



Harmonization of crop and pest data by using the EPPO Global database. The experience of Regional Phytosanitary Service of Tuscany

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Common issues

- Data entry users errors within the same database
- Dealing with multiple database sources
 - within the organisation
 - dealing with external subjects



Misspellings

Cicorium sp. / ***Cichorium sp.***

Acer sp / *Acer spp* / ***Acer sp.***

C. michiganensis subsp. michiganensis / *Clavibacter michiganensis pv michiganensis* /
Clavibacter michiganensis subsp. michiganensis

a lot of issues with virus name and acronyms...



Synonymous

Chionodoxa sp. / *Scilla sp.*

Prunus amygdalus / *Prunus dulcis*

Azalea sp. / *Rhododendron sp.*

Sphaeropsis sapinea / *Diplodia pinea*



Mixing taxonomic and common names

Pesco / *Prunus persica*

Flavescenza dorata / *Candidatus phytoplasma vitis*

Sharka / Sharka (PPV) / PPV / **Plum pox virus**

Examples of multiple sources



There were several crop and pest definitions within the same organisation:

- Data from the laboratory
- Field survey
- Nursery inspection database

Data from other organisations:

- external laboratories
- external contractors
- other Phytosanitary services
- national and UE communications

Solution - 1. batch decoding with EPPO Data Services

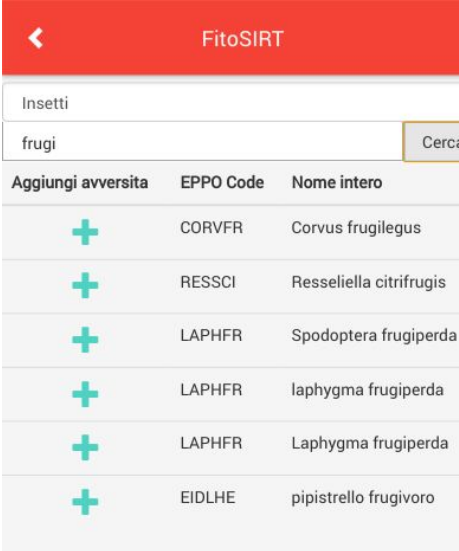
Used to deal with data import from external sources

- Data preparation
 - fix cases
 - trim / squish spaces
 - replace sp, ssp, ssp. to sp.
- usage of EPPO Data Services online tools
- manual review of not resolved names (Thanks Google :-)
- Analysis
 - cleaning/merging of duplicated items
 - INSERT of newly identified EPPO codes

Solution: 2. Support users in database update

If an user does not find a pests or an hosts, has an interface om the app:

- enter the name
- use the EPPO web services to suggest new items (searching in latin & italian)
- automatically find duplicates (using eppo_code as key)
- allow the insert of new species only with unique eppo_code



The screenshot shows the FitoSIRT app interface. At the top, there is a red header with a back arrow and the text 'FitoSIRT'. Below the header, there is a search bar with the text 'Insetti' and 'frugi' entered. A 'Cerca' button is visible on the right side of the search bar. Below the search bar, there is a table with the following columns: 'Aggiungi avversita', 'EPPO Code', and 'Nome intero'. The table contains six rows of data, each with a green plus sign in the 'Aggiungi avversita' column.

Aggiungi avversita	EPPO Code	Nome intero
+	CORVFR	Corvus frugilegus
+	RESSCI	Resseliella citrifrugis
+	LAPHFR	Spodoptera frugiperda
+	LAPHFR	laphygma frugiperda
+	LAPHFR	Laphygma frugiperda
+	EIDLHE	pipistrello frugivoro



Result: Duplication stats within the same database

Data Type	original list	unique eppo code	reduction
pests	461	387	16.05%
hosts	352	341	3.13%



