



Better Training for Safer Food *Initiative*

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Session 3: General approach to survey

Bari, 26-30 June 2017

Presentation

- *Methodologies*
- *Planning and timing*
- *Co-ordination*
- *Scientific and diagnostic support*
- *Sampling for laboratory analysis from asymptomatic and suspected plants*
- *Guidelines and protocols for survey*
- *Training and information requirements*
- *Registration of survey results*
- *Record keeping and reporting*

ISPM 5 (definitions)

- **Monitoring:** *An official ongoing process to **verify phytosanitary situations***
- **Survey:** *An **official procedure** conducted over a **defined period** of time to determine the characteristics of a **pest population** or to determine which **species are present** in an area*
- **Surveillance:** *An **official process** which collects and records data on **pest presence or absence** by survey, monitoring or other procedures*

ISPM 6: Guidelines for surveillance

- *There are two major types of surveillance systems:*
 - **general surveillance:** information on particular pests is gathered from many source;
 - **specific surveys:** NPPOs obtain information on pests of concern on specific sites in an area over a defined period of time.

Survey

Purpose:

- ✓ *early detection of new pest,*
- ✓ *NPPO declaration of pest freedom (country/area freedom),*
- ✓ *for reporting to other organisations (RPPO, FAO),*
- ✓ *for the preparation of pest lists.*

Not known to occur

VS

Known not to occur
(survey)

Type of specific surveys

- Detection survey:*** ***Survey conducted in an area to determine if **pests are present*****
- Delimiting survey:*** ***Survey conducted to establish **the boundaries** of an **area** considered to be infested by or **free from a pest*****
- Monitoring survey:*** ***Ongoing survey to verify the characteristics of **a pest population*****

