

# Nematoders geografiska fördelning i infekterade fält

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**SBU Sockernäringsens BetodlingsUtveckling AB är ett kunskapsföretag som bedriver försöks- och odlingsutveckling i sockerbetor för svensk sockernäring.**

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## **Nematoders geografiska fördelning i infekterade fält**

**Försöksserien redovisas i en artikel i Betodlaren nr 2/2004**

**"Stor variation i nematodtätheter över ett och samma fält"**

**Se även bilaga som är en förminskad version av den poster som presenterades på**

**68<sup>th</sup> Congress IIRB Maastricht 20-23 juni 2005**

# Distribution of the sugar beet cyst nematode (*Heterodera schachtii*) in a highly infested field in the south of Sweden

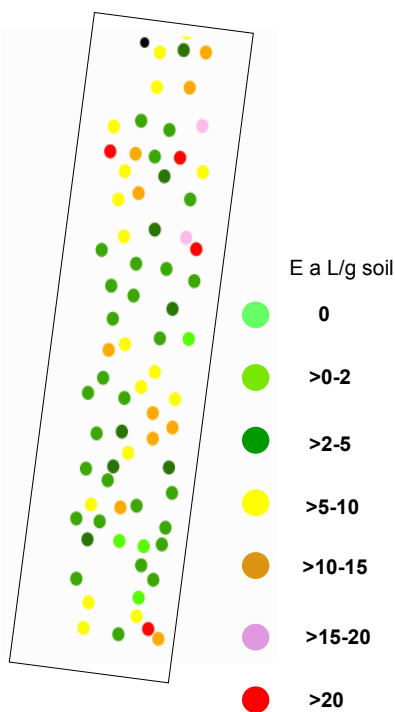
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## Introduction

The distribution of the sugar beet cyst nematode (BCN, *Heterodera schachtii*) was investigated in a highly infested field in the south of Sweden in 2003. The field has been grown with sugar beets in a five year crop rotation including oil seed rape. The aim of the investigation was to see how the nematode frequencies may vary over an entire field and to estimate yield losses at different initial nematode frequencies.

## Materials and methods

The investigated field was located in the southwestern part of Skåne. The size of the field was 23,5 ha. Throughout the entire field, 75 randomly chosen plots (circles with radius 2 m) were marked with GPS and soil samples were taken for analysis of nematode frequencies ( $P_i$ ) and soil type. The sugar beets (susceptible variety Envol) were sown on the 3rd of April. Final nematode frequencies ( $P_f$ ) was analysed from soil samples collected in the middle of December after the sugar beet crop. The sugar beets in each plot were harvested in late October.



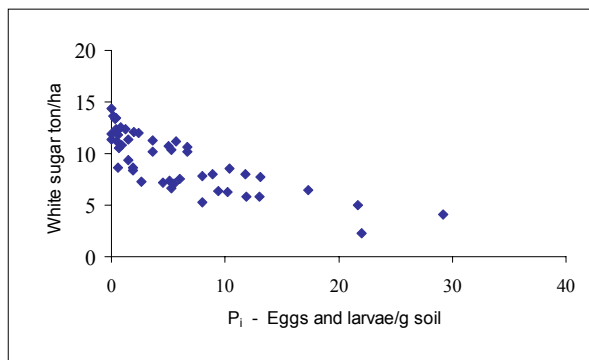
The nematode frequency (E a L/g soil) in each of the 75 plots illustrated with different colours.



Plots photographed in October.



The trial field NW of Malmö, July 2003.



Relation between white sugar yield and  $P_i$  in each plot.

## Summary of results

- The BCN was found to be more or less randomly distributed across the field and the nematode frequencies ( $P_i$ ) in the various plots ranged from 0 to 29 eggs and larvae/g soil with an average of 5,7 E a L/g soil.
- The study could not show any correlation between soil type and occurrence of nematodes.
- The sugar yield varied from 2,28 ton/ha at  $P_i = 22$  E a L/g soil to 14,4 ton/ha at  $P_i = 0$  E a L/g soil.
- The tolerance limit (T) under which no yield loss could be measured was calculated using Seinhorst's equation. T was found to be less than 0,5 E a L/g soil for the susceptible variety Envol. With a  $P_i$  value of 1 E a L/g soil the yield loss was 5%, with 2 E a L/g soil the yield loss was 8%.
- The investigation emphasizes the need to control nematodes even at low initial nematode frequencies.