



Netherlands Food and Consumer
Product Safety Authority
*Ministry of Agriculture,
Nature and Food Quality*



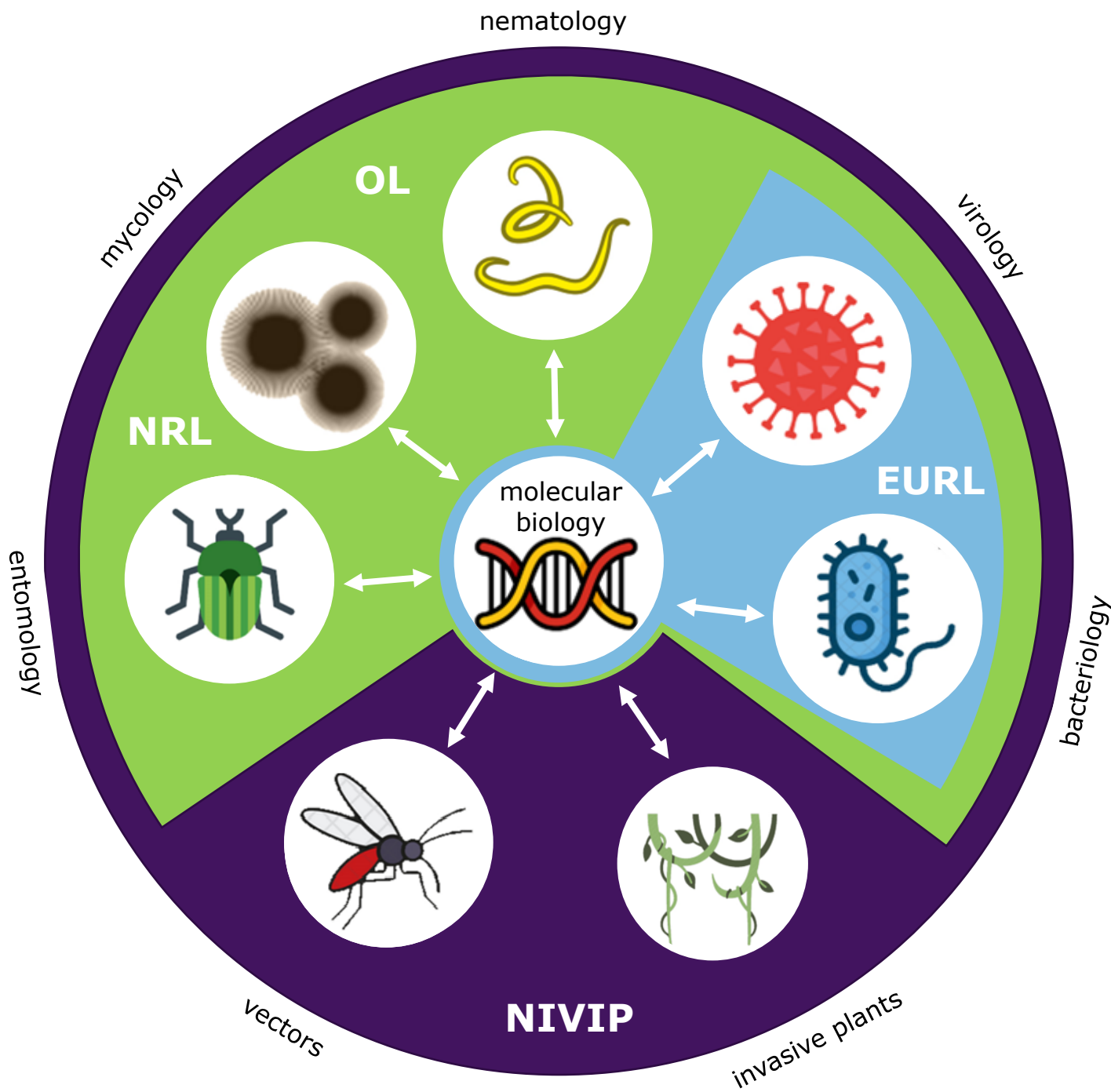
Across the board

Method-based system
approach to proof proficiency
in plant health laboratories

Marcel Westenbergh, NIVIP, NL

EPPO Workshop for heads of laboratories
Oeiras, PT 19/20-4-2023

Netherlands Institute for Vectors, Invasive plants and Plant health (NIVIP)



