KERR, ERIC D.[1*], JOHN A. SMITH[1], and GARY L. HEIN[1], [1]University of Nebraska Panhandle Research and Extension Center, 4502 Ave. I, Scottsbluff, NE 69361. Effect of 1,3-D soil fumigant on nematode control and sugar yield when applied before beans vs before sugar beets in a corn-bean-sugar beet rotation.

In northern sugar beet production areas, cold soil temperatures in late fall and early spring limit the time available for proper application of 1,3-D soil fumigant for control of plant parasitic nematodes in sugar beet. In western Nebraska, soil temperatures are favorable for 1,3-D application for at least a two month period prior to planting dry beans in a corn-dry bean-sugar beet crop rotation. Our objective in this study was to compare efficacy and benefits of 1,3-D applied preplant before dry beans vs. before sugar beets for control of Heterodera schachtii, and Nacobbus aberrans. The fumigant was chiseled broadcast at 11 inch depth at 12.5 gal of Telone II formulation/acre and sealed immediately with a disk and roller harrow. Infection severity by H. schachtii, 2.5 and 3.8 for prebean and presugar beet treatments, respectively, as measured by adult females/8 roots 57 days after planting, was not significantly different between dates of application, but both were less than the 22.4 severity for the nontreated control. N. aberrans root galls/8 roots were significantly reduced in the presugar beet application but not for the prebean application. Sugar yields of 7480 and 7615 lbs/acre in prebean and presugar beet treatments were not significantly different but both were greater than the 6133 lbs/acre for the nontreated control.