph showing viscosity changes resulting from the addition of zinc sulfate and acetic acid to the gel.

(57) Abstract: The present invention relates to a gelatinous moisturizing substrate for controllably delivering water, gas micro-nutrients, plant growth additives, preservatives, and surfactants to plant tissue such as the entire vertical root system of a plant. The preferred embodiment of the present invention comprises a mixture of the following by percent weight: 97.6 % water, 2.0 % sodium carboxymethylcellulose, 0.15 % aluminum sulfate, 0.04% sodium benzoate, 0.04 % potassium sorbate, 0.237 % zinc acetate, 0.00009 % kinetin, 0.00004 % indole-3-butyric acid, 0.00003 % gibberellic acid, and 0.005 % sodium sesquicarbonate. The concentrations of these nutrients disclosed in this invention maintain the substrate's viscosity. As a result, the moisturizing agent retains water, zinc, acetic acid, auxins, gibberellins, and cytokinins in the gel and releases the water and nutrients into the soil surface at a controlled rate, enabling cell growth, formation of new leaves, vigorous shoot growth, even maturity, and improved stress tolerance. The addition of citric acid and sodium bicarbonate to the dry ingredients of the present invention adds another method of creating a cross linked gel from a dry form.

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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
— *of inventorship (Rule 4.17(iv))*

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. C09K17/52 C05D9/02 C05F11/00 C05G3/04 A01G9/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A01G C05D C05F C05G C09K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02/44108 A (DRIWATER [US]; PATERNOSTER JOSEPH [US]) 6 June 2002 (2002-06-06) claims	1-4,10, 12-15,21
A	US 6 688 038 B1 (PATERNOSTER JOSEPH [US] ET AL) 10 February 2004 (2004-02-10) claims	1-4, 12-15,24
A	US 4 865 640 A (AVERA F LEE [US]) 12 September 1989 (1989-09-12) cited in the application the whole document	1-4, 12-15,24
A	EP 0 620 204 A (RAN RICERCHE APPLICATE NATUR [IT]) 19 October 1994 (1994-10-19) column 2, line 1 - line 47	1,3,4, 12,14, 15,24

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30 May 2008	05/06/2008

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Merckx, Alain

Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/013402

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 92/00941 A (AVERA FITZHUGH LEE [US]) 23 January 1992 (1992-01-23)	

Form PCT/ISA/210 (continuation of second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/013402

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US2007 /013402

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-23

   A substrate and its use for providing water, gas and nutrients to a plant

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2. claim: 24

   A method for preparing a substrate

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/013402

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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