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USE OF VIGNA RADIATA LECTIN GENE IN DEVELOPMENT OF TRANSGENIC *BRASSICA JUNCEA* RESISTANT TO APHIDS

PUJASINGH[1], POONAMTIWARI[2], RAKESHKUMARPRAJAPAT[3], B. C SABATTA[4] & REKHAKANSAL[5]

[1, 2, 3]*Research Scholar, NRCPB, New Delhi, India*

[4]*Senior Scientific Officer, Mewar University, Rajasthan, India*

[5]*Principal Scientist, NRCPB, New Delhi, India*

ABSTRACT

Mustard (Brassica juncea L. Czern) is a major oilseed crop with great economic value being cultivated on more than six million hectares in the Indian subcontinent. Due to increase in demand of edible oil the cultivation of this crop has gained elevated importance. Lipaphiserysimi (Kalt.) is the serious insect pest leading to yield losses as high as 97.6 %. Plant lectins especially from legumes have been implicated in insecticidal action against hemipteran insects. Vigna radiata lectin gene was directionally cloned under phloem specific rolC promoter in a binary vector and introduced to cotyledonary petioles of Brassica juncea cv. Varuna through Agrobacterium-mediated transformation method. Molecular analysis confirmed the integration of transgene into Brassica juncea cv.Varuna. The presence of Vigna radiata lectin gene and nptIIconfirmed the integration of transgene. The developed transgenic plants of Brassica juncea will have more resistance to Aphids, reducing losses and increasing the production.

KEYWORDS: Lipaphiserysimi, Plant lectins, Brassica juncea cv.Varuna

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