



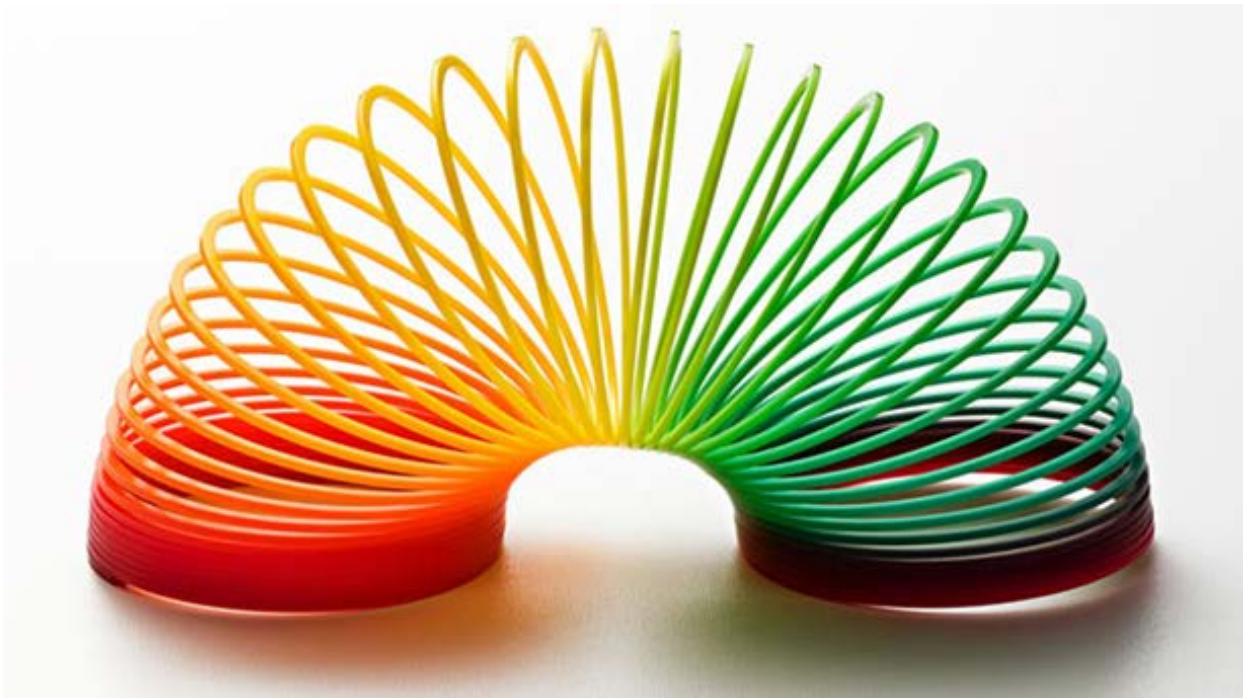
Netherlands Food and Consumer
Product Safety Authority
Ministry of Economic Affairs



A flexible scope on phytosanitary diagnostics

Mariëtte Edema, Arjen Werkman, Marianne van
der Blom, Annelien Roenhorst.

National Reference Centre (NRC)
National Plant Protection Organization (NPPO-NL)
The Netherlands

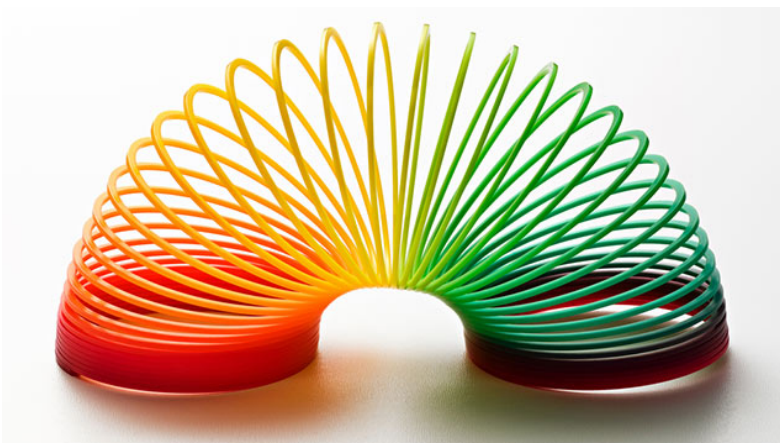








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**ISO 17025
ACCREDITED
LABORATORY**

