

HEIDEL, G.B.¹, C.M. RUSH¹, T.L. KENDALL², and S.A. LOMMEL², Texas Agricultural Experiment Station, Bushland, TX 79012 and North Carolina State University, Raleigh, NC 27695. - Partial characterization of a soilborne sugar beet virus in Texas.

Texas 7 is an unnamed soilborne sugar beet virus that was reported in Texas in 1988. It is morphologically similar to beet necrotic yellow vein virus (BNYVV) and is transmitted by *Polymyxa betae*. BNYVV and Texas 7 differ serologically. Foliar symptoms in sugar beets can include broad chlorotic areas along the veins. Leaves are not always symptomatic. Characterization studies were initiated to gather preliminary information on morphological, physiochemical and biological properties. Particle lengths fall between 50 and 300 nm, with more frequent values occurring at 50, 100, 210 and 290 nm. Coat protein molecular weight was estimated at 24 kDa by SDS-polyacrylamide gel electrophoresis. RNA was separated by formaldehyde gel electrophoresis. Four RNA species of approximately 6.6, 4.4, 1.2 and 1.0 kb were observed. Texas 7 RNA 1 and RNA 2 are close in size to BNYVV RNA 1 and RNA 2 (6.8 and 4.7 kb, respectively). Texas 7 RNA was applied to an oligo (dT)-cellulose column. Bound fractions were eluted from the column and electrophoresed on a non-denaturing agarose gel. Three polyadenylated RNA species were observed. No serological relationship was observed between BNYVV and Texas 7 in Western blots. Some BNYVV and Texas 7 virus particles were bound by heterologous antiserum in immunospecific electron microscopy. Texas 7 hosts include spinach, *Chenopodium quinoa*, *Beta macrocarpa*, and *Beta maritima*.