

Genetic variation of the unripe hot pepper *Paprika* estimated using nrDNA ITS region sequence

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■ Abstract

Paprika is a spices made from fruits of *Capsicum annuum*, it can be used as condiment in many cuisines, making dishes colorful and delicious. There is a deal of places that produced *paprika*, such as Serbia, Spain and California. It is widely used across the world as an ingredient in a great many places. *Paprika* is mainly used as condiment, colorful rice, soups and in sausages preparation. Using as an ingredient mixed with meats and other spices. *Paprika* is often sprinkled on foods as a garnish in the United States, but when heating gently in oil the flavor is more effectively produced. Hungary's Nobel prize-winner Albert Szent-Györgyi found in 1937 that capsicum peppers used for *paprika* are unusually rich in vitamin C. *Paprika* is also high in other antioxidants.

Nowadays, a couple of studies on the species *paprika* have been performed, such as morphological study. However, molecular methods based on DNA cloning and sequencing is a useful way compared to traditional identification methods. During the method, internal transcribed spacer of the species was cloned and sequenced. In the present study, the 18S-26S nuclear ribosomal DNA (nrDNA) named ITS1 and ITS2 of the species were observed. The study gave a detailed genetic differentiation of the species.

Summarized with above results, this work orientates *paprika* in the phylogenetic tree of the genus and would help the further understand of clearer classification of the *Paprika* species.

■ Key Words: capsicum peppers, DNA sequencing, internal transcribed spacer, nuclear ribosomal DNA

■ Acknowledgment:

This study was supported by Technology Development Program for Agriculture and Forestry, Ministry for Food, Agriculture, Forestry and Fisheries, Republic of Korea.

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