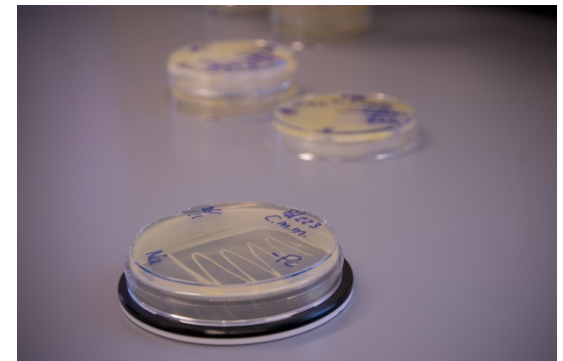




Fixed accreditation scopes

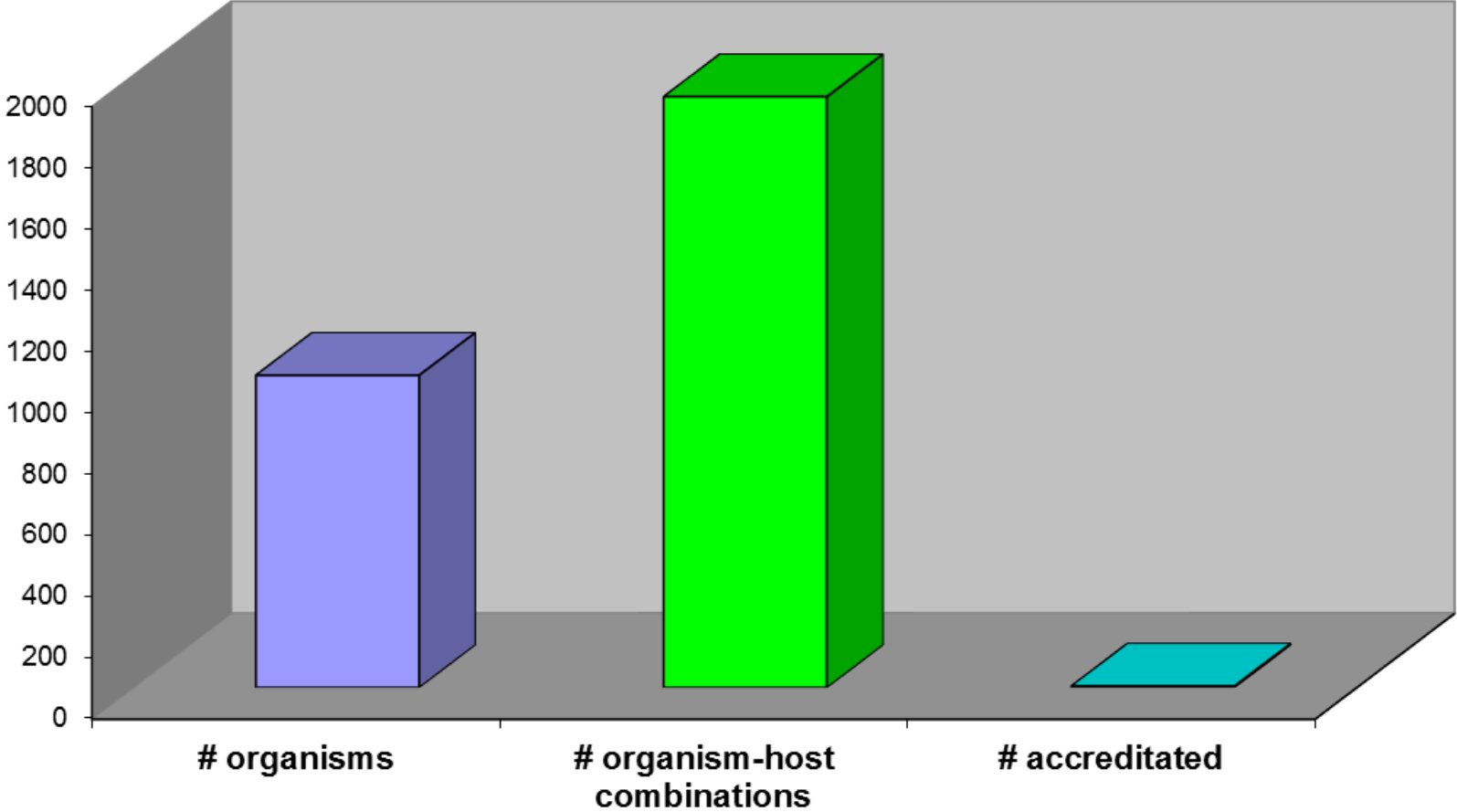
Nr.	Type of material	Method(s)
1.	<i>Lycopersicon esculentum</i> / <i>Solanum lycopersicum</i> (tomato)	Isolation of <i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i> in symptomatic material (stem) from tomato by plating on semi-selective media. Identification of <i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i> by IF, real-time PCR and pathogenicity test

