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Title of the Application	Increasing Hybrid Seed Production through Higher Outcrossing Rate in Cytoplasmic Male Sterile Rice and Related Materials and Methods (hereinafter "1 st HO")
Application Dates	USA National Phase: 04 December 2017 (Granted) India National Phase: 13 December 2017 (Granted) Philippines National Phase: 29 November 2017 (Granted) PCT: 05 June 2016 Provisional (USA): 05 June 2015
Application Numbers	PCT: PCT/IB2016/053294 Provisional (USA): 62/171,524
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BRIEF BACKGROUND

The “High Outcross” (HO) trait responsible for increasing hybrid rice seed production has the potential to reduce the cost of hybrid rice seeds, and allow smallholder farmers’ access to more affordable hybrid rice varieties. The HO trait found in the wild relative *Oryza longistaminata* was successfully introduced into cultivated rice. Rice female lines containing the HO trait showed a strong increase in hybrid rice seed production.

This innovation was the basis for the 1st HO provisional USA application filed by IRRI in 2015.

CURRENT STATUS

In May 2021, the US Patent and Trademark office (USPTO) has issued a patent certificate for the US Patent Application No. 15/579,247. This is the first patent granted to IRRI and to the best of our knowledge, the first time as well for a CGIAR Center. We are actively pursuing proof of concept experiments, which will allow IRRI to propose partnerships with seed companies. Other active applications filed in India and Philippines are still under substantive examinations. Remaining national phase applications filed in Vietnam, Europe, China, Australia, Brazil and Indonesia were discontinued in 2018 and 2020 (see summary table below).

IRRI intends to provide non-exclusive, royalty-free licenses to NARES partners for research, breeding and non-commercial dissemination. For private sector partners, IRRI plans to provide non-exclusive research, breeding and commercial licenses, with a commitment to impact assessment and impact acceleration. IRRI licensees will be bound to comply with all obligations of the SMTA. As part of the future commercial licenses, IRRI will require private licensees to make a contribution to the Benefit Sharing Fund of the Treaty, even when the obligation to contribute to benefit-sharing is not triggered automatically as per the SMTA terms and conditions.

In addition, and as per IRRI’s policy, royalties paid by future licensees to IRRI shall be shared by IRRI on a voluntary basis, with the benefit-sharing fund of the [International Treaty for Plant Genetics for Food and Agriculture \(ITPGRFA\)](#).

As a non-profit international organization, IRRI promotes responsible technology transfer and intellectual property management in accordance with its [Intellectual Property and Commercialization Policy \(IP&C Policy\)](#) and with the [CGIAR Principles on the Management of Intellectual Assets \(“IA Principles”\)](#). This patent application conforms with the IA Principles concerning intellectual property applications in furtherance of the CGIAR Vision.

Filing Date	Filing Place	Application Number	Publication Date	Publication Number	Link in the WIPO website	Status
04/12/2017	USA	15579247	14/06/2018	2018-0160638-A1	https://patentscope.wipo.int/search/en/detail.jsf?docId=US219981087&redirectedID=true	Granted
20/12/2017	Europe	16729639.1	11/04/2018	3302036	https://patentscope.wipo.int/search/en/detail.jsf?docId=EP214442602&recNum=1&office=&queryString=FP%3A%283302036%29&prevFilter=&sortOption=Pub+Date+Desc&maxRec=4	Discontinued on 10 April 2020
05/12/2017	China	201680033206.1	08/03/2018	CN 107787181 A	https://patentscope.wipo.int/search/en/detail.jsf?docId=CN213737774	Discontinued on 10 April 2020
12/12/2017	Australia	2016272921	08/12/2016	2016272921	https://patentscope.wipo.int/search/en/detail.jsf?docId=AU208432408	Discontinued on 10 April 2020
13/12/2017	India	201727044863	20/04/2018	201727044863 A	https://patentscope.wipo.int/search/en/detail.jsf?docId=IN215490767&redirectedID=true	Granted
05/12/2017	Brazil	BR 11 2017 026243 6	18/09/2018	112017026243	https://patentscope.wipo.int/search/en/detail.jsf?docId=BR231357469	Discontinued on 3 April 2020
29/11/2017	Philippines	1-2017-502183	08/12/2016	1-2017-502183	https://patentscope.wipo.int/search/en/detail.jsf?docId=PH222137052	Granted
28/12/2017	Indonesia	PID201709844	31/07/2018	2018/07005	https://patentscope.wipo.int/search/en/detail.jsf?docId=ID224147056	Discontinued on 10 April 2020
04/01/2018	Vietnam	1-2018-00038	N/A	N/A	N/A	Discontinued on 3 December 2018