

**3 rd Workshop for Heads of Phytosanitary Laboratories  
Rome, September 10-11, 2015**

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# **The official phytosanitary laboratories in Poland**

**The role of the Central Laboratory as a national reference unit**

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**The State Plant Health and Seed Inspection Service  
Central Laboratory**



# **The State Plant Health and Seeds Inspection Service – the NPPO in Poland**

**SPHSIS as a national authority is in charge of:**

- ✓ supervision of the plant health**
- ✓ prevention a risk related to the use and marketing of plant protection products**
- ✓ supervision of production and marketing of seed and propagating material**



# The tasks of the Service are realized by the following bodies:

- ✓ at central level - the Main Inspectorate of Plant Health and Seed Inspection
- ✓ at regional level - Voivodeship Inspectorates of the SPHSIS, being a part of joined voivodeship administration



# Organization of the Service

- ✓ **The Main Inspectorate** **70 employees**
  - Including Central Laboratory** **≈ 24 employees**
  
- ✓ **16 Voivodeship Inspectorates** **2330 employees**
  - Including laboratory staff** **≈ 260 employees**
    - **271 field units**
    - **13 border inspection posts**



# Phytosanitary diagnostics network of SPHSIS

- ✓ Voivodeship Laboratories - 16
- ✓ Central Laboratory in Torun



# Diagnostic activity of the SPHSIS

## Voivodeship Laboratories

✓ **estimation of seed material**

✓ **phytosanitary diagnostics**

## Central Laboratory

✓ **analysis of plant protection products residues**

✓ **GMOs analysis**



# **Diagnostic activity of the SPHSIS**

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**Order of the Main Inspector No. 28/2011**

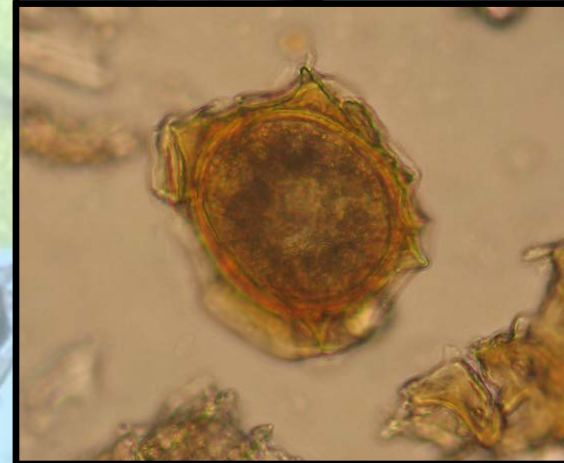
**„General rules of performing laboratory analyses  
of plants, plant products and objects  
for the presence of harmful organisms”**



# Voivodeship Laboratories

carry out routine  
phytosanitary analysis for:

- ✓ official surveys and monitoring of regulated pests
- ✓ import and export certification
- ✓ issuance of plant passports
- ✓ investigation on outbreaks





# Voivodeship Laboratories

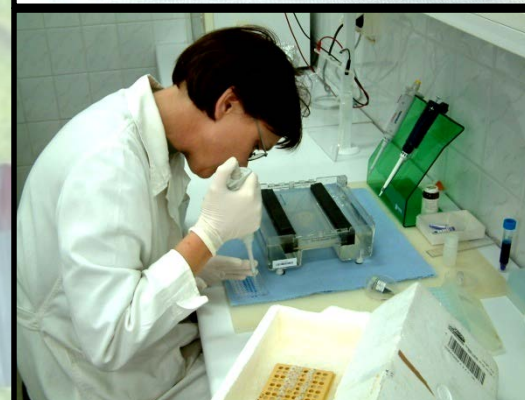
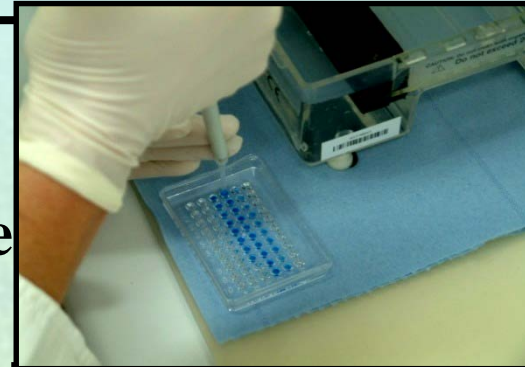
- ✓ **Specialistic equipment**
- ✓ **Broad scope of techniques used**
  - **microscopy**
  - **serological (IF, ELISA)**
  - **plating method**
  - **biological tests**
  - **biochemical tests (R-PAGE )**
  - **molecular (FISH, PCR)**



# Central Laboratory in Toruń

## Divisions:

- ✓ **GMO Analysis**
- ✓ **Analysis of Plant Protection Products Residue**
- ✓ **Phytosanitary Diagnostics:**
  - ✓ **Bacteriology**
  - ✓ **Virology**
  - ✓ **Mycology**
  - ✓ **Entomology**
  - ✓ **Nematology**
  - ✓ **Molecular biology**



# Central Laboratory in Toruń Phytosanitary Diagnostics Division

**conducts routine analysis when:**

- ✓ **Special equipment is needed**  
(e.g. real-time PCR, gas chromatography for fatty acid analysis)
- ✓ **Low number of samples for specific tests in particular voivodeship laboratories**  
(e.g. less than 100 samples for *E.amylovora* in the whole country )