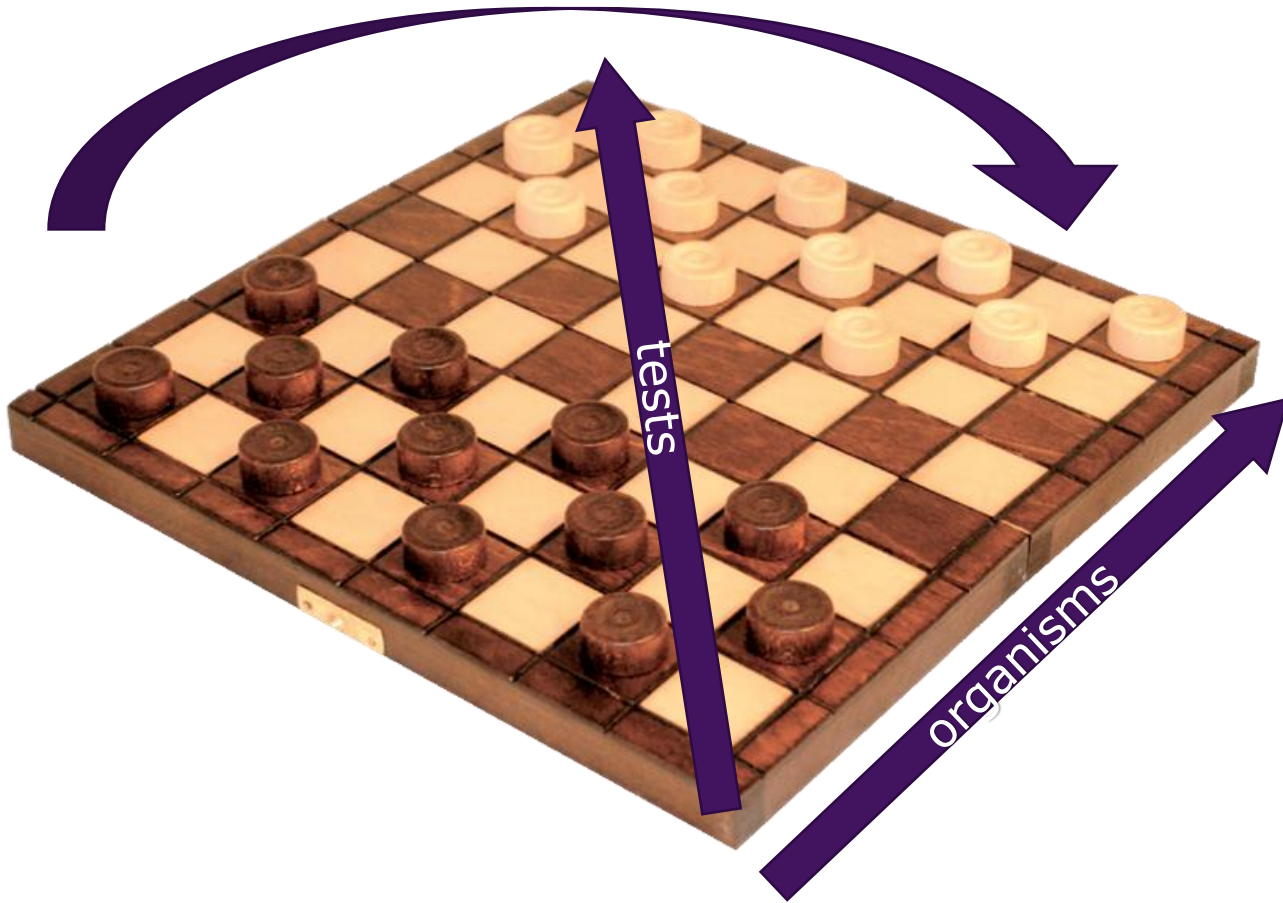
- 7 organism specific groups
 - 5 NRL/OL
 - 2 EURLs
- 1 molecular biology group
 - Diagnostics
 - R&D
 - Collections



Molecular biology diagnostics



staff



- 144 tests
- > 500 (regulated) organisms
- 21 staff (technicians, researches, bioinformaticians)





EN ISO/IEC 17025

7.7 Ensuring the validity of results

7.7.1 The laboratory shall have a procedure for monitoring the validity of results. The resulting data shall be recorded in such a way that trends are detectable and, where practicable, statistical techniques shall be applied to review the results. This monitoring shall be planned and reviewed and shall include, where appropriate, but not be limited to:

d) use of check or working standards with control charts, where applicable;

← first-line controls

j) intralaboratory comparisons;

← third-line controls

k) testing of blind sample(s).

