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In Europe and US nematode community analyses have been used for soil biological assessments. In Asia, however, such usage has been limited. Different nematode taxa may occur even in similar types of habitats when geographical regions are different, thus affect usefulness of nematode community analyses. We need to examine the usefulness in Asian region. Among the nematode community indices developed, the latest ones, Channel (CI), Enrichment (EI), and Structure Index (SI) (Ferris et al., 2001), aim to predict more correctly decomposition pathway of organic-matters, nutritional level and food-web development, respectively. These indices, however, have not been used frequently to examine tillage effects on nematode communities in crop fields. In this paper we examined in Japan if the indices could detect differences in soil ecosystem characteristics between no tillage (NT) and conventional tillage (CT) systems, combined with chemical, organic or no fertilization. Specifically, we tested the following hypotheses: under NT, 1) SI is greater due to more developed soil food-webs, 2) CI is also greater for organic-matter decomposition by fungi, 3) whereas EI is lower for slower decomposition. We also hypothesized that under organic fertilizer application SI and EI are greater than under chemical or no fertilizer. This was because organic fertilizer is not harmful to any nematode taxa including chemically sensitive ones, and the fertilizer itself harbors microbivorous nematodes, whose abundance relates directly to greater EI values in soil. We will present results for the indices and other nematode community properties.

PRELIMINARY STUDY OF CROPPING MANAGEMENT EFFECT ON NEMATODE COMMUNITIES IN LA RIOJA (NORTHERN SPAIN)

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Soil nematodes can be used as bioindicators of changes in ecosystems caused by mechanical and chemical disturbances from the agricultural production. The aim of this study was determine the nematode diversity in springtime on 3 selected areas from the Oja-Tirón Valley in La Rioja (Northern Spain). Seven organic and eight conventional farms producing horticultural, orchard and vineyards crops, and 3 natural areas close to these fields were studied. Soil nematode diversity was assessed to genus level from 90 soil samples (5 samples/field). Soil samples were physical-chemical analysed, and heavy metals and pesticide residues were also evaluated. We recorded 89 genera of nematodes ranging from 39-23 in natural areas-organic management, and 35-11 in conventional management. The highest abundance (n° individuals/100g d.w.) was recorded in conventional orchard, although it was seriously reduced in conventional horticultural and vineyard crops. The eco-trophic analyses of nematodes communities yield 6 trophic groups. Bacterivores (*Rhabditidae*, *Acrobeloides* sp., *Eucephalobus* sp.), fungivores (*Aphelenchoides*, *Aphelenchus*) and herbivores (*Merlinius*, *Helicotylenchus*, *Pratylenchus*, *Filetichus*,) were the most abundant groups, meanwhile omnivores (*Eudorylaimus*, *Aporcelaimellus*) and predators (*Clarkus*, *Mylonchulus*) were less abundant and seriously affected by the conventional management. The general indices: diversity (*H*), evenness (*J*), richness *SR*, and nematode indices: *MI*, *Ómi* and *PPI*, were also assessed.