

LIU, HSING-YEH\*, GAIL C. WISLER, and JAMES E. DUFFUS, USDA, Agricultural Research Service, 1636 E. Alisal St., Salinas, CA 93905. - Occurrence of vascular necrosis of sugarbeet in the Imperial Valley of California.

Since about 1981, a vascular necrosis syndrome (VNS) of sugarbeet has been observed in the Imperial Valley of California. Two soil-borne viruses have been isolated and identified. One of these viruses is isometric and approximately 26 nm in diameter. The particle morphology, protein coat subunits, and nucleic acid size are similar to those of tobacco necrosis virus (TNV). The serological relationship to TNV has also been demonstrated in agar double diffusion tests. Another spherical virus isolated from necrotic sugarbeet roots was serologically related to tomato bushy stunt virus. Random sampling of 50 beet fields conducted during 1994 indicated that 80% of the fields tested had VNS. Biological assays indicated that virus was recovered from 68% of the fields tested. The isolated viruses were TNV(6%), TMV(24%), TBSV(36%), and 34% were not identified. The etiology, economic impact, and the relationship of these viruses to the increasing vascular necrosis syndrome in the Imperial Valley is not known.