WEILAND, JOHN J.[1][*], SHARMAPOUDEL, ROSHAN[2], SECOR, GARY A.[2] AND BOLTON, MELVIN D. [1]USDA-ARS, Red River Valley Agricultural Research Center, Fargo, ND, USA. [2]Department of Plant Pathology, North Dakota State University, Fargo, ND, USA. **A novel satellite virus discovered during a bait assay for soilborne viruses of sugar beet.**

Next generation sequencing has emerged as a powerful diagnostic tool to assist the plant pathologist in the detection and diagnosis of new and known disease agents. In an effort to better characterize the milieu of soilborne viruses present in conjunction with BNYVV in association with rhizomania disease, sugar beet seed of a rhizomania-susceptible variety was sown into soil typed for inducing severe rhizomania disease. At 5 weeks post planting, seedlings were harvested and the roots carefully washed prior to an extractive treatment which enriched for the presence of viruses within the sample. Electrophoresis of the RNA extracted from the enriched sample revealed an unusually abundant RNA species (~1.2 kilobases in size) in addition to standard ribosomal RNA contaminants of the preparation. Cloning and subsequent sequencing of the RNA species indicated it to be a previously-unknown satellite virus weakly related to satellite maize white line mosaic virus and other satellite viruses associated with 'helper' Necroviruses. Future objectives will be to identify the helper virus associated with the novel satellite virus among the many viruses detected within the analysis and to produce infectious cDNA clones of both helper and satellite for pathogenicity studies. Infectivity studies of this nature ultimately will lead to an understanding of any contribution of this virus/satellite combination to rhizomania or other sugar beet diseases.