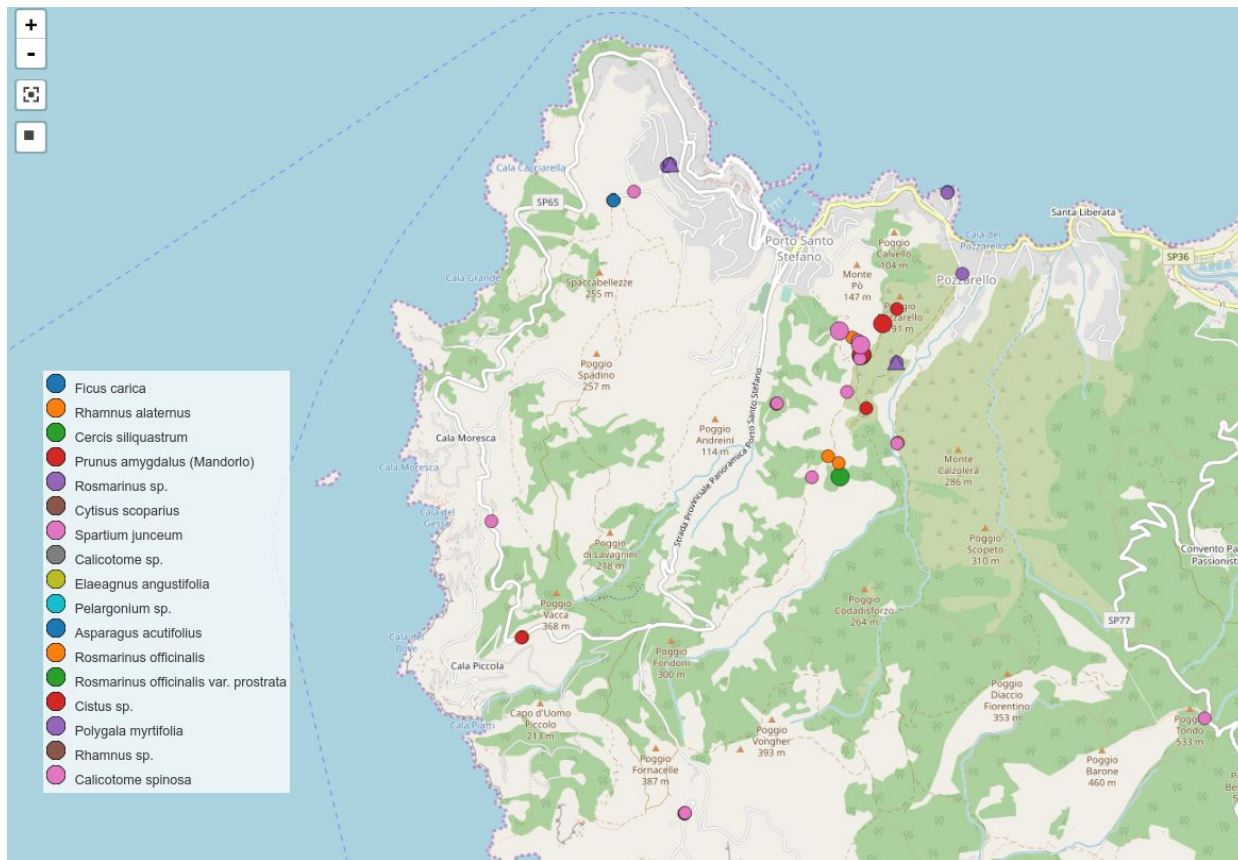
Total data (Tuscany Region since 2012)

	Total	Total single pest	Unique Hosts	Pests
Visual inspection	63918	71169	236	181
Samples	28896	34106	201	153