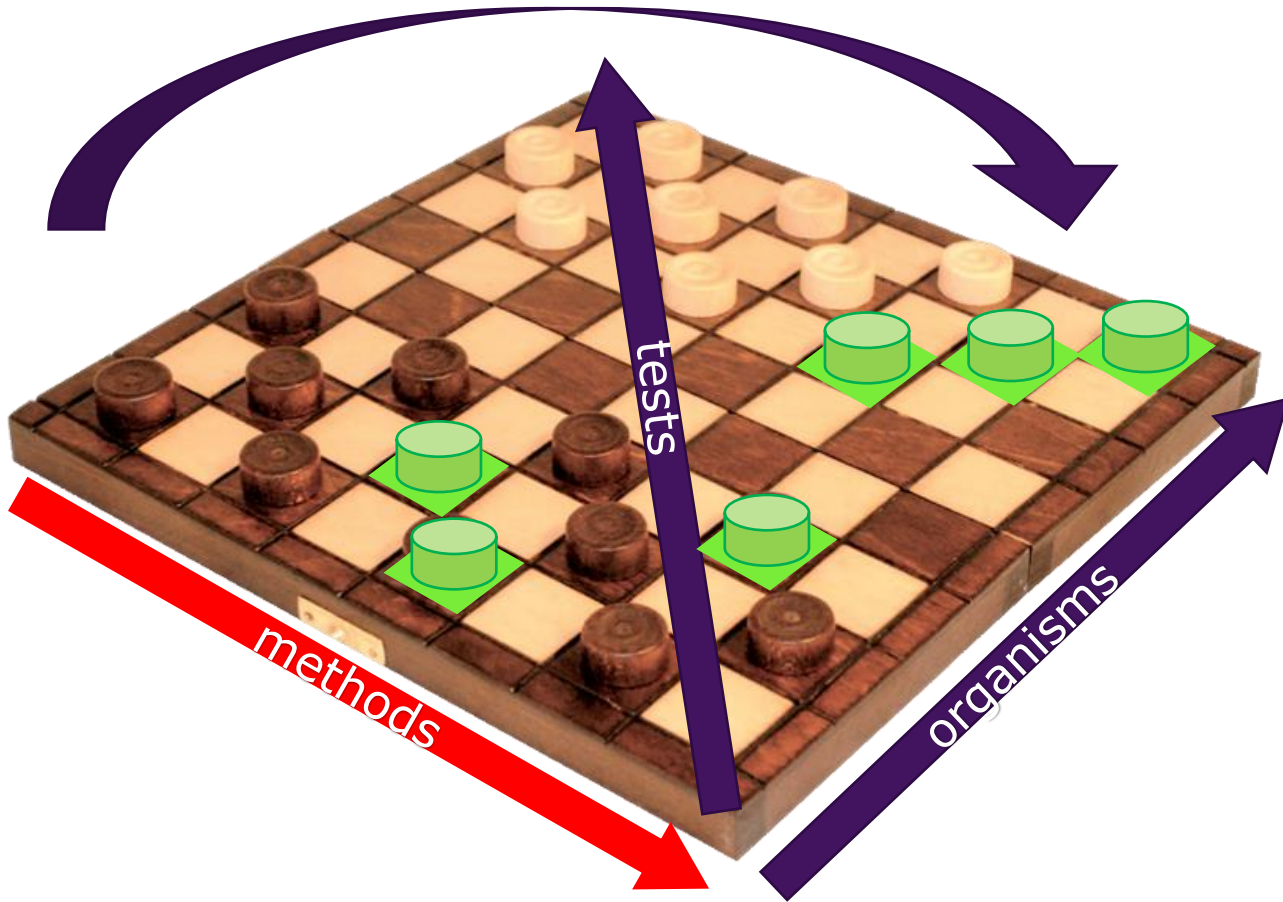
← second-line controls



Proficiency on method level



staff



- 144 tests
- > 500 (regulated) organisms
- 20 staff (technicians, researches, bioinformatician)



