TESTA

Seed health: development of seed treatment methods, evidence for seed transmission and assessment of seed health.

Christine Henry

The details

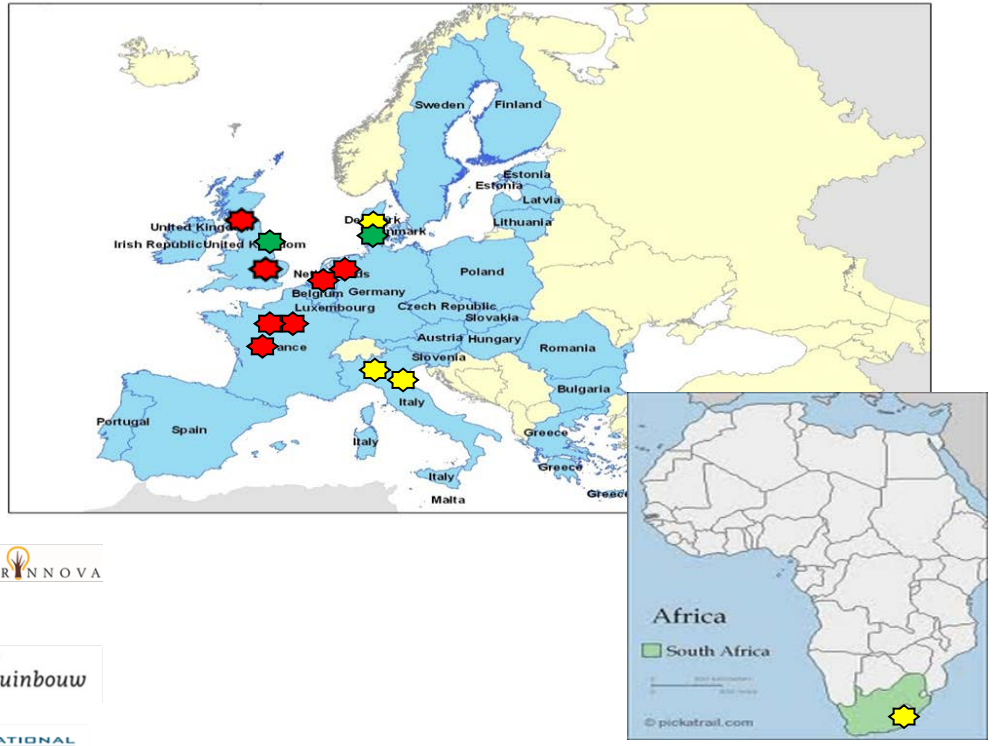
- EU funded Collaborative project
- Development of seed testing and treatment methods for pests and pathogens of plant health concern
- Duration: 40 months- 1 October 2012- end January 2016
- Coordinator: Fera

- webpage:https://secure.fera.defra.gov.uk/testa/

Objectives

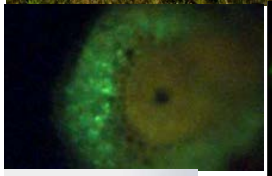
- Development and validation of more global, rapid, efficient and effective seed testing methods
- Quarantine and non-quarantine pests and pathogens
- Optimization of sampling
- Seed transmission
- Disinfection methods

