RATTI, CLAUDIO[1], MARCO DE BIAGGI[2], PIERGIORGIO STEVANATO[2], RITA RESCA[1], ENRICO BIANCARDI[2], and CONCEPCION RUBIES AUTONELL[1], [1]Dipartimento di Scienze e Tecnologie Agroambientali (DiSTA), Viale Fanin 42, 40127 Bologna, Italy, and [2]Istituto Sperimentale per le Colture Industriali, Sezione di Rovigo, viale Amendola 82, 45100 Rovigo, Italy. **A multiplex RT-PCR assay for sugar-beet soil-borne virus diseases survey in Italy.**

Beet necrotic yellow vein virus (BNYVV), *Beet soil borne virus* (BSBV), *Beet virus Q* (BVQ) and *Beet soil borne mosaic virus* (BSBMV) are the most important known sugar beet viruses transmitted by *Polymyxa betae* Keskin. BNYVV, the causal agent of the disease known as rhizomania, was first described in Italy and has since been reported from many sugar beet growing countries in Europe, Asia and in North America. In Italy, a study carried out in soil samples assayed by serological methods found mostly of them infected by BNYVV, often in mixed infection with BSBV. In order to better investigate the sanitary situation of Italian sugar beet growing areas, a molecular protocols, based on multiplex RT-PCR reaction, for simultaneous BNYVV characterisation and BSBV, BVQ, BSBMV and *P. betae* detection has been developed. During 2002 and 2004, 140 soil samples were collected from different sites in 20 Italian provinces. Sugar beet plants (cv. Asso) were grown in the soil and root tissues were later harvested, total ssRNA extracted and then tested by multiplex RT-PCR assay. Results obtained show that 85 % of the samples evidenced single infected by BNYVV and 10 % by BSBV. Moreover 110 samples (78 %) resulted mixed infected by BNYVV and BSBV. The report highlights the importance of BSBV and the presence of strain type A of BNYVV in the main Italian sugar beet production areas. Otherwise BSBMV presence in the soil samples tested was excluded.