DNA package
DN3 Free-living nematodes + LX + Cyst nematodes

Eurofins Agro
Binnenhaven 5
NL - 6709 PD Wageningen
The Netherlands
T sampling: Klantenservice Agro: 0888761010
T customerservice: +31 (0)88 876 1010
E customerservice@eurofins-agro.com
I www.eurofins-agro.com

Eurofins Agro
Example report
P.O. Box 170
6700 AD WAGENINGEN
The Netherlands

Analysis

Test-/order reference: 728130/003709633
Date sampling: 15-08-2023
Date report: 22-08-2023

Results

Free-living nematodes	number/100 ml	straw berry	spin-ach	seed potat.	winter wheat	summer carrots
Destructor nematodes						
Ditylenchus destructor	0	?	O	+++	O	O
Stem nemtodes						
Ditylenchus dipsaci	0	+	O	++	+	++
Virus transferring root nematodes						
Paratrichodorus nanus	0	?	?	?	?	?
Paratrichodorus pachydermus	40	?	+	+++	+++	++
Paratrichodorus teres	0	?	+	+	+++	++
Trichodorus primitivus	0	?	+	++	++	++
Trichodorus similis	10	?	?	+++	++	+
Trichodorus viruliferus	0	?	?	?	?	?
Trichodorus spp.	0	?	?	?	?	?
Free-living root nematodes						
Paratylenchus bukowinensis	0	?	?	O	O	+++
Rotylenchus uniformis	0	?	?	+	+	+++
Root-knot nematodes						
Meloidogyne chitwoodi *	0	O	O	+++	++	++
Meloidogyne fallax *	0	O	O	+++	+	+++
Meloidogyne hapla	0	+++R	+	+++	O	++
Meloidogyne minor	410	?	?	?	?	?
Meloidogyne naasi	0	O	O	O	+++	O
Root-lesion nematodes						
Pratylenchus crenatus	170	?	+	+	+++	+
Pratylenchus neglectus	10	?	?	?	?	?
Pratylenchus penetrans	80	+++R	+	+++	++	++
Pratylenchus thornei	0	?	?	?	?	?
Pratylenchus vulnus	0	?	?	?	?	?

MP Voogt

Results

Total number of Trichodoridae: 50
All Trichodoridae (Trichodorus and Paratrichodorus) are capable of transmitting the tobacco rattle virus and the pea early browning virus. Therefore the Trichodoridae that cause no direct crop damage can still be a potential risk for virus-sensitive crops.

Longidoridae (LX)	number/200 ml	straw berry	spin-ach	seed potat.	winter wheat	summer carrots
Longidorus attenuatus	0	?	?	?	?	?
Longidorus elongatus	110	+	?	?	?	?
Longidorus leptocephalus	0	?	?	?	?	?
Longidorus spp.	0					
Xiphinema diversicaudatum	0	?	?	?	?	+
Xiphinema spp.	0					

Cyst nematodes	number/100 ml dry soil	t.c.	l.c.	l+e	straw berry	spin-ach	seed potat.	winter wheat	summer carrots
Globodera *	Potato cyst nematode*	0	0	0	?	O	+++R	O	O
Heterodera avenae	Cereal cyst nematode	1	1	50	O	O	O	+++	O
Heterodera betae	Yellow sugarbeet cyst nematode	0	0	0	O	++	O	O	O
Heterodera bifenestra	Heterodera bifenestra	0	0	0	O	?	?	?	?
Heterodera carotae	Carrot cyst nematode	0	0	0	?	O	O	O	+++
Heterodera cruciferae	Cabbage cyst nematode	0	0	0	O	?	?	?	O
Heterodera goettingiana	Pea cyst nematode	0	0	0	O	?	O	?	O
Heterodera mani	Heterodera mani	0	0	0	?	?	?	?	?
Heterodera schachtii	Sugerbeet cyst nematode	8	1	10	O	++	O	O	O
Heterodera trifolii	Clover cyst nematode	0	0	0	O	O	O	?	O
Heterodera spp.	Heterodera spp.	0	0	0					
Punctodera punctata	Punctodera punctata	0	0	0	?	?	?	?	?

t.c. = total number of cysts, including dead cysts; l.c. = number of living cysts; l+e = number of living larvae and eggs

*) quarantine organism

Nematodes which cannot be determined at species level are reported as "spp." at the concerning group.