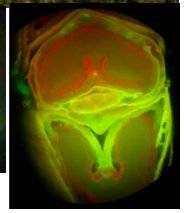
The consortium



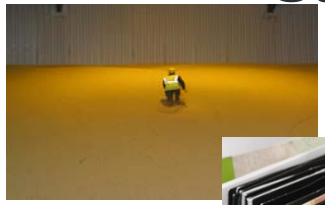
WP structure

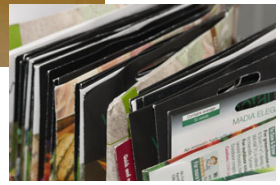
Seed transmission



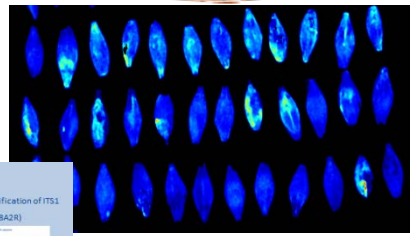


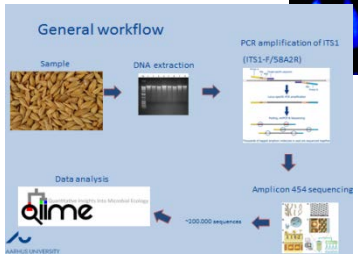
Sampling



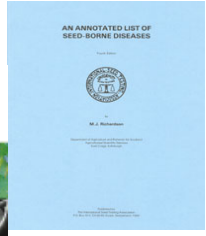


Detection methods





Deliverables



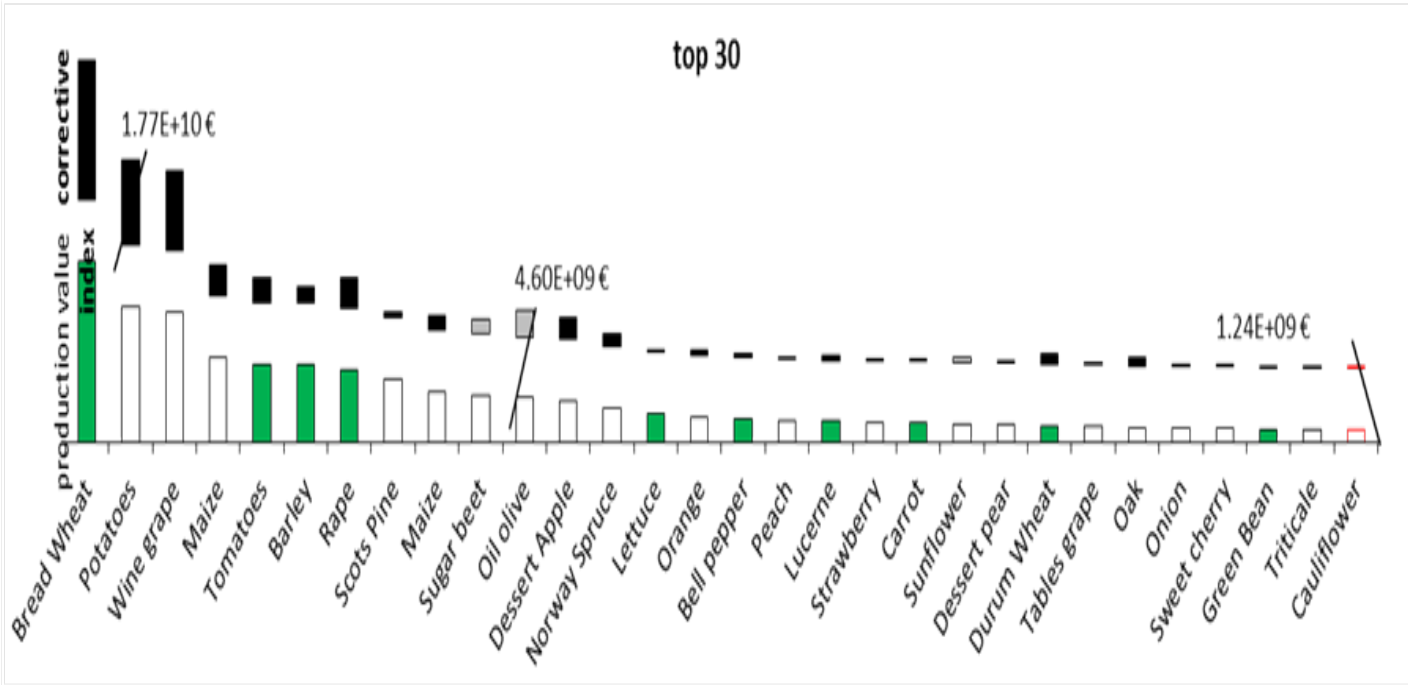
Disinfection

Validation of methods

Selection of target organisms

- Economic importance to the EU.
- Representative of the groups of organisms i.e. fungi, bacteria, viruses, viroids and pests.
- Representative of the different types of seed transmission.
- Representative of the variety of plant species, crops and geographical areas in the EU.

