

PARTELLA, I.B.E.* and Mary K. JONES, USDA Agricultural Research Service, 1801 Center Ave., Fort

KERR, E. D.^{1*}, J. A. SMITH¹, G. L. HEIN¹, and M. D. CULY², ¹University of Nebraska Panhandle Research and Extension Center, 4502 Ave. I, Scottsbluff, NE 69361, and ²Dow-Elanco, 9330 Zionsville Rd., Indianapolis, IN 46268-1054. - A comparison of soil surface sealing methods following 1,3-D soil fumigation for control of *Heterodera schachtii* and *Nacobbus aberrans* on sugar beet.

Effective sealing of the soil surface following soil fumigation with Telone II (1,3-D) nematicide is necessary for successful control of *Heterodera schachtii* and *Nacobbus aberrans*. This study compares roller harrowing to disking + roller harrowing as auxiliary sealing methods following conventional presswheel sealing. 1,3-D was applied at a rate of 147 L/ha at 25 cm depth with 46 cm spacing. Soil temperature was 4 C at 20 cm. Infection severity is the number of *H. schachtii* adult females or *N. aberrans* galls per 50 cm of tap root and attached side roots. In a fall application study, 21, 28, and 14 *H. schachtii* females and 1.5, 3.8, and 1.4 *N. aberrans* galls for presswheel only, auxiliary roller harrow, and auxiliary roller harrow + disk, respectively, were not significantly ($P = 0.05$) different, and in a spring study, 28, 19, and 35 *H. schachtii* females and 1.5, .8, and 3 *N. aberrans* galls, respectively, were not significantly different. There were no significant differences among treatments for final emergence, root and sugar yield, sugar content, or root tare. Favorable soil tilth, moisture, and temperatures enhanced nematode control following all sealing treatments.