Himalayan Region New Hope for Frost Tolerant Aonla (*Emblica officinalis*) Species Exploration for Cultivation in Hot Arid Climate

P P Singh[1] and R S Singh[2]

[1,2]ICAR-Central Institute for Arid Horticulture, Bikaner

Abstract—*Aonla is one of the important arid fruit, but all its commercial varieties (NA-7, NA-6, NA-5, Banarsi, Chakaiya, Goma Ashwarya, Anand-2, Balwant, Laxmi- 52 etc.) are susceptible to frost injury. In hot arid ecosystem especially zone I agro climatic zone of Rajasthan recurrent frost is also one of the limiting factor for aonla crop cultivation. Except this it may be wonder crop of arid region due to all xerophytic adaptation favour its quality crop production. Frost management aspect is very difficult through chemicals and one of the most important solution is to conduct survey in affected area and identify species that are tolerant to frost can be used in breeding programme or as a root stock for the same. For this an extensive survey was made to explore the aonla germplasm in different regions of the north-eastern areas of India i.e., Manipur (Hundung and lunghar area), Meghalaya (Khasi and Garo Hills), Aasam (Jorhat) and Nagaland (Mon, Longleng, Mokok chung, Wokha, Kohima) during the year of 2014-15. These genotypes were collected from the varied altitude ranging from 800-1850 m Mean Sea Level. After evaluation the collection of CIAH 1, 2 &3 grafted onto aonla block were shown frost tolerance under preliminary studies, but due to these germplasm habit require humid climate for successful cultivation or poor xerophytic characters. Therefore need of the hour to conduct exploration of some land race in Himalayan region possesses not only tolerant to low temperature but also have possibility to grow easily in hot arid climate.*