

**P-40 (46)****QUINCE (CYDONIA OBLONGA MILL.) GERMPLASMS AND BREEDING STRATEGIES IN IRAN**

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The quince (*Cydonia oblonga*) genetic resources are to be found in wild populations in northern Iran, Turkmenistan and the Caucasus. In Iran, wild and cultivated genotypes of quinces are native to northern, north east, North West, west and central provinces, with current dominance of commercial cv. Isfahan (syn. Esfahan) in orchards. Main objectives of quince breeding in recent two decades were selection of germplasm, aimed at fire blight resistance, high productivity and improved growth habit, tolerance to the iron chlorosis, and finally fruit quality and fresh use. These breeding purposes have been initially followed by collection and selection of wild and cultivated germplasms between 1998-2003 and establishment and evaluations of quince germplasm collection in 2004, now containing more than 50 selected accessions. Following the first evaluations of this germplasms, five promising cultivars were selected and a new cultivar, entitled as cv. Viduja, was released for high productivity, enhanced growth habit and more resistance to fire blight, compared to the commercial cv. Isfahan. These attempts revealed the potential of Iranian quince germplasm for more advanced breeding programs, especially for productivity and fruit quality by hybridization between selected parents. This evaluation programs demonstrated presence of genotypes with more productive growth habit and spur type growth in germplasm of central region, while the best fruit qualities were observed in germplasms of central and northwest regions, where in both regions, native seedlings trees demonstrating valuable potential for direct release as new cultivars. These attempts have shown the vast diversity and important commercial characteristics in the individual germplasm of various regions of Iran, also revealed the further potential of these germplasm for use in practical hybridization programs for more advanced breeding strategies.

**Keywords:** Germplasm collection, Fire blight, promising cultivars, Hybridization, Native cultivars