Survey Methodologies

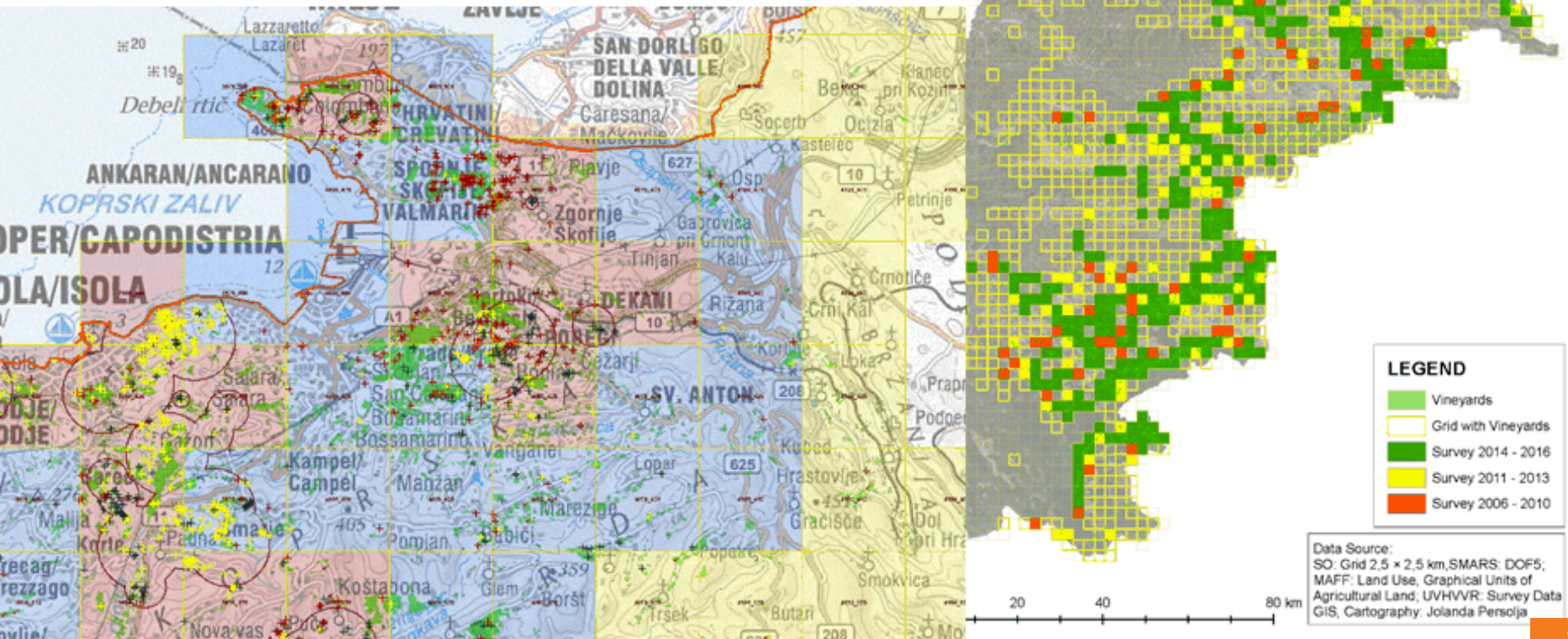
Random Sample Analysis

- *Focussed on areas with host species*
- *When organism has no visible early infestation symptoms and is not known to occur in a country*
- *No risk based methodology*

Inventory according to a predetermined pattern (grid)

- *Inventories are regularly carried out in most EU MS*
- *Perfect statistic data*
- *Special training for staff required*
- *No risk based methodology*

