SENTINEL NEMATODES OF ORGANIC ENRICHMENT. **Ferris, H.,[1] and T. Bongers.[2]** [1]Department of Nematology, University of California, Davis, CA 95616, USA, [2]Laboratory of Nematology, Wageningen University, P.O. Box 8123, 6700 ES, Wageningen, The Netherlands.

The organisms of the soil food web, dependent on resources from plants or on amendment from other sources, respond characteristically to enrichment of their environment by organic matter. Primary consumers of the incoming substrate, including bacteria, fungi, herbivorous nematodes, annelids and some microarthropods, are entry-level indicators of enrichment. Quantification of abundance and biomass of this diverse group requires a plethora of extraction and assessment techniques. Bacteria, which absorb soluble organic compounds, and fungi, which degrade more recalcitrant sources, are important indicators of the origin and nature of the organic matter. Certain guilds of nematode predators of bacteria and fungi are responsive to changes in abundance of their food. Through direct herbivory, plant-feeding nematodes also contribute to food web resources. Thus, analysis of the nematode community of a single sample provides indication of carbon flow through an important herbivore channel and through channels mediated by bacteria and fungi. Some nematode guilds are more responsive than are others to resource enrichment. Generally, those nematodes with short lifecycles and high reproductive potential most closely mirror the bloom of bacteria or respond most rapidly to active plant growth. The feeding habits of some groups remain unclear. For example, nematodes of the Tylenchidae may constitute 30% or greater of the individuals in a soil sample; further study will be necessary to determine which resource channels they portray and the appropriate level of taxonomic resolution for this group. A graphic representation of nematode indicators, based on their biomass and metabolic activity, may be a useful tool for assessing the importance of the bacterial, fungal and herbivore resource channels in an extant food web.