

## SoildiverAgro project

Adoption of new management practices to increase crop production and quality



### THE WHAT AND WHY

#### Diverse and active soil biota help to stop the decline in soil fertility

Diverse communities of soil organisms improves soil fertility in arable fields and is beneficial to the farmer both economically and from the environmental protection point of view. Biodiversity is an important factor in soil fertility and helps reduce production costs. From the point of view of soil fertility, all biota groups are important, the soil microbial community and earthworms have the greatest impact on agricultural production. The abundance and activity of soil microbes and earthworms are interrelated: microbes break down organic matter and make it more digestible for earthworms, earthworms excrete slime and coprolites in the soil, which are a favorable habitat for microbes. The farmer benefits from both - in microbiologically active soil, organic residues break down faster and nutrients are converted to be assimilated by plants, earthworms burrow

and move the soil and aerate the growth environment of plant roots, improving the water regime. The abundance and activity of earthworms in the soil are most influenced by land use and intensity of agricultural technologies, soil moisture and organic matter content, and soil reaction. On average, there are 30...100 earthworms per m<sup>2</sup> in agricultural soils, but the number can range from 0 to 500 individuals per m<sup>2</sup>. The task of the farmer is to ensure that the microbial community of the soil is active and there are sufficient number of earthworms in the soil, considering the natural environmental conditions. The most important measures to support soil organisms in arable fields: minimal tillage, sufficient nutrient supply in the soil achieved by adding organic fertilizers, crop rotation, leaving the straw on the field.



1. *Aporrectodeae longa*.  
Authors: Viio Aitsam & Mari Ivask



2. Earthworms in their action.  
Authors: Viio Aitsam & Mari Ivask

### KEYWORDS

Soil fertility, arable soil, earthworms.

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