Risk-based survey for Grapevine FD in Slovenia



Priority ranging of each GRID 2,5x2,5 km in 3 classes focused on acreage of vineyards (land use, LPIS) and survey archive database 2006-2017

Survey Methodologies

Risk based survey!

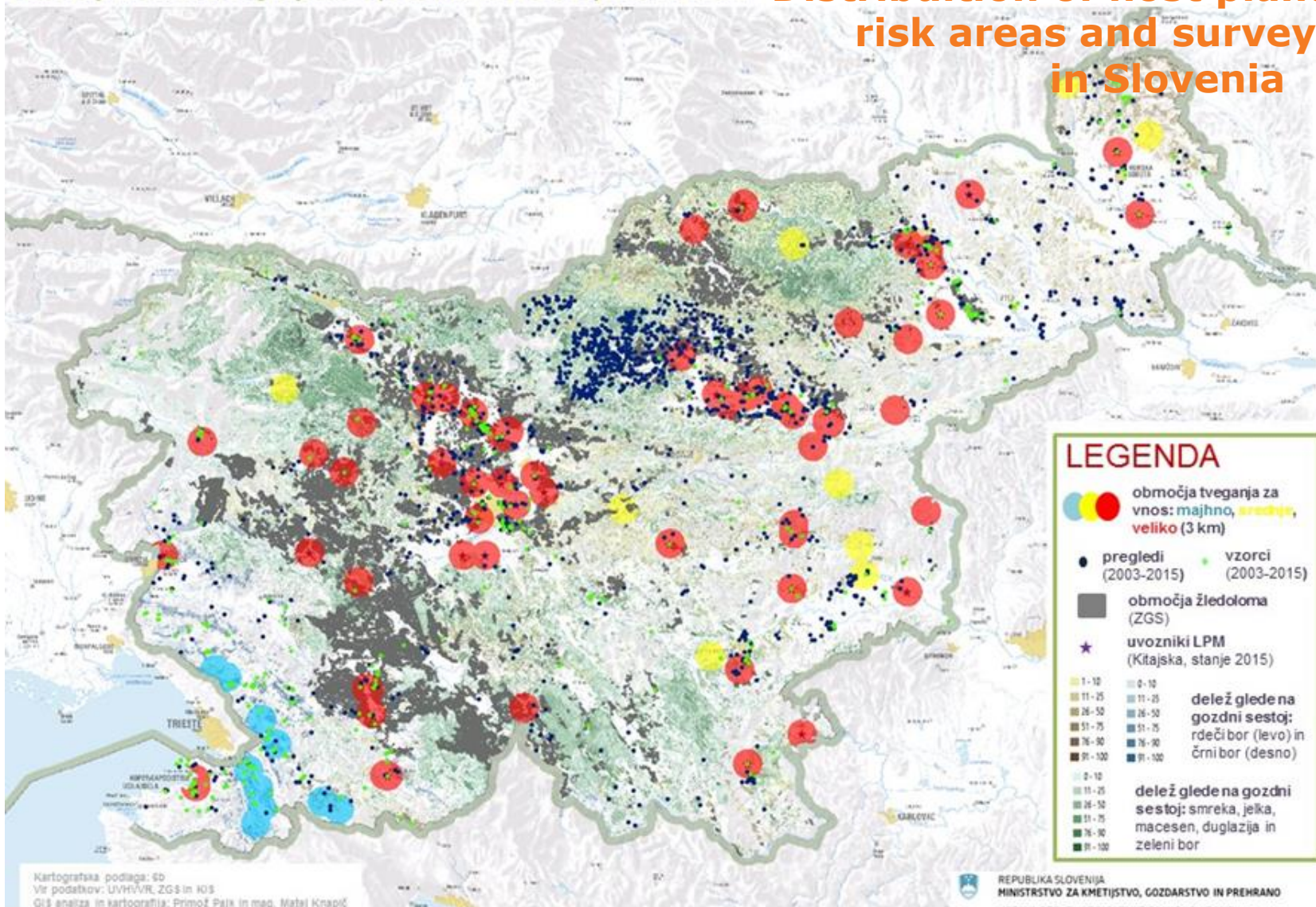
- *Focussed on areas with host species around entry points, storage places*
- *Previously infected locations*
- *Very effective*
- *High chance of detecting pest*

