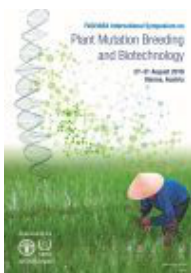


# FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology



Contribution ID: 279

Type: Poster

## INVESTIGATION OF GENE TRANSFER POTENTIAL WITH HYBRIDIZATION IN VURALIA TURCICA AND EVALUATION ITS POTENTIAL USE IN PLANT MUTATION BREEDING

Productive agricultural areas have been decreasing globally in last decades. The most important cause of this fertile land loss is the urbanization. In addition to the fertile land loss, world's population is increasing exponentially; global population is expected to be over 9 billion in 2050 which means there will be a need of 70-100% more food production to provide food security. Legume crops carry high importance in terms of food security. Agricultural biotechnology applications enabled scientists to introduce new traits to mostly consumed staple crops aiming to increase their yield. Improving cultivars depends highly on the genetic knowledge to introduce new traits. The subject plant of this study is *Vuralia turcica* which is a Turkish endemic legume crop with a striking feature; its flowers contain 2-4 free carpellary ovary. *V. turcica* has greater potential as a source for obtaining increased yield per flower due to its multicarpellary feature. To produce new legume cultivars with having high productivity, wide intergenetic hybridization was conducted between *V. turcica* and *Phaseolus vulgaris* which is an important source of micronutrients for human nutrition. According to the findings obtained by molecular analysis, all hybrid candidates were found to be dihaploid. This result may be used to improve inbred populations of *Vuralia turcica* for different agricultural purposes. The use of this unusual species in further plant breeding research such as mutation breeding is promising.

### Country or International Organization

Turkey

**Author:** Dr TEKDAL, Dilek (Biological Sciences and Bioengineering Program, Faculty of Engineering and Natural Sciences, Sabanci University, Orhanli-Tuzla, 34956 Istanbul, Turkey)

**Co-authors:** Mr ÇİFTÇİ, Cem (Sabanci University); Prof. ÇETİNER, Selim (Sabanci University)

**Presenter:** Dr TEKDAL, Dilek (Biological Sciences and Bioengineering Program, Faculty of Engineering and Natural Sciences, Sabanci University, Orhanli-Tuzla, 34956 Istanbul, Turkey)

**Track Classification:** Mutation breeding for adaptation to climate change in seed propagated crops