

# International demand for Dutch approach to harmful nematodes

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The chemical control of harmful nematodes is being limited in an increasing number of countries. Instead of using chemicals, farmers and horticulturalists must now control this pest in the soil. The Netherlands has a wealth of knowledge in this field and Wageningen scientists have noticed how this is generating lots of interest from abroad.

"The way the Netherlands has interlinked the available knowledge is unique in the world," says Leendert Molendijk, [nematode](#) expert at Wageningen UR. "Over the past decade, the plant sector, government and research institutes have been working together to accumulate knowledge. We have a good insight into which crops multiply which nematodes, and have made this knowledge widely available through nematode schemes and a free online tool: [aaltjesschema.nl](http://aaltjesschema.nl) (nematode scheme). Farmers use the website to understand the consequences of decisions on crop- and variety choice and stay one step ahead of possible problems. This helps them determine a strategy for keeping the soil healthy."

Nematodes are worms that are invisible to the naked eye and live in the soil in large numbers. While most nematodes are bacteria eaters and useful in the underground food network, there are also harmful varieties that penetrate the plant roots and disrupt the plant physiology from there. This endangers the yield and quality of crops and also threatens the export of seed material (such as the seed material of potatoes) because some nematode varieties have a quarantine status. It is therefore logical that the Netherlands, as a major exporter of seed potatoes and other plant material, has made major investments in knowledge and [control measures](#).

The scientists are now able to estimate the extent to which the various nematode varieties multiply for various major crops and green manures. Available online and constantly updated, this knowledge allows breeders who enter their cultivation plan online to see the possible bottlenecks in crop order. For harmful nematodes in potatoes there is NemaDecide, a consultation module that shows breeders the effect of choices in the development of the nematode populations for their specific situation. The programme can also include the impact of control measures in scenario calculations.

## **Cooperation between research, government and practice**

A lot of the Dutch knowledge can be directly applied anywhere in temperate regions, Molendijk expects. "And this is already happening. We have seen that the percentage of international visitors to the [www.aaltjesschema.nl](http://www.aaltjesschema.nl) website is increasing." Other climate zones require additional local knowledge. They are interested in the Dutch knowledge and approach, but there is often a gap with the existing infrastructure. "Other countries often lay the emphasis on fundamental knowledge, while the strength of the Netherlands lies in the close cooperation between research, government and practice."

Molendijk would welcome discussions with his fellow international nematologists and breeding consultants in order to intensify cooperation. "We are benefiting from mutual expertise in various European projects. Any knowledge that is scientifically valid can help improve the existing tools. And this benefits the soil health everywhere."

## **Wintertime: nematode diagram time**



Especially now, in winter, there is much to gain from considering the nematode approach. With the free aid of [aaltjesschema.nl](http://aaltjesschema.nl), farmers can benefit from advice specified to their unique crop and soil conditions with only a few mouse clicks. A brief video explains how to make the most of [aaltjesschema.nl](http://aaltjesschema.nl).

## **Strengthen international cooperation**

Wageningen wants to share its [knowledge](#), expertise and tools in order to reduce the impact of nematodes in agriculture internationally.

Molendijk: "We are continuously widening our network of nematologists from all over the world. The participation of new partners helps us to further improve the on line tool and to enable farmers across the globe to benefit from it."

Provided by Wageningen University

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