Survey with pheromone traps

- *Only possible for some insect families (beetles, Lepidoptera)*



Bursaphelenchus xylophilus (Steiner et Buhner) Nickle et al. Distribution of host plants for Bx, risk areas and survey history in Slovenia



Kartografska podlaga: 6D
Vir podatkov: UVN/VRL ZGŠ in KOS
GIS analiza in kartografija: Primož Pajk in mag. Matjaž Knapč
DECEMBER 2015

Survey Methodologies

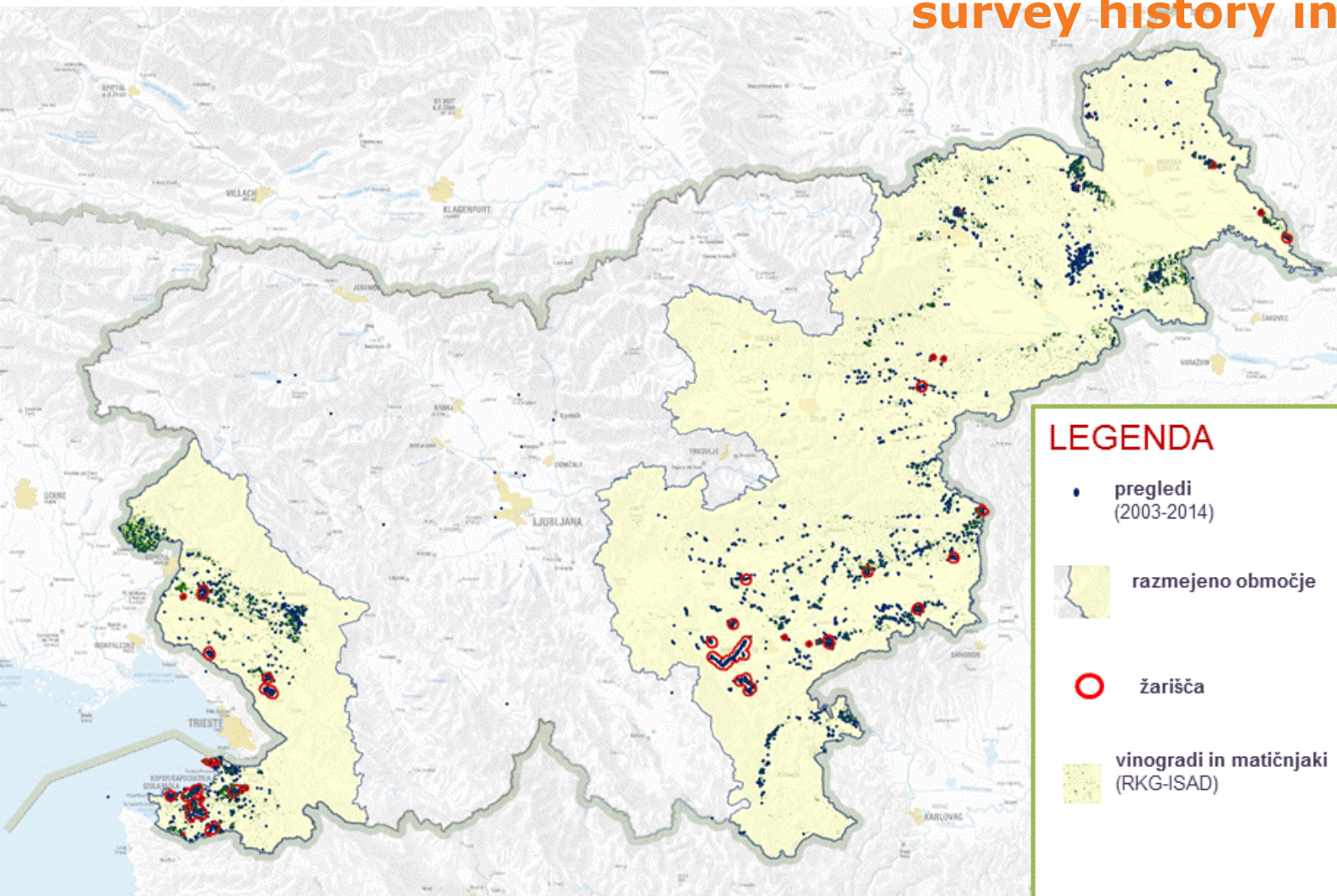
Survey in demarcated areas

- *On all host species*
- *Including destructive sampling if necessary*
- *Inspection of transported goods*
- *Part of contingency plan*



Flavescence dorée

Demarcated area for FD and survey history in Slovenia



LEGENDA

- pregledi (2003-2014)
- razmejeno območje
- žarišča
- vinogradi in matičnjaki (RKG-ISAD)

Surveys planning and timing

- ✓ Identification of **the targeted pest** (biology: pathogen, host and vector)
- ✓ Definition of the **purpose** (early detection, PFA, delimitation, information for a commodity pest list)
- ✓ Identification of **scope** (geographical area, production site, season)
- ✓ Identification of **timing** (dates, frequency, duration)
- ✓ For commodity pest lists: the target commodity

Surveys planning and timing

- ✓ Indication of **statistical basis** (level of confidence, number of samples and selected sites, lots)
- ✓ Description of survey **methodology and quality management:**
 - ✓ Visual checks
 - ✓ Sampling procedures
 - ✓ Diagnostic procedures
 - ✓ Reporting procedures



Information gathering and analysis

- *Information on pest biology and sampling procedures (EPPO, scientific literature, Perseus)*
- *Inventory - information on host plants distribution (i.e. land use database)*
- *Statistical data*
- *Data on past surveys*
- *EUROPHYT, TRACES*
- *Information on outbreaks from other MS*
- *EPPO database*
- *Inspection experiences*
- *Scientific publications*
- *Trade data*
- *Any other possible sources of (general) surveillance, such as records of amateur networks, industry*

Survey sites

Determined by the:

