

Category	: 8th Rice Genetics Symposium
Select Theme	: Genetics of Biotic interactions: Stress tolerance, Mitigation and Microbiome
Endorsement email	:
Genetics of Biotic interactions Stress tolerance Mitigation and MicrobiomeKeyword 1	: blast blight
Genetics of Biotic interactions Stress tolerance Mitigation and Microbiome Keyword 2	: fungi
Genetics of Biotic interactions Stress tolerance Mitigation and MicrobiomeKeyword 3	: bacteria
Title of Entry	: Enhancement of Nepalese high altitude rice landrace 'Jumli Marshi' for blast and bacterial blight resistance through SSR and KASP marker assisted selection
Presenting author	: Resham B Amgai
Presenting author email	: reshamamgain@yahoo.com
Co author 1	: Sumitra Pantha
Co author 2	: Shreejan Pokharel
Co author 3	: Katherine A Steele
Co author 4	: John R Witcombe
Co author 5	:
Co author 6	:
Co author 7	:
Co author 8	:
Co author 9	:
Co author 10	:
Co author 11	:
Co author 12	:
Co author 13	:
Co author 14	:

Affiliation presenting author : Nepal Agricultural Research Council, Biotechnology Division/Institute of Agriculture and Animal Science, Tribhuvan University, Nepal

Affiliation 1 : Nepal Agricultural Research Council, Agricultural Botany Division, Nepal

Affiliation 2 : Nepal Agricultural Research Council, Biotechnology Division, Nepal

Affiliation 3 : SYNERGY, Bangor Univeristy, UK

Affiliation 4 : Bangor Univeristy, UK

Affiliation 5 :

Affiliation 6 :

Affiliation 7 :

Affiliation 8 :

Affiliation 9 :

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Abstract : Rice is the major food crop in Nepal. It is cultivated from 65- 3000 m after sea level in Nepal. ‘Jumli Marshi’ is the high altitude rice cultivated in 3000masl and popular for its cold tolerance and grain appearance characteristics. However, it is very susceptible with rice blast and bacterial blight diseases. Donor parent ‘IR64’ was used to enhance disease resistance characteristics in this rice landrace. SSR markers linked with Pi33, Pib, Pita and Xa4 has been used as foreground markers in F2, F4, F5 and F6 generations. Similarly, these SSR markers were converted into KASP markers and were also used as foreground markers to select F4, F4 and F6 generations. F6 and F7 generations were tested at field on Jumla (2500 m asl), Lumle (1600 m asl) and Khumaltar (1300 m asl) for agronomic characteristics, cold tolerance and disease resistance; and selected 13 advanced rice lines as pipeline rice varieties for high altitude rice cultivation.

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