

Study of microspore culture in onion

M.R.Hassandokht¹; A.Kashi² and B.Camplon³

1,2- Department of Horticulture, Faculty of Agriculture, Tehran University, Karaj, Iran

3- Research Institute for Vegetable Crops, via paulles 28,I-26836 Montanaso Lombardo, Lodi,Italy

Onion (*Allium Cepa L.*) is a very important vegetable in genus *Allium*. It is being cultivated for more than 4000 year in Iran. Onion is available with at least twenty different populations which are now cultivated by Iranian farmers. The presence of a high heterozygosity (Protandri) makes very difficult utilizing of the good characteristics in F1 seed and study of heritability of these traits and it is necessary to produce inbred lines.

Haploid production offers the possibility to produce homozygous plants in very short time whereas traditional methods take very long time.

In this research microspore culture, as one of the haploid production methods, was studied.

Microspores of two Iranian onions CVS. "Sefide-Kamare-Khomain" and "Sefide-Qom" isolated and cultured on media MIC50 contains macro and micro salts of MS, vitamins, mio-inositol and maltose and HB1 medium contains KCl, MgSO₄, CaCl₂, KH₂PO₄ and manitol. These microspores were kept in different temperatures(4,17,24C).

Only microspores of CV "Sefide-Kamare-Khomain" on medium MIC50 at 17C expanded.

Subculture of these expanded microspores on medium contains 2,4-D, 6-BA and contains IAA, 2iP and maltose could not cause more growth. This report is the first successful result for obtaining the method of microspore culture in onion.