- ✓ *previously reported presence and distribution of the pest*
- ✓ *biology of the pest*
- ✓ *distribution of host plants of the pest and especially of their areas of commercial production*
- ✓ *climatic suitability of sites for the pest.*

*Determination of risk areas of high/medium/low risk
(for risk based survey)*

Timing for survey

Depends on the likelihood of detection of visible symptoms on potential hosts or best timing for sampling on latent infection

Determined by:

- ✓ *the life cycle of the pest*
- ✓ *the phenology of the pest and its hosts*
- ✓ *the timing of pest management programmes*
- ✓ *whether the pest is best detected on crops in active growth or in the harvested crop.*

Survey for some pests can be done during the whole year (e.g. potatoes tubers on Cms, Rs, WPM)

Scientific and diagnostic support

- ✓ *Authorised laboratories – list available in the survey programme*
- ✓ *Reporting results*
- ✓ *Expert support*



Training and information requirements of staff involved in a survey

- ✓ *Training sessions or workshops with practical demonstrations in the field*
- ✓ *Written guidelines*
- ✓ *Handouts, datasheets on pest*
- ✓ *Support of experts available*



Sampling for laboratory analysis from asymptomatic and suspected plants

- ✓ *Instructions on sampling*
- ✓ *In case of minimum suspicion of a QP or potential new QP always take sample*
- ✓ *Many pests do not show visible or typical symptoms in early infestation stages – sampling on latent infection*
- ✓ *Typical symptoms on different plants in different stages*
- ✓ *Sampling in the best time of the year*



Sampling for laboratory analysis from asymptomatic and suspected plants

- ✓ *Hygienic measures when sampling (knives, axes,...)*
- ✓ *Each sample bagged and labelled individually*
- ✓ *Plants labelled if only a part taken*



Sampling for laboratory analysis from asymptomatic and suspected plants

For transport:

- ✓ *Proper storage in close boxes/tubes (insects) or plastic bags or Petri dishes according to instructions of lab*
- ✓ *Storage or posting in appropriate temperature*

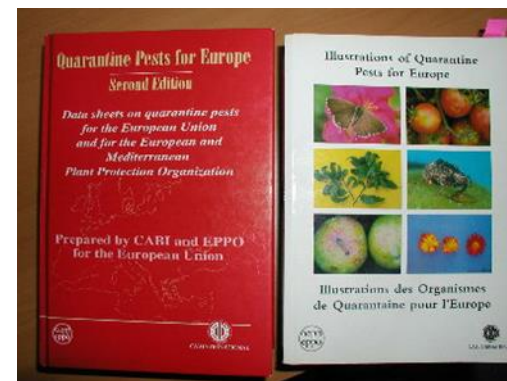


Guidelines and protocols for survey

- ✓ *Should be handed out before survey starts or in the course of training sessions*
- ✓ *If no national guidelines available use EPPO data sheet or ISPM standards*
- ✓ *Uniform designed protocols for the whole country*