Method-based proficiency

- proficient for a method = proficient for all tests using that method

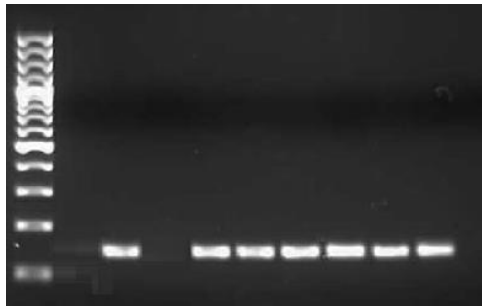




Molecular methods

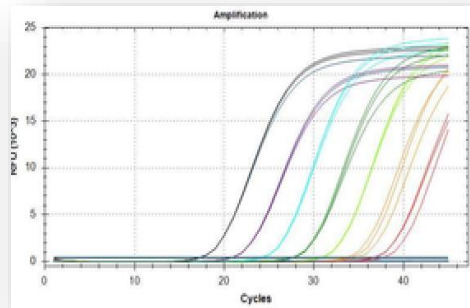
- Define as less as possible methods
- Group tests by method

12



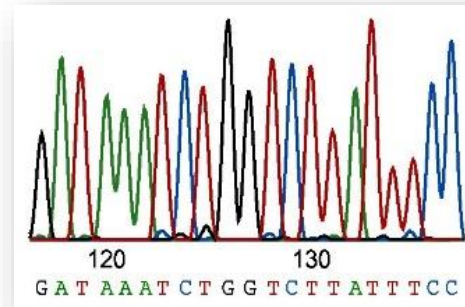
PCR
RT-PCR
PCR-RFLP

55



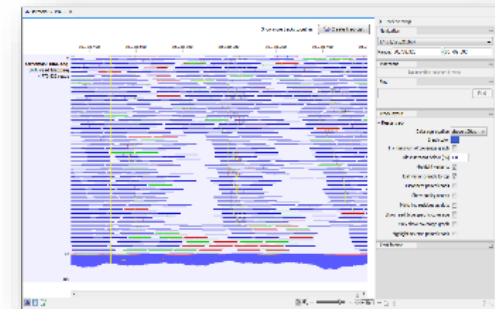
real-time PCR
real-time RT-PCR
TaqMan
SYBR green
LAMP

75



PCR-Sequencing

2



HTS

tests



Annual assurance plan - 2022

	Bacteriology	Invasive plants	entomology/ vectors	nematology	mycology	virology
PCR			Ceratitis capitata	Globodera sp.		
Real-time PCR	Xyella fastidiosa Pantoea stewartii		Thaumatotibia leucotreta Helicoverpa sp. Spodoptera sp.	Meloidogyne sp.	Phytophthora ramorum Synchytrium endobioticum	ToBRFV Phytoplasma
PCR-sequencing	Ralstonia sp.	Salvinia sp.			Phytophthora ramorum	Blind sample
HTS						Phytoplasma Blind sample

assign authorized staff

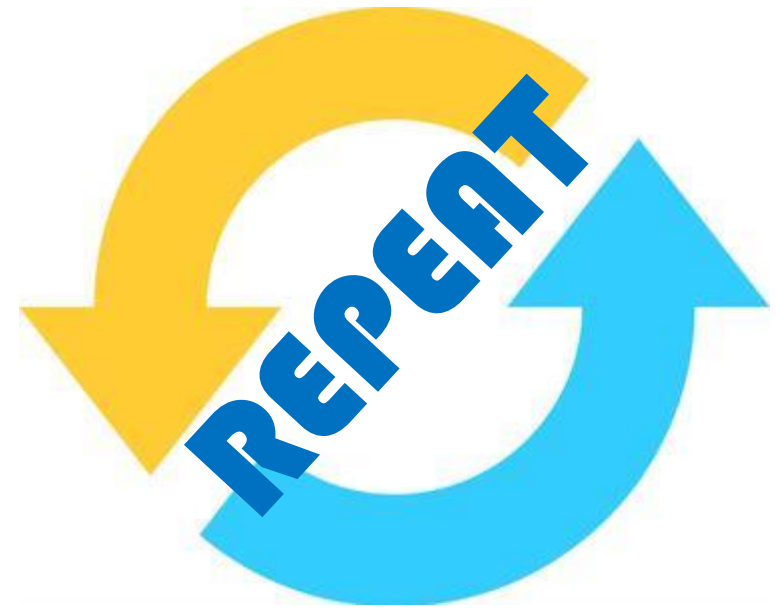
3 samples per entomologist (#6) to verify their identification

