



Characterization of *Bean common mosaic virus* (BCMV) and *Bean common mosaic necrosis virus* (BCMNV) strains and Novel Isolates Causing Infections in Common Bean Growing Areas in Turkey

M. Arli Sokmen¹, I. Deligoz², N.D. Kutluk Yilmaz¹, H. Ozcelik², M. Tekeoglu³

¹ *Department of Plant Protection, Faculty of Agriculture, Ondokuz Mayıs University Samsun, Turkey*

² *Black Sea Agricultural Research Institute, Samsun, Turkey*

³ *Department of Agricultural Biotechnology, Faculty of Agriculture, Ondokuz Mayıs University, Samsun, Turkey*

Abstract

Knowing strains of a target pathogen has importance in breeding new resistant cultivars. In this study, seed and leaf samples were collected from local growers and fields in 15 provinces in Turkey and tested by DAS-ELISA. Pathogenicity and symptom expression of forty-five isolates of BCMV and BCMNV were compared using a set of differential bean cultivars. According to reactions of these cultivars, NL-1, NL-4, NL-6, NL-7, US-5 and RU-1 strains of BCMV, and NL-5 strain of BCMNV were identified. The most prevalent strains were NL-4 with 29%, US-5 with 22% and NL-1 with 15.5%. Also, four novel BCMV isolates possessing different pathogenicity were determined. Three of them gave top necrosis at growth room conditions (25 °C /20 °C day/night) as a result of hypersensitive reaction in differential bean cultivars (host groups of No. 8, 9 and 10) which carry dominant the *I* gene, and one isolate was able to infect differential host groups of No. 1-6. Partial coat protein regions of these isolates were sequenced, and these results indicated that different pathotypes or strains may be present in common bean growing areas in Turkey. More detailed molecular studies are needed to discriminate them in the future.