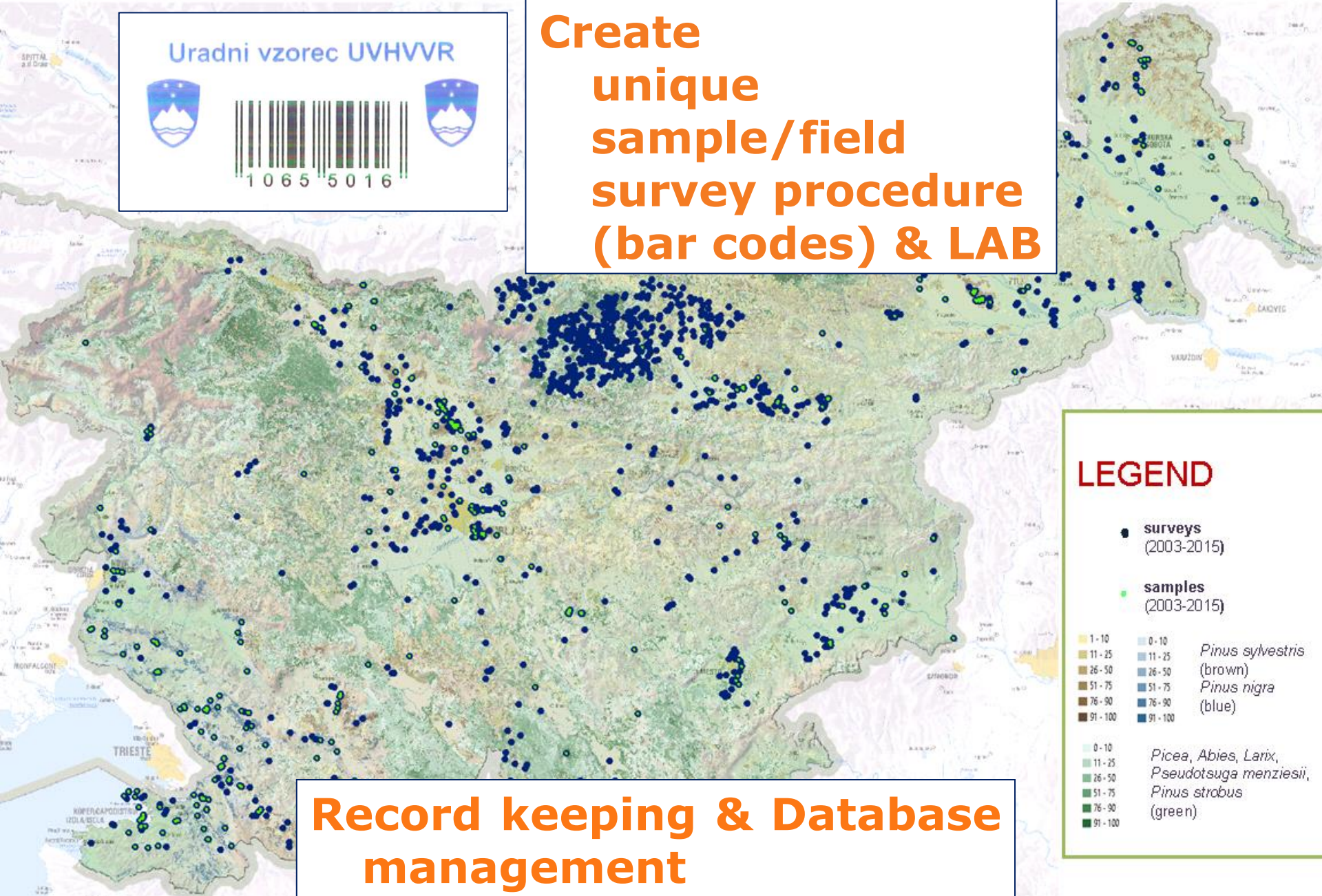


**EPPO
Global
Database**





**Create
unique
sample/field
survey procedure
(bar codes) & LAB**



**Record keeping & Database
management**

LEGEND

- surveys (2003-2015)
- samples (2003-2015)

1 - 10	0 - 10	<i>Pinus sylvestris</i> (brown)
11 - 25	11 - 25	
26 - 50	26 - 50	<i>Pinus nigra</i> (blue)
51 - 75	51 - 75	
76 - 90	76 - 90	<i>Picea, Abies, Larix,</i> <i>Pseudotsuga menziesii,</i> <i>Pinus strobus</i> (green)
91 - 100	91 - 100	
0 - 10	0 - 10	
11 - 25	11 - 25	
26 - 50	26 - 50	
51 - 75	51 - 75	
76 - 90	76 - 90	
91 - 100	91 - 100	



European

UVH APL - [Podrobnejši podatki o pregledu]

Program Urejanje Podatkovni list Zapisi Pogled Fito register Seme register Postopki in evidence Pisarniško poslovanje Šifranti Orodja Poročila Prognoštika