# Central Laboratory in Toruń

## Phytosanitary Diagnostics Division

### conducts routine analysis when:

- ✓ Continuation of testing procedure after screening tests in voivodeship laboratories , e.g.
  - ✓  $\approx 20,000$  samples for PPV – screening test with ELISA in VLs  
 $\leq 100$  samples positive after ELISA - further testing with PCR in CL
  - ✓  $\approx 2000 - 3000$  samples for *Bursaphelenchus xylophilus* – extraction and morphological identification in VLs  
up to 50 samples of “*xylophilus group* ” tested in CL with PCR
- ✓ Survey for new/emerging pests



# Central Laboratory in Toruń

## The laboratory with a reference function

- ✓ **Co-ordination of the diagnostic network**
- ✓ **Establishment of official diagnostic protocols**
- ✓ **Validation/verification of methods used**
- ✓ **Training courses**
- ✓ **Organization of PT according to ISO 17043- at least 4-6 per year (no accreditation yet)**
- ✓ **Preparation of reference material**



# Proficiency tests organized by CL in 2014

- ✓ *Globodera* spp. – detection and identification
- ✓ *Globodera rostochiensis*, *G. pallida* – multiplex PCR
- ✓ *Longidorus* and *Xiphinema*
- ✓ *Clavibacter michiganensis* ssp. *sepedonicus*
- ✓ *Potato spindle tuber viroid* (PSTVd)
- ✓ *Erwinia amylovora*
- ✓ *Phytophthora ramorum*



# Central Laboratory in Toruń

## The laboratory with a reference function

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- ✓ **Confirmation of results when required (e.g. first finding, doubtful result)**
- ✓ **Co-operation with research units and laboratories**
- ✓ **Support for inspectors (e.g. elaboration of leaflets, guidelines)**

### **Additional tasks:**

- ✓ **Supervision and control of voivodeship laboratories**
  - ✓ **Phytopsanitary safety**
  - ✓ **Technical regulation of the Main Inspector**
- ✓ **Verification of testing results (replicate tests or retesting of stored samples by CL) for assuring the quality of tests**



# The scope of accreditation

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- ✓ **Up to day 12 of laboratories of the Service obtained the accreditation certificates.**
- ✓ **Two Seed Testing Laboratories have ISTA accreditation.**





# The scope of accreditation of Central Laboratory

- ✓ *Erwinia amylovora* - DASI-ELISA, IF
- ✓ *Cms* – IF, FISH, FAP
- ✓ *R. solanacearum* – selective isolation, IF, PCR
- ✓ *Pantoea stewartii* subsp. *stewartii* – IF
- ✓ *Xanthomonas campestris* pv. *vesicatoria* – IF
- ✓ *Xanthomonas campestris* pv. *phaseoli* – IF
- ✓ *Cmm*



# The scope of accreditation of Central Laboratory

- ✓ *Colletotrichum acutatum* – morphometric method
- ✓ *Phytophthora ramorum* - morphometric method
- ✓ *Phytophthora fragariae pv. fragariae* - Duncan's test
- ✓ *Synchytrium endobioticum* – Jellem method
- ✓ *Plum pox virus* - DAS-ELISA, IC-RT-PCR
- ✓ *Phytoplasmas, the group 16SrX* - PCR/RFLP



# The scope of accreditation of Central Laboratory

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- ✓ *Diabrotica virgifera* - morphometric method
  - ✓ *Globodera* spp. – extraction and morphometric method, PCR
  - ✓ *Bursaphelenchus xylophilus* - extraction and morphometric method, PCR
  - ✓ *Longidorus* i *Xiphinema* - extraction and morphometric method
- GMO, PPPR – flexible scope covering the whole activity**



# Accreditation of SPHSIS laboratories

Laboratory	Scope of accreditation
Poznań	<i>Cms, R.solanacearum, PVY, PVM, PLRV, PSTVd, CSVd, S. endobioticum, Globodera spp., Xiphinema spp., Longidorus spp.</i>
Koszalin	<i>Cms, R.solanacearum, PSTVd, S. endobioticum, Globodera spp., G. rostochiensis, G. pallida</i>
Rzeszów	<i>PPV, S. endobioticum, Globodera spp.</i>
Katowice	<i>Cms, R.solanacearum, PPV, S. endobioticum, Globodera spp., Xiphinema spp., Longidorus spp., Bursaphelenchus xylophilus, Diabrotica virgifera</i>
Warszawa	<i>Cms, R.solanacearum, S. endobioticum, Globodera spp.</i>
Olsztyn, Elbląg	<i>Cms, R.solanacearum, S. endobioticum, Globodera spp., PPV</i>

# Diagnostic activity of the SPHSIS (phytosanitary area)

	<b>Number of samples</b>	<b>Number of analyses</b>	<b>CL- samples</b>	<b>CL- analyses</b>
<b>2010</b>	<b>159 151</b>	<b>198 375</b>	<b>9 346</b>	
<b>2011</b>	<b>145 010</b>	<b>184 954</b>	<b>6 656</b>	
<b>2012</b>	<b>146 817</b>	<b>189 018</b>	<b>6 800</b>	
<b>2013</b>	<b>159 760</b>	<b>198 069</b>	<b>6 850</b>	
<b>2014</b>	<b>170 858</b>	<b>211 785</b>	<b>6 518</b>	<b>14 174</b>



**Thank you  
for your attention**

