



Hypothetical pear system innovation through promotion of soil biodiversity

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Purpose

- Economic sustainability
- Environmental sustainability
- Increased soil biodiversity

System development

- Replacement of artificial fertilisation by mainly organic fertilisation/input for
 - o Pear tree nutrition
 - o Optimal earthworm activity, which increases earwig activity
 - o Increased mycorrhizal activity
 - o Increased biodiversity
- Small amounts of artificial soil and leaf fertilisers for:
 - o accurate timing
 - o optimizing nutrient levels in leaves
- Replacement of soil toxicological pesticides by alternative methods



Figures above:
Modern pear production in the Netherlands

Potential impact

- Reduction of negative environmental effects of pesticides on soil organisms by 70%
- Increased biological control of pests and diseases
- Increased phosphorus levels in the leaves resulting in higher quality production



Earthworms contribute to degradation of infected leaves (sanitation) and improve soil structure

(for details see hand-out)