Številka dokumenta: **J34300-42/2013-71**
Razlog pregleda: sistematični pregled DATE 02.10.2013

Lokacija
Enota pridelave: GGOE Odsek:
Kat. ob.: Parc št.:
Gerk ID:
Poligon:

LOCATION DATA

Koor. iz naslova stranke Koor. iz naslova MP Koor. iz polj. naslova Koor. iz karte Poveži s spletno prijavo Prikaži na karti
Y (m): 395.284 X (m): 5.083.340 Vir koordinat: GERK
Opis lokacije: GERK: 4696508
Imetnik: PAVLICA Tadej (234379)

METADATA: host plants, type of plants, cultivar, acreage, sampling/trapping/visual inspection results

Vrsta lokacije:
Skupina vrste lokacije:
Predmet nadzora:
Prevladujoča fenofaza:
Sorta:
Oznaka partije / serije:
Vrsta rast. mat.:
Površina: 15479,109 m2 Količina: kos
Predhodna kultura: Naslednja kultura:
Druge ugotovitve: Vzorec Vzorec:

Posebni nadzor: Leto nadzora: Opombe:

Grapevine yellows
*
Determnation of survey and year

Vizuelni pregledi, vzorčenje Ukrepi, notifikacija Varovalni pasovi O zapisu

Številka lokacije: Št.int. zapisnika: U34300-42/2013-71
Vizuelna določitev ŠO Preglednik: Rot Mojca

Škodljiv organizem:	Rezultat:	Št./povr.	Enota:	Razv. faz
			kos	neznano

Št. zap. o vzorč.: **U34300-42/2013-72** Int. zap. o vz:
Predmet vzorčenja veja (z listi ali brez) Št. enot v vzorcu 0 Št. podvzorcev 0

Laboratorij	Sum na	Št./povr.	Enota:
NIB			
Št. vzorca 10094310 Zbirni vz: <input type="checkbox"/>	Flavescence doree		kos
Št. zb. vzorca 0	*		kos
Datum zahtevka 02.10.2013			
Prioriteta Običajno			
Namen vzorčenja Sum na	TaxName:		RezVz
Opombe:	Bois noir phytoplasmas		pozitiven
	Flavescence doree		pozitiven

DATA FROM LAB

Zapis: 1 od 1

Opis simptomov

Drugi podatki

Registration of survey results

✓ *Records on observation/ sampling, location, **area or number of plants***



✓ *Enter into computer database
+ addition of lab results*



✓ *Data/Report on national level*



✓ *Reporting to EC and MS*

Plant health checks and sampling

*Plant health check = visual check (including sampling) on **ONE LOCATION** for a specific pest on a specific **DATE**.*

LOCATION = **POLYGON** or

POINT →

GPS
ADDRESS
POINT FROM THE MAP

PARCEL OF LAND/
FOREST SECTION

AREA OR
N. OF
PLANTS
VISUALLY
CHECKED



Survey co-ordination

Central authority

*Survey programme
Information management
Reporting to the EC, MS*

Regional office

*Prepares programme on the local level
Coordinates implementation in provinces, districts*

