

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: see form PCT/ISA/220		PCT WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43 <i>bis</i> .1)	
		Date of mailing (day/month/year) see form PCT/ISA/210 (second sheet)	
Applicant's or agent's file reference see form PCT/ISA/220		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/IB2019/057647	International filing date (day/month/year) 11.09.2019	Priority date (day/month/year) 12.09.2018	
International Patent Classification (IPC) or both national classification and IPC INV. A01N63/04 A01P5/00			
Applicant SYMBORG, SL			

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Galley, Carl Telephone No. +49 89 2399-0	
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-20</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-20</u>
Industrial applicability (IA)	Yes: Claims	<u>1-20</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1 Félix Fernández Martín ET AL: "Application of Arbuscular Mycorrhizae *Glomus iranicum* var. *tenuihypharum* var. *nova* in Intensive Agriculture: A Study Case", Journal of Agricultural Science and Technology B, vol. 7, no. 4, 28 April 2017, XP055520245
- D2 F Fernández ET AL: "Physiological and growth responses of young tomato seedlings to drip-irrigation containing two low doses of the arbuscular mycorrhizal fungus *Glomus iranicum* var. *tenuihypharum* sp. *nova*", Journal of Horticultural Science & Biotechnology, vol. 89, no. 6, 2014, pages 679-685, XP055520249
- D3 E. Nicolás ET AL: "INOCULACIÓN Y PERSISTENCIA DEL HONGO MICORRÍZICO ARBUSCULAR *Glomus iranicum* var. *tenuihypharum*", Agricultura, October 2013, pages 674-678, XP055520253,
- D4 WO 2015/000612 A1 (SYMBORG S L [ES]) 8 January 2015
- D5 WO 2015/000613 A1 (SYMBORG S L [ES]) 8 January 2015

- 1 The isolated *Dominikia* (*Glomus*) strain, deposited with the BCCM under accession number 57072, appears to be novel within the meaning of Article 33(2) PCT. Furthermore, none of the cited documents disclose a composition comprising said strain in the specific concentration. Thus, the claimed subject-matter is considered to be novel (Article 33(2) PCT).
- 2 Any of D1–D5 could be considered the closest prior art to the claimed subject-matter as they relate to *Glomus* (*Dominikia*) strains and their uses on plants. In particular, D4 and D5 disclose the strain BCCM deposit number 54871 as a biostimulant (D4: abstract and claims) and a bionematicide (D5: abstract and claims). The present claimed subject-matter differs in that an alternative strain is used. On page 1 of the application, it is stated that said strains do not provide acceptable control on cereal crops, leading to a subjective technical problem of an improved composition. However, such an improvement has not been demonstrated and the problem must be less ambitiously formulated as an

alternative. The skilled person would expect similar strains to provide the same effects as taught by the strains in D4 or D5. Thus, the claimed subject-matter does not appear to involve an inventive step (Article 33(3) PCT).

- 3 Should an improvement over the strains of D4 or D5 be demonstrated, or it be reasoned with evidence that the bionematicidal and/or biostimulant effects are not general for *Glomus (Dominikia)* strains, inventive step would likely be acknowledged.
- 4 The industrial applicability is acknowledged (Article 33(4) PCT).