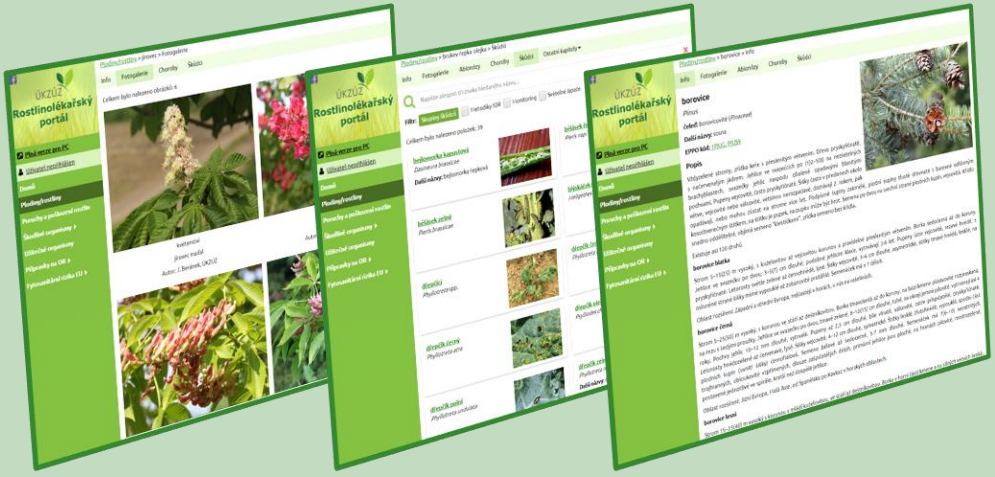
Plant Health Portal
Crop specific guidelines

Clear information and photos of agricultural crops, forest and ornamental trees and flowers, their disorders and damage, diseases or pests, including available plant protection products in form of „Semaphore of PPP ´s".

- Over **500 species of plants** compiled. Detailed information for **70 species of agricultural crops** complying with the principles of integrated pest management.
- Linking professional texts with photographs of cultivated plants, abionoses, diseases and pests; more than **5,000** constantly increasing number of **photos**.
- Alphabetically sorted plant species can be directly searched or sorted by groups (legumes, cereals, ornamental trees,…) or filtered crop methodologies of integrated plant protection accordingly.
- For economically important crops, information on cultivation measures, growth stages, or varieties available, as well as an interactive calendar for monitoring of harmful organisms. Also, an overview of currently permitted herbicides or certified methodologies of research institutes can be found.
- Detailed **methodologies for monitoring** of the occurrence of harmful organisms have been developed for more than **50 species of crops**.



All information is clearly displayed in individual tabs.
The user can only focus on what he is really interested in.

„Semaphore of PPP ´s“of currently authorized plant protection products

Displaying up-to-date plant protection products according to their ecotoxicological properties, respectively the degree of risks that the products pose to individual components of the environment during their application.

The degree of influence of preparations on individual components is expressed by a color scale:

- a plant protection product whose application is relatively safe for the given environmental component,
- a plant protection product whose application is associated with a moderate risk for the environment,
- a plant protection product whose application poses a significant risk to the relevant environmental component,
- a plant protection product that has not yet been re-evaluated in accordance with current criteria and procedures.

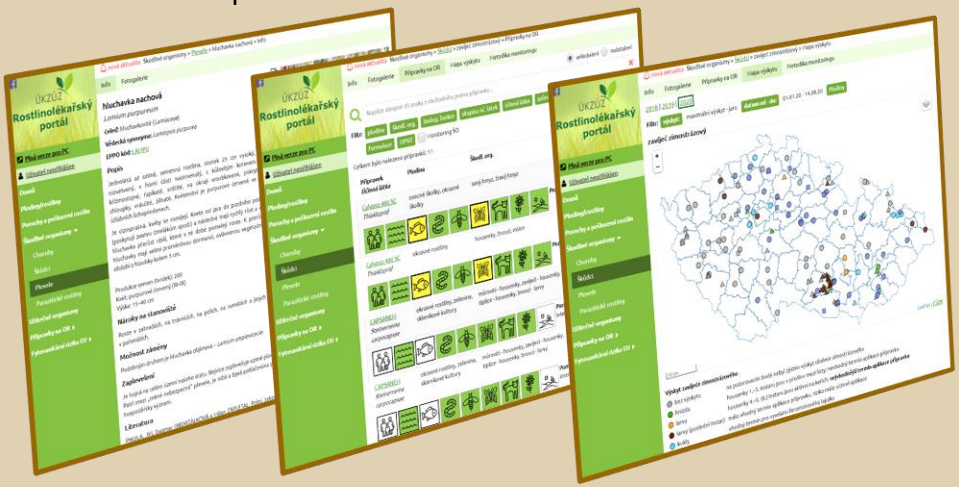
- The possibility of filtering products according to pre-selected parameters, i.e. according to the crop, a harmful organism, biological function, group of active substances, mode of action, but also according to use in WPZ, etc.
- Data are available for each product, i.e. scope of use, dosage, shelf life, note, termination of use or overview of parallel trade products.
- Current lists of plant protection products can be changed according to the user's needs, i.e. bulk packaging = professional user; small package = gardener.