*Official
laboratory*

*Analyses of
samples*

Survey plan

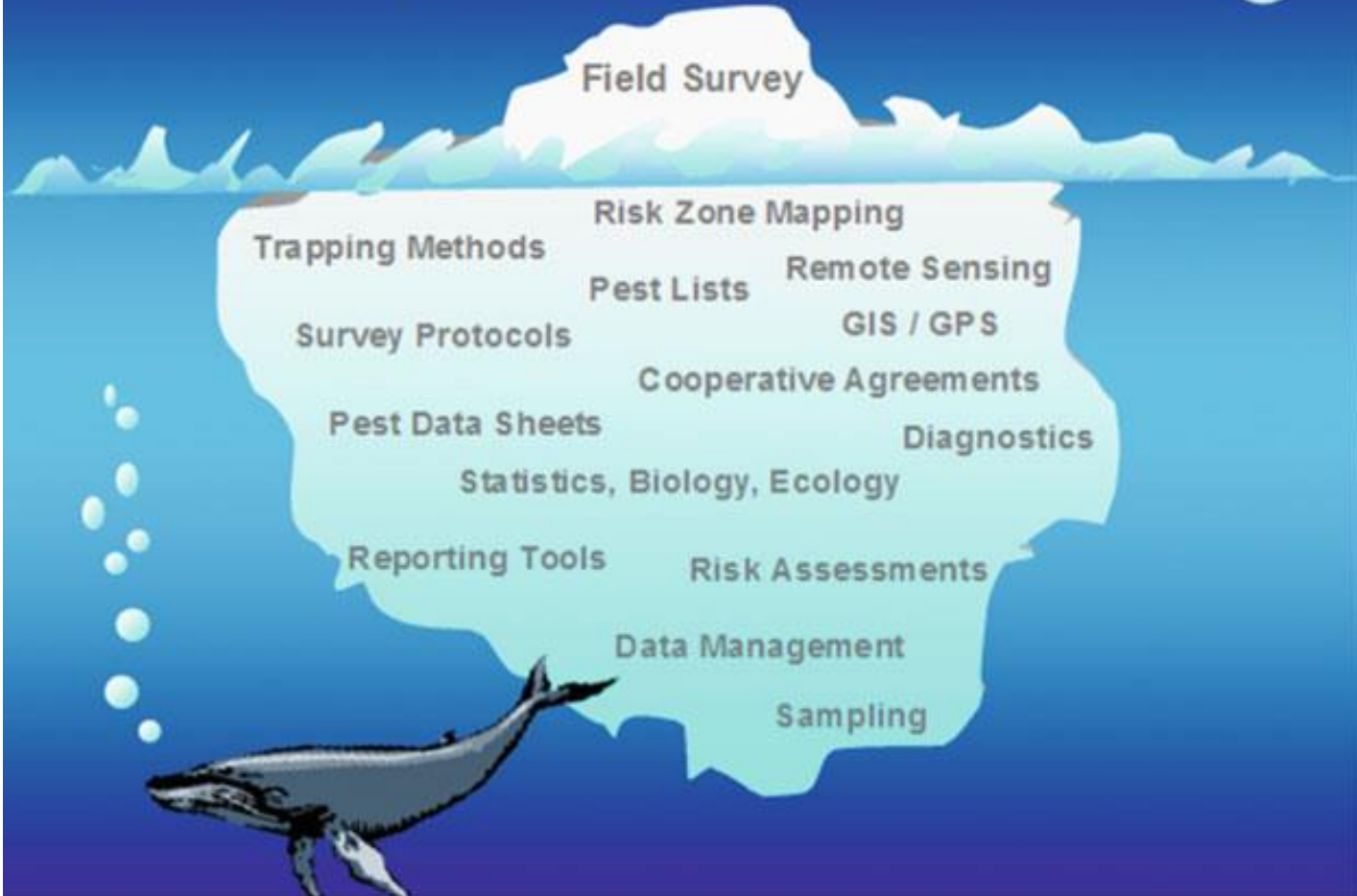
- Listing of a pest (e.g. IALL; EPPO Alert) and status of a pest in a country (FAO ISPM 8)
- Purpose
- Scope (the extent of the area to be covered by the survey)
- Target (a single or multiple pest, host, pathway or commodity)
- Timing (start/end and frequency)

- Area or site selection
- Statistical design
- Plant health check and sampling procedures (e.g. trapping, whole plant sampling, visual inspection, sample collection and laboratory analysis)
- Authorised laboratory and diagnostic procedure
- Data collection (records/reporting)



European
Commission

The Survey Iceberg





Thanks for your attention!

Better Training for Safer Food
BTSF

• *European Commission*
Consumers, Health and Food Executive Agency
DRB A3/042
L-2920 Luxembourg