2. *Andean potato latent virus* (APLV)
3. *Phytophthora ramorum*
4. *Thrips palmi*
5. *Ditylenchus dipsaci*





Diagnostic results 2014





Fixed scope

- Process is fixed
- Detailed description of type of test, organism(s) and matrix
- Based on validation

Flexible scope

- Process is flexible
- Generic description
- Flexibility concerning object, or matrix or sample.
- On-going validation



Targeted samples



Non-targeted samples





Tomato seed sample for PSTVd



Boonham et al (2004)

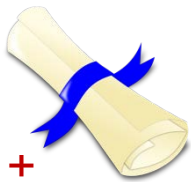
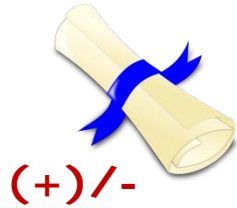
Grind & extract RNA extraction

Real-time RT-PCR

Read test results

RT-PCR
Seq analysis

Report



Targeted samples





Pepper fruit: necrotic spots



CMV, PMMoV, TSWV (bioassay)



Prepare Inoculum



Bioassay



Interpret test results



ELISA CMV

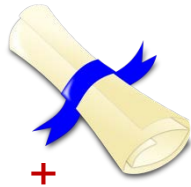
Select further tests



Report

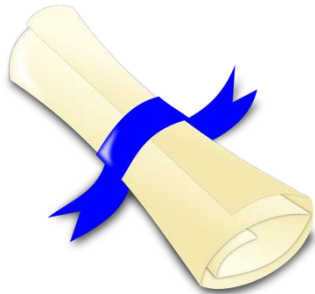


Non-targeted samples





Key principles



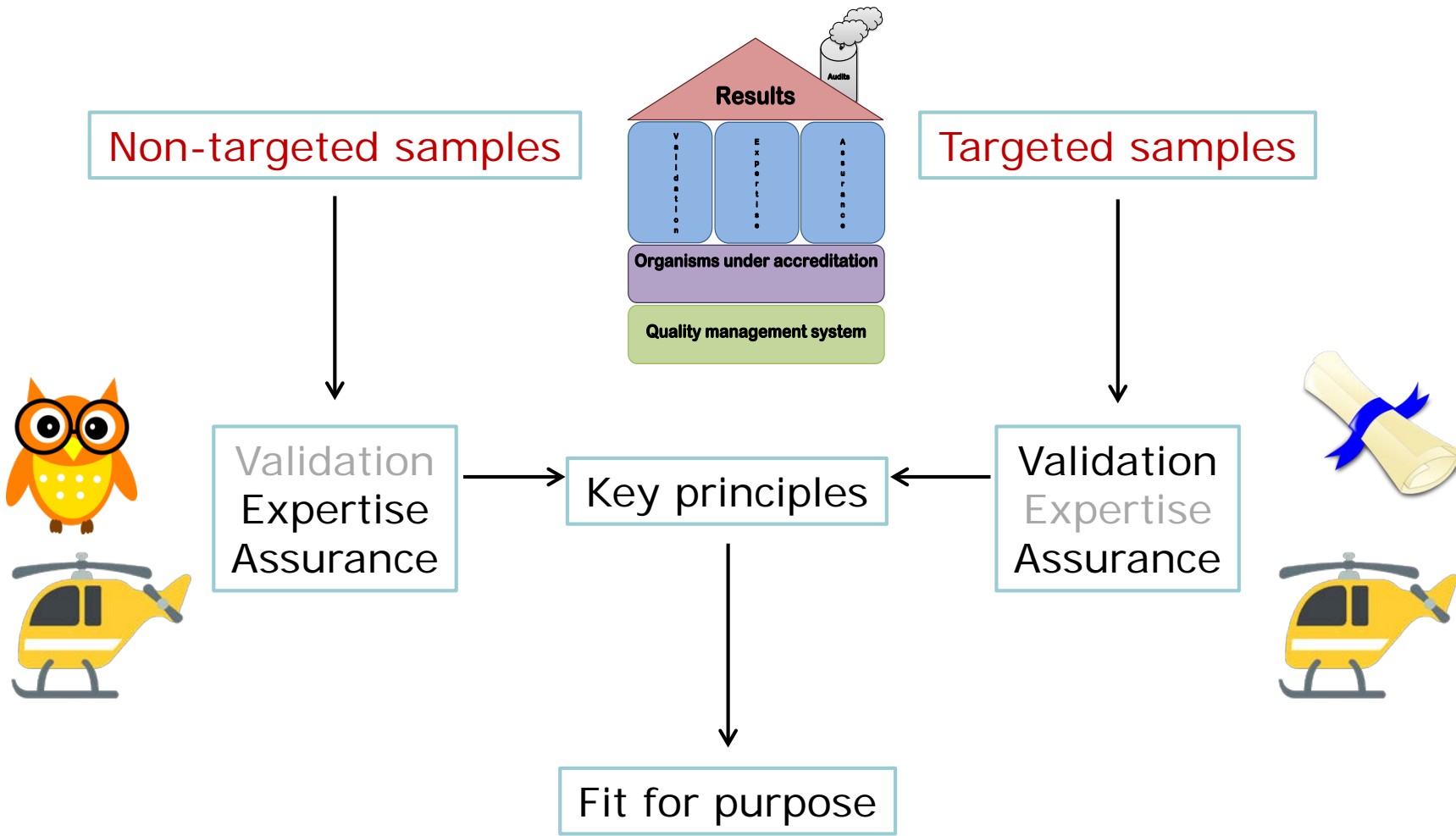
Validation



Expertise

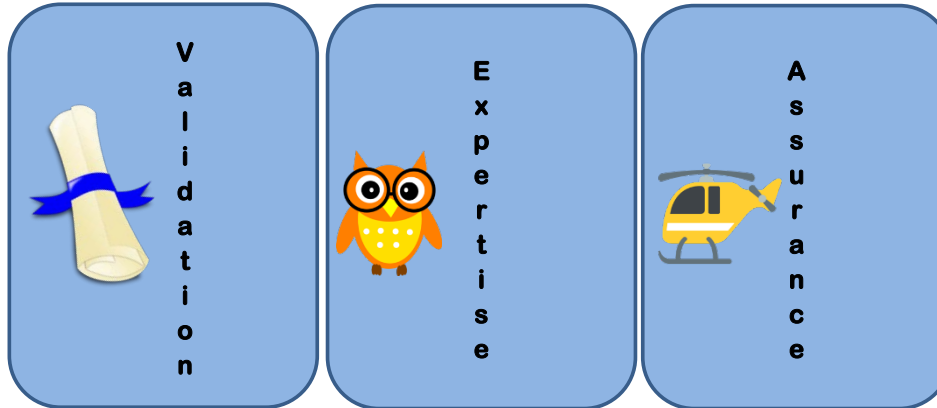


Quality Assurance





Results

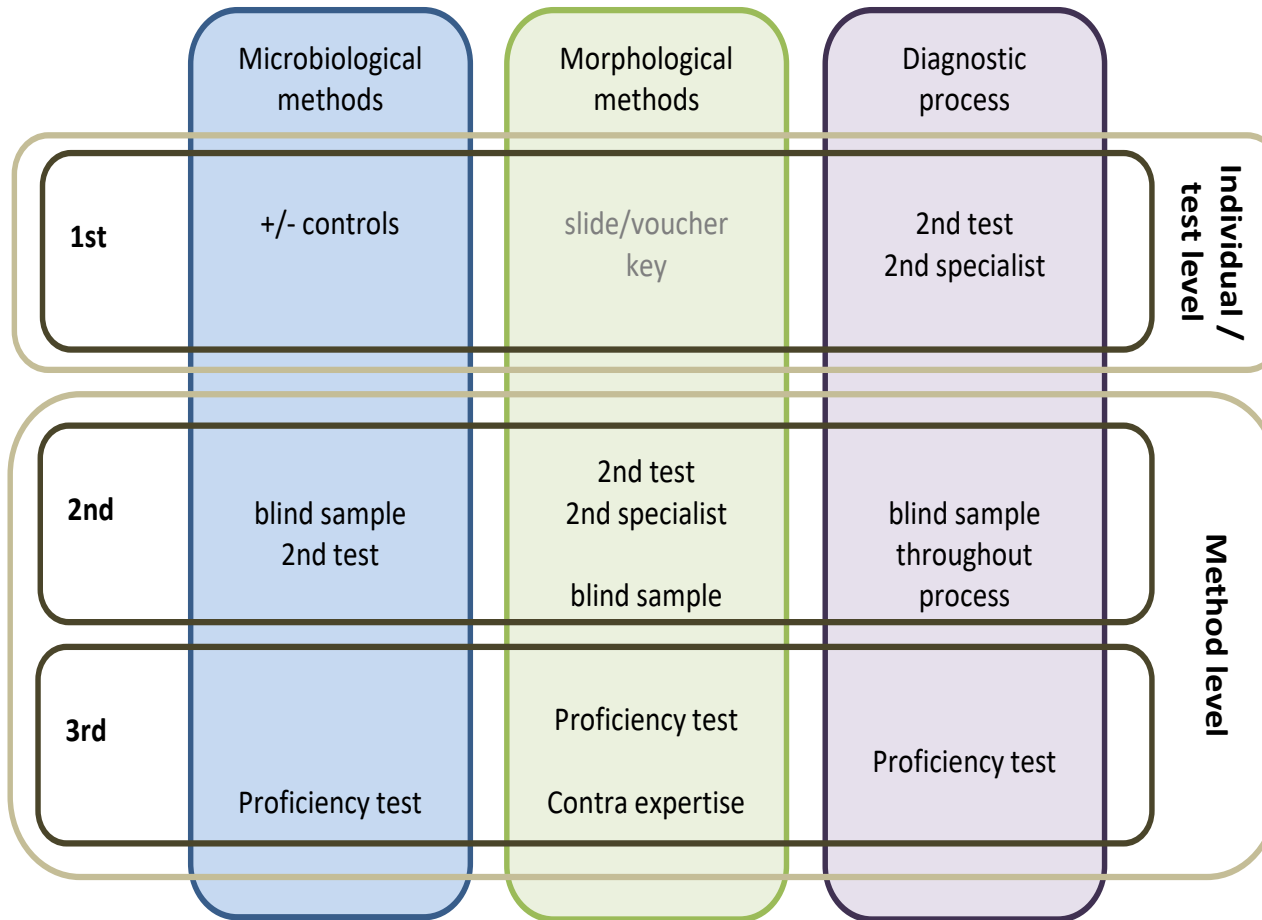


Organisms under accreditation

Quality management system









YEAR
2016
2017
2018
2019
2020

Method		
Bio-assay	ELISA	PCR

Process	
Non-targeted	Targeted



Flexible accreditation scopes

Nr.	Type of material	Method(s)
1.	<i>Plant material and cultures</i>	Identification of Plant pathogenic bacteria using Isolation, IF, Real-time PCR, PCR, Pathogenicity testing

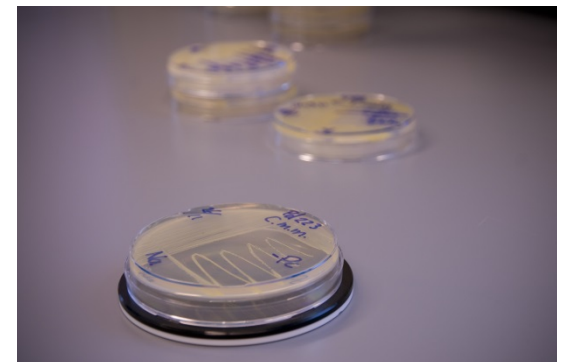
2. Arthropods

3. Nematoda

4. Oomycota

5. Plants

6. Plant viruses and viroids





R-VIR-000-001 Overview of viruses and viroids under accreditation

Genus	Species	Matrix	Bioassay	DAS-ELISA	PCR	Real-time PCR	PCR-Sequencing	Electron microscopy	r-PAGE	Date of addition
<i>Tymovirus</i>	<i>Andean potato latent virus</i>	leaves	TYMO_20160315_TPO	TYMO_20160315_ELISA	+		TYMO_20160315_SEQ	+		20160315
<i>Tymovirus</i>	<i>Andean potato mild mosaic virus</i>	leaves	TYMO_20160315_TPO	TYMO_20160315_ELISA	+		TYMO_20160315_SEQ	+		20160315
<i>Pospiviroid</i>	<i>Potato spindle tuber viroid</i>	leaves			POSPI_20160315_PCR	POSPI_20160315_RPCR	POSPI_20160315_SEQ		+	20160315
		seed								
<i>Pospiviroid</i>	<i>Tomato chlorotic dwarf viroid</i>	leaves			POSPI_20160315_PCR	POSPI_20160315_RPCR	POSPI_20160315_SEQ		+	20160315
		seed								

validated test

support test, not validated



Preparation



Review

Adding to scope

Changing scope

Check

Approval

Approval

Addition to scope

