

Hafez, Saad L.^{1*}, Robert F. Rynk², Kikuye Hara¹, M. Seyedbagheri³. ¹Parma R&E Center, 29603 U of I Lane, Parma ID 83660; ²Ag Eng., University of Idaho, Moscow ID 83844-2040; ³Elmore County Extension, Courthouse, Mt. Home ID 83647. - The effect of composting sugarbeet tare dirt, cow manure and cull onions on the viability of sugarbeet cyst nematode.

Heterodera schachtii is a serious disease problem for the sugarbeet industry. Poor sanitation practices and returning tare dirt (TD) back to the field is considered the major means of nematode spread and reinfestation. Cull onions (CO) are treated as a waste product, and disposal methods for these culls present environmental and pest problems. The objective of this was to study the possibility of controlling sugarbeet cyst nematode in the TD by composting the TD alone or along with cow manure (CM) and CO. Three experiments were conducted over a three year period during 1990-94. In the first experiment, wooden boxes (4' x 4' x 8') were filled with TD infested with cyst nematodes. In the second experiment, nematode infested TD was collected and piled in two 8" x 20' x 200' piles. In the third experiment, nine windrows have been established with varying combinations of TD, CO and CM. To assess the effect of turning, three windrows are static (no turning), and the other were turned regularly. TD samples were taken before and after composting for nematode and nutrient analysis. The results of these studies indicated that no stage of sugarbeet cyst nematode survived the composting process in redwood boxes. Composting of sugarbeet TD in open field piles killed 98% of sugarbeet cyst nematodes. Sugarbeet TD, after adequate composting may be used as a soil amendment of potting mix.