

FRANC, GARY D. ¹*, COLETTE M-S BEAUPRE ¹, ERIC D. KERR ² and JAMES E. DUFFUS ³. ¹University of Wyoming, P.O. Box 3354, Laramie, WY 82071, ²University of Nebraska, 4502 Ave. I, Scottsbluff, NE 69361 and ³USDA-ARS, 1636 E. Alisal St., Salinas, CA 93905. - Movement of the rhizomania vector in surface water and wind-blown soil.

Surveys were done in eastern Wyoming and western Nebraska to determine the potential for movement of *Polymyxa betae*, the vector of the rhizomania virus and other sugarbeet viruses, in flowing surface water and wind-blown soil. Monthly water collections were made from the North Platte River during a 1 year survey period. Five sites, representing locations on the river upstream from agricultural areas to downstream sites, were repeatedly sampled. Particulates in water samples were concentrated by filtration through celite which, in turn, was tested in a greenhouse bioassay for *P. betae*. Results showed that *P. betae* could be detected throughout the survey period. However, the two upstream sites had detectable levels of *P. betae* present only 33% of the time while the three downstream sites had detectable levels present ca. 75% of the time. Aerosol samples, which included wind-blown particulates, were collected on cellulose air filters with the aid of high volume aerosol samplers. Samples were collected over a 12 month period at two sample sites. After exposure, filters were aseptically cut into ca. 2.5 cm squares, which were then used to amend previously steamed sand. The resulting sand-filter mixture was tested via a greenhouse bioassay. Results showed that 42% (38/90) and 59% (20/34) of the filter samples had detectable levels of *P. betae* present for western Nebraska and eastern Wyoming collection sites, respectively. Results showed that resting spores of *P. betae* were readily detected in both flowing surface water and wind-blown particulates.