

SoildiverAgro project

Adoption of new management practices to increase crop production and quality



THE WHAT AND WHY

Non-chemical and sustainable alternatives for cyst nematodes control in potato cultivation: trap plants.

Solanum sisymbriifolium is an interesting alternative to the use of nematicides in potato cultivation for the control of potato cyst nematodes. This plant favours the hatching of nematode cysts, but does not provide them with sustenance or a place to lay eggs, preventing them from reproducing, hence its name as a trap plant. In one of the case studies of the SoilDiverAgro project developed in A Limia (Galicia), the capacity of these plants to reduce nematode populations in infected plots was studied. For this purpose, 3 plots belonging to farmers were selected in which the initial amount was 104, 43 and 85 *Globodera* cysts per 100g of dry soil. The plants were sown in June at a dose of 20 kg per ha. In 2 of the 3 plots sown, emergence was successful and the crop quickly covered the whole area.

However, in one of the plots, emergence was worse and other weeds soon competed with the trap plants. The results showed a significant reduction of cysts in the two plots where the trap plants were well emerged and developed well. In these plots, a 77 and 87% reduction of cysts was achieved. However, in the plot with the worst nascence and therefore the lowest density of developed trap plants, the reduction was 36%. Therefore, if the management recommendations for the cultivation of this trap plant are followed and the plant manages to develop adequately with a good planting density, the cultivation of trap plants is presented as an effective, non-chemical and therefore sustainable alternative for the control of potato cyst nematode in potato cultivation.



1. Trap plants (*Solanum sisymbriifolium*).



2. Nematode cysts on the root of potato plant.

KEYWORDS

Solanum tuberosum, *Solanum sisymbriifolium*, sustainable management.

AUTHORSHIP

Laura Meno Fariñas, Universidad de Vigo (UVigo), Vigo, Spain.
David Fernández Calviño, Universidad de Vigo (UVigo), Vigo, Spain.
Servando Álvarez Pousa, Inorde, Ourense, Spain.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817819

This factsheet is produced as part of the SoildiverAgro project. Although the author has worked on the best information available, neither the author nor the EU shall in any event be liable for any loss, damage or injury incurred directly or indirectly in relation to the project.