

Cover crop choice: do's and don'ts regarding root-knot nematode management

Cover crops are gaining popularity among farmers, advisors, and policymakers in agriculture. These are fast-growing, non-economic crops grown during the off-season. **Cover crops are used to reduce erosion and nutrient losses, improve soil structure, increase organic matter content, and support beneficial soil life.** Some cover crops can also promote helpful soil organisms that naturally fight harmful nematodes, making them a valuable tool in integrated pest management (IPM).

As long as cover crops grow well under off-season conditions and do not become weeds in the next season, their selection may seem simple. **However, not all cover crops are safe to use in every situation.** Some can serve as food sources for pathogens and help them survive into the next season. In the past, leaving fields fallow during winter helped to reduce plant pathogens. Today, **it's important to understand the health status of your soil to avoid planting cover crops that might support pests.**

This can be illustrated by *Meloidogyne chitwoodi*, a damaging root-knot nematode with quarantine status. Its density can be reduced by choosing cover crops such as fodder radish, perennial ryegrass (see figure below), phacelia, or vetch that are poor hosts and can help manage this nematode. On the other hand, black oat - a popular cover crop - is a very good host for *M. chitwoodi* and may cause its population to increase. If *M. chitwoodi* is not present or not harmful to the following crop, black oat can be safely used. But if this nematode is a known issue, it is better to choose another cover crop (for host status of cover crops see for e.g. best4soil.eu)

Main message: Being informed about the pathogen status of a field is essential. This information should be taken along in the cover crop selection. **There are many cover crops on the market, pick a cover crop that doesn't promote pathogens that might be harmful to the next main crop!**



AUTHOR(S)

Hans Helder Hans.Helder@wur.nl
Deisy Amora deam@novonesis.com

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Europe

nem-emerge.eu



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