Recommendat.

Tailored advice
Do you want tailor-made advice and guidance to control nematode problems? A nematode specialist can provide insight into what is the best strategy for your situation and can guide you through the implementation of a management plan.
Go to https://www.eurofins-agro.com/nl-nl/advies-op-maat-bij-aaltjesproblemen for more information.

Explanation

Legend risk potential damage

No damage thresholds have been determined. Potential damage is unknown.
Infestation undetected, no yield loss or damage is expected.
Lightly infested, there is chance of light yield loss or damage.
Moderately infested, there is chance of moderate yield loss or damage.
Heavily infested, there is a chance of heavy yield loss or damage.

The ratings for the potential risk of damage is based on scientific trials. If no rating is given (white), the damage classes for this nematode-crop combination has not been scientifically determined yet. The actual damage of the crop is depending on several factors such as the weather, sowing or planting time, crop variety and the chemical, physical and biological properties of the soil.
The boundaries of the damage classes consist of absolute numbers. In reality, both the rating and the analytical results have a certain variation. The variation of the analysis results is largely due to sampling. Nematodes are not distributed uniformly in a field, and the sampling intensity is very important for a representative sample. For arable crops, one sample per hectare needs to be taken. For horticulture crops and sensitive crops, three samples per hectare are advised. When no nematodes have been found, this means the infestation is under the detection limit. This does not exclude that the specific nematode is not present in the field. When a sample is derived from a larger area larger than described, the chance that a nematode infestation is missed increases and the reliability of the results decreases. A small part of the variation is caused by the lab technique. Due to the inclusion of young larvae, the numbers of nematodes analysed with DNA (molecular detection) are in general higher compared to microscopic analysis. Low numbers of nematodes have a higher variation. In general, Meloidogyne have a higher variation due the potential presence of egg clusters.

Legend population growth

?	Unknown	No information is known about the host plant status.
-	Active decline	Crop causes an active decline of the nematode population that is higher compared to black fallow.
O	None	Crop causes a decline of the nematode population that is comparable to black fallow.
+	Small increase	Crop causes a small increase of the nematode population.
++	Moderate increase	Crop causes a moderate increase of the nematode population.
+++	Strong increase	Crop causes a strong increase of the nematode population.
R	Variety dependent	The population growth of the nematodes differs per variety of this crop.

Contact & info

Contact & info

Sample reference:	1
Area (hectare):	
Soil type:	Alluvial clay
Sample taken by:	Others
Contact person sampling:	Klantenservice Agro: 0888761010
Sampling method:	MIN 1200
Receipt date:	15-08-2023

If possible, the sample will be stored for another two weeks at Eurofins Agro after sending out the report.

Samples that have been taken according to the correct intensity and protocol, give to its best endeavours an indication of the present harmful nematodes. The results of this sample are representative for the moment of sampling and only refer to the processed material. Infestations that are subsequently detected are not eligible to dispute the reliability of the analysis. resulting from decisions based on these results.

If the following information is shown in the reports, this information may have been provided by the client and may affect the valuation, advice and/or analysis result:
sampling time, soil type, crop.

Contact & info

The analyses were conducted at the laboratory of Eurofins Agro in Wageningen (NL).
All procedures have been completed within the maximum shelf life between sampling and analysis.
The results relate exclusively to the sample taken and received by Eurofins Agro, and to the material processed on 15-08-2023 and therefore to the sample analysed.

For a detailed description of the sampling and analysis methods used, visit www.eurofins-agro.com

MP Voogt

Method Methods

Module:	Method:
Root nematodes	Em:VL Oostenbrink + molecular detection
Rotylenchus uniformis	Em:VL Oostenbrink + molecular detection
Paratylenchus bukowinensis	Em:VL Oostenbrink + molecular detection
D. destructor	Em:VL Oostenbrink + molecular detection
D. dipsaci	Em:VL Oostenbrink + molecular detection
Longidoridae	Em:LX Oostenbrink + microscopy
Cyst nematodes	Em:CY Drtfl/Fenwick + microscopy
Em	House method