EURL PT
NL PT
blind samples



Annual assurance plan – next year

- Same methods
- Different organism (risk based)
- Assign staff to different methods

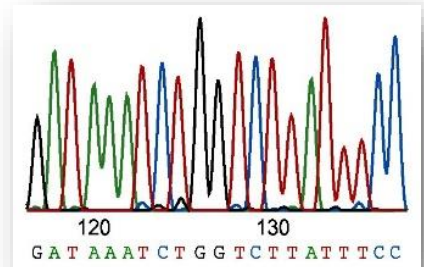
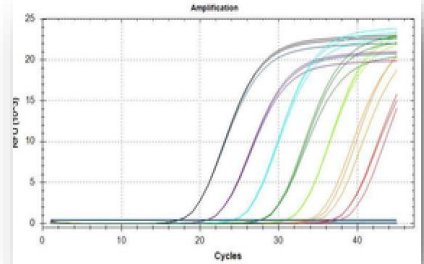
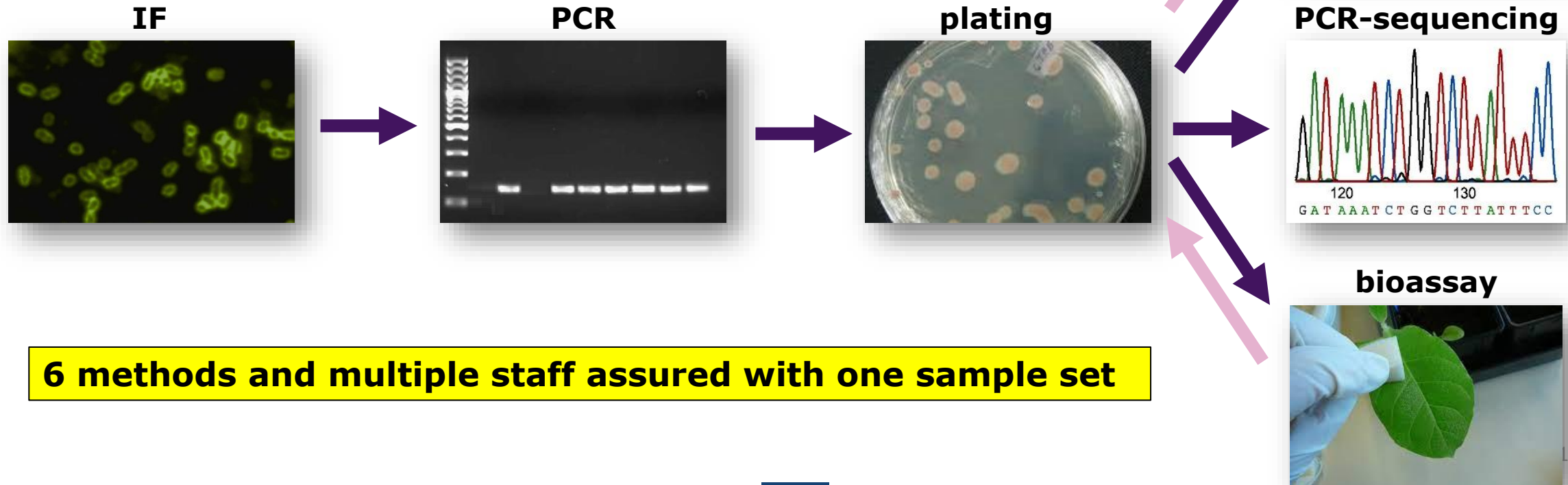




Use of horizontally assurance

- Different methods on the same sample set
- Use normal diagnostic process

Bacteriological example:
Potato extract spiked with *Ralstonia (pseudo)solanacearum*





Summary

- Make use of transferable skills
- Define methods and group tests per method
- Each method should be covered by 2nd or 3rd line controls
- Use horizontally assurance were possible
- Keep shuffling (organisms, tests and staff)





Finish – Start for questions

