Stefan Toepfer CABI, Delémont, Switzerland and CABI, Hodmezovasarhely, Hungary, s.toepfer@cabi.org **Bart Vandenbossche** e-nema Ltd., Schwentinental, Germany **Patrick Fallet , Ted C.J: Turlings** Institute of biology, University of Neuchâtel, Neuchâtel, Switzerland **Xun Yan** Zhongkai University of Agriculture and Engineering, Guangzhou, P. R. China Bancy W. Waweru, Joelle N. Kajuga Rwanda Agriculture and Animal Resources Development Board, Rubona, Rwanda **Rui Tang** Guangdong Key Laboratory of Animal Conservation and Resource Utilization, Institute of Zoology, Guangdong Academy of Sciences, Guangzhou P. R. China

Application techniques for entomopathogenic nematodes against below- and above ground maize pests

Key pests

Damage to leaf whorls, stems, tassels or cobs



Application techniques

Application of nematodes together with protective adjuvants

Nematodes used

Nematodes successfully used in the field and/or registered

Steinernema carpocapsae Steinernema feltiae Heterorhabditis ruandica Heterorhabditis indica Heterorhabditis bacteriophora

Steinernema carpocapsae

Steinernema feltiae

Steinernema riobrave

Steinernema carpocapsae

Heterorhabditis bacteriophora

Heterorhabditis amazonensis

Heterorhabditis bacteriophora

Steinernema carpocapsae





The use of entomopathogenic nematodes against maize pests may increase in the near future, due to increasing importance of maize for food security

- improvements of application techniques for nematodes
- increasing availability of nematode-biocontrol products •
- decreasing availability of insecticides •

Below dround

Key pests

Damage to maize roots



Application techniques

into soil onto soil As fluid stream As fluid during As granules during sowing weed control. spray near plant along rows

Nematodes used

Nematodes successfully used in the field and/or registered

Rootworms	Heterorhabditis bacteriophora Heterorhabditis megidis Steinernema carpocapsae
Grube	Heterorhabditis bacteriophora





Glubs

Steinernema carpocapsae Depends on grub species

Cutworms

Steinernema carpocapsae Steinernema feltiae

Citation: Toepfer S., Vandenbossche B., Fallet P., Turlings T.C.J, Yan X., Waweru B.W, Kajuga N.J., R. Tang (2023) Application techniques for entomopathogenic nematodes against below- and above ground maize pests. ABIM /IMBA meeting, Basel, Switzerland, 23 to 25 October 2023



Acknowledgements: This research had been funded by the CTI program of BWL Switzerland, the LTZ Baden Wuerttemberg of Germany, the LfL of Bavaria of Germany, the NRI Fund with support of IDRC under the National Council for Science and Technology of Rwanda (NCST-NRIF-IDRC/SSR-AGR/002/2021), by the Canton and the University of Neuchâtel in Switzerland, by CABI's Action on Invasives Programme and Plantwise Plus Programme through the UK Department for International Development, the Directorate-General for International Cooperation of The Netherlands and the Swiss Agency for Development and Cooperation, by the Guangdong International, Hong Kong, Macao and Taiwan Talent Exchange Special Fund Cooperation, by the General Program of National Natural Science Foundation of China (32172491), and by the Foundation of Guangdong Provincial Department of Education (2022ZDJS020).