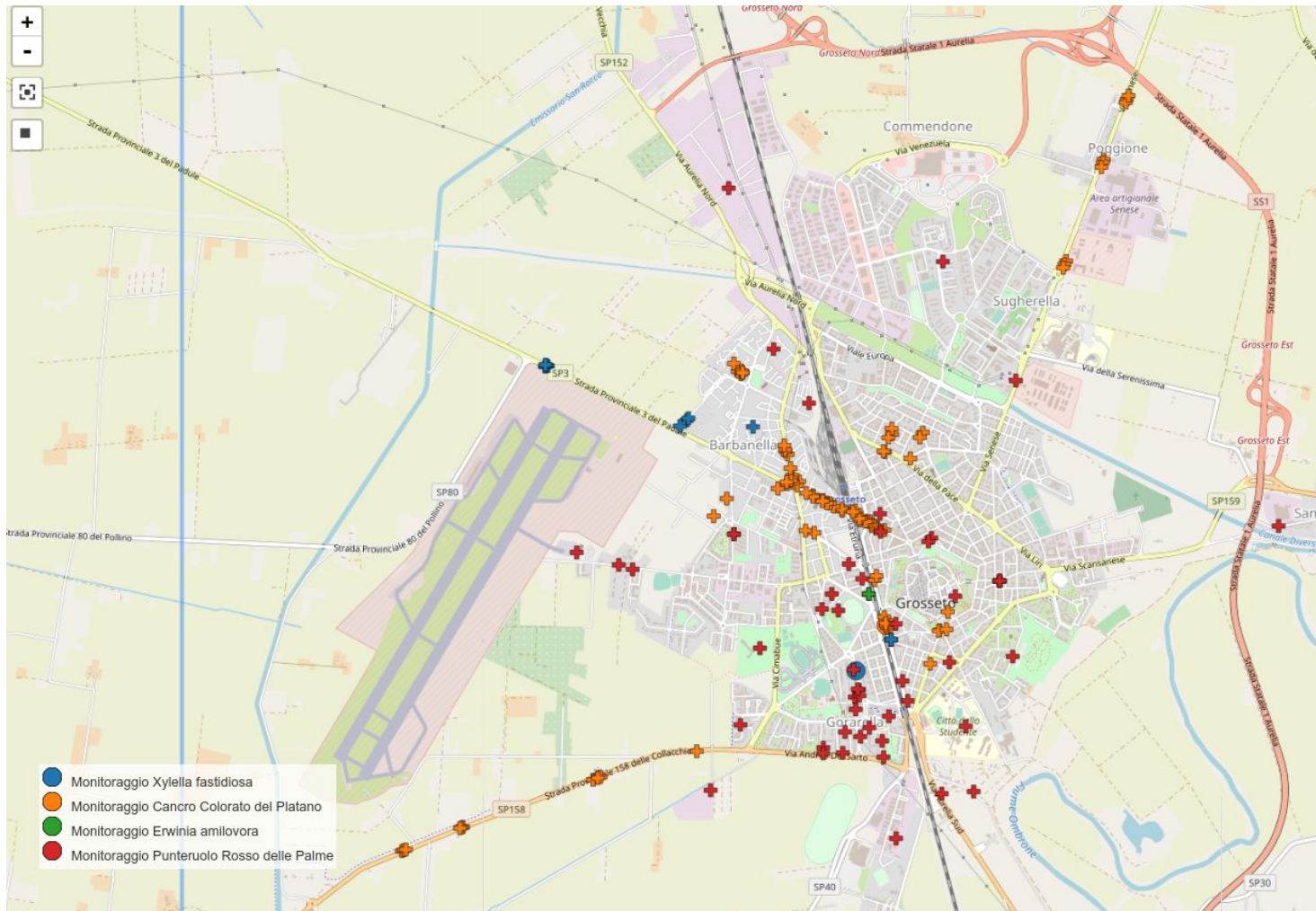


Top 10 of Pest - Host

pest	crop	num
CERAFF	PLTSS	13305
XYLEFA	OLVEU	5894
ANOLCN	ACRSS	4444
RHYCFE	FFFPA	4163
PHYTRA	VIBSS	2208
PHYTRA	CAHSS	2143
PHYP64	VITSS	2007
PAYSAR	TRRFO	1714
XYLEFA	VITSS	1711
XYLEFA	NEROL	1705



All data can be searched, filtered and extracted online



what's next....





There are few cases of not-solved EPPO code

Varieties:

- *Rosmarinus officinalis* var. *prostrata* (RMSOF_PR)
- *Crocus flavus* “Golden Yellow” (CVOFL_GY)

A few probably missing

- *Genista lucida* (GENLU_luc)
- *Aclees cribratus* (ACLCR_acl)



Taxonomic search

- Search by genus (e.g. *Vitis*, *Prunus* or *Citrus*)
- Search by non-taxonomic group (e.g. Palm trees, Ornamental trees)
- Search/filter by potential hosts



Area classification

Pest Survey and various national report formats require to group visual inspection and samples by “Typology of location” (e.g. Nursery, Orchard, Cultivated areas, Sawmill etc...)

The list of location types of the different organisations are different; sometimes too broad (e.g. natural area) sometimes too narrow (e.g. christmas trees)

Is it possible to review/extends the “Crop locations (3CROLK)” taxonomy?

thank you for the attention...

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