Target crops



Alfalfa

Barley wheat rice

Basil

Brassicas

Carrot

Cucurbits

Legumes

Lettuce

Pepper

Rice

Rocket

Tomato

Vicia faba

Target pests

Bacteria	Acidovorax avenae subsp. citrulli
	Clavibacter spp.,Clavibacter michiganensis subsp. michiganensis
	Pseudomonas syringae pv maculicola, Pseudomonas syringae pv tomato
	Xanthomonas spp.,Xanthomonas vesicatoria,Xanthomonas euvesicatoria,Xanthomonas campestris pv campestris,
	Xanthomonas axonopodis pv.phaseoli(Fuscans and non Fuscans)
Fungi	Alternaria spp.
	Fusarium spp, Fusarium fujikuroi, Fusarium oxysporum f. sp. Basilici, Fusarium oxysporum f. sp. raphani
	Phoma lingam
	Tilletia spp, T.indica, Tilletia caries
Nematodes	Dithylenchus spp,.Ditylenchus dipsaci and D. gigas
Viroid	Pospiviroids
Viruses	CGMMV
	Pepino mosaic virus
	Tomato torrado virus

TESTA Project Dissemination Event

PROGRAMME

30th November – 1st December 2015

TESTA-EPPO Conference on Diagnostics for Plant Pests

Angers, France

Time	Item	Presenters
12:30[1]-14:00	**Registration for the Testa –EPPO Conference on diagnostics for plant pests** and lunch	
14:00	**Session A: Introduction and sampling**	**Chair: Christine Henry (FERA)**
14:00-14:15	Welcome and introduction to the TESTA project	Christine Henry (FERA)
14:15-14:40	Seed sampling: one plan or many?	Roy Macarthur (FERA)
14:40-15:00	Practical sampling of seed for phytosanitary and quality testing	Valerie Cockerell (SASA)
	Session B: Seed transmission	**Chair: Peter Bonants (DLO)**
15:00-15:20	Efficiencies of bacterial transmission from seeds to plantlets	Marie-Agnès Jacques (INRA)
15:20-15:40	Colonization routes of *Xanthomonas campestris pv. campestris* in Brassica plants that can result in seed infection	Jan van der Wolf (DLO)
15:40-16:10	Coffee break	
16:10-16:30	Diversity of seed-borne bacteria and consequences for detection strategies	Marie-Agnès Jacques (INRA)
	Session C: Diagnostic methods	**Chair: Francoise Petter**

Time	Item	Presenters
09:00	**Session C (cont.): Diagnostic methods**	**Chair: Françoise Petter (EPPO)**
09:00-09:30	"Dead or alive" that is the question, with examples of CGMMV and Xcc	Theo van der Lee & René van der Vlugt (DLO)
09:30-09:50	Comparison of next generation sequencing and VideometerLab for pathogen detection on cereal grain	Mogens Nicolaisen (AU)
09:50-10:10	Implementation of the detection protocol for *Xanthomonas euvesicatoria* in pepper seeds	Emilio Stefani (UNIMORE)
10:10-10:30	Pathoscreen, a new approach in non-destructive quantitative detection	Els Verstappen (DLO)
	Session D: Diagnostic method validation	**Chair: Michel Ebskamp (Naktuinbouw)**
10:30-10:50	Culture-free rapid molecular detection of *Clavibacter michiganensis* subsp *michiganensis* in seeds of tomato	Harrie Koenraadt (Naktuinbouw)
10:50-11:20	Coffee break	
11:20-11:40	Comparison of detection methods for *Ditylenchus* in alfalfa and Fava Bean seed lots and method validation	Valérie Grimault (GEVES)
11:40-12:00	Validation of a direct PCR for detection of pospiviroids in tomato seeds	Maaike Bruinsma (Naktuinbouw)

TESTA Project
Dissemination Event

2 days of Testa workshops -combine small group lectures and practical sessions.

Workshop A will be on morphological and molecular techniques for detection of Ditylenchus on alfalfa and faba bean seeds and of Phoma on brassica seeds.

Workshop B will be on Molecular Detection of seed transmitted pathogens of tomato

Thanks for listening!