Cytogenetic studies on the Interspecific Hybrid in Genus Arachis hypogaea L. (C01-cheong192739-Poster)

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Abstract:

This study was carried out to investigate the morphological characteristics, genetic relationships and cross compatibility between wild species and cultivar in Arachis hypogaea. Interspecific crossability of valencia type, IT187846/A. sylvestris, was about 17.8~15.4%, it was higher than those of virginia and spanish types. The rates of pod formation per peg were 3.5~57.9% in virginia, 8.0~67.9% in spanish and 5.4~98.8% in valencia, respectively. The pod formation per peg was increased to 15.0~23.0% by application of GA3 to the bases of incompatibly pollinated flowers after pollination. Lipid content ranged from 48.0% in section Erectoides to 48.7% in section Procumbentes. Fatty acids such stearic acid(2.4~3.6%) and linoleic acid(21.3~37.3%) were higher significantly in wild Arachis species than cv. Daekwang. A. sylvestris was the highest 2.9 oleic/linoleic ratio than any others. Fourteen wild species in genus Arachis were identified by DNA polymorphisms using PCR. By UPGMA cluster analysis based on 1-F value, the genetic relationship distance was identified closely between cv. Daekwang and A. sylvestris, A. monticola, A. batizogaea.

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