Semaphore of PPP´s is an intelligent application that offers many functionalities. All you have to do is play with the options.

Phytosanitary portal
Harmful organisms and abionoses

An overview of plant diseases and pests in separate units, including quarantine or other high-risk species, enabling quick orientation within the selected host plant. Information on weeds and abionoses (disorders and damage) of plants.

- Contains information on almost **1,900 harmful organisms** and more than **250 abionoses**, accompanied by a large number of illustrative photographs.
- Daily updated lists of authorized plant protection products in the form of a „Semaphore", i.e. a color-evaluated level of risk associated with their use for individual components of the environment.
- For the most economically important harmful organisms, information on other possible methods of plant protection, including the possibilities of using some beneficial species.
- Maps of occurence, resistance maps, prognostic models and monitoring methodologies are published and regularly updated for selected harmful organisms.
- For quarantine pests, their classification, geographical distribution and current and historical situation in the Czech Republic are displayed in the form of clear maps.



Over 5,000 photos of pests linked to basic information and up-to-date list of authorized plant protection products

Information database of harmful organisms

Diseases, pests

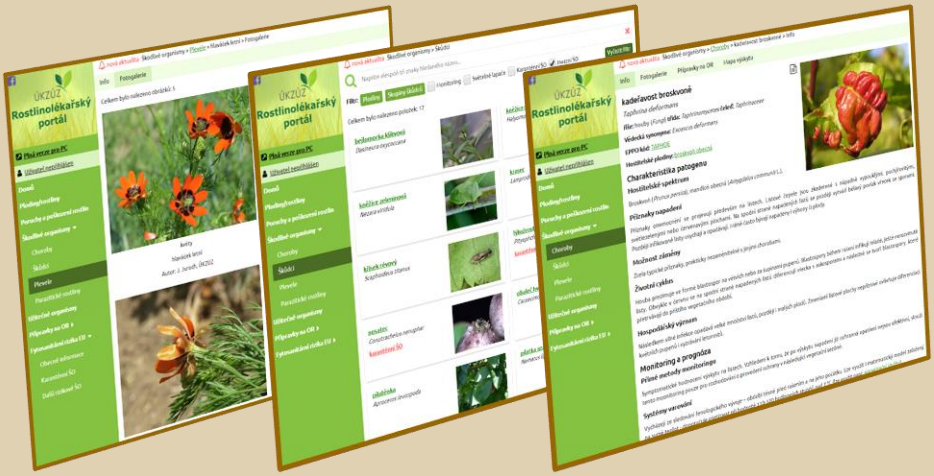
- General information (Czech and scientific name, taxonomic classification), host spectrum, description of the species, possibilities of species confusion, symptoms of damage, possibilities of confusion of damage, life cycle and economic significance, or preventive and protective measures.
- Harmful organisms can be classified:
  - ✓ according to individual crops
  - ✓ according to categories: quarantine, invasive, non-original, etc.
  - ✓ according to taxonomic groups: bacteria, insects, fungi, mites, etc.

Weeds

- Distribution of weeds according to ecological groups
  - ✓ annuals: ephemeral, early spring, summer and winter
  - ✓ biennial to perennial
  - ✓ perennial
- General information (Czech and scientific name, taxonomic classification), description, habitat requirements, possibility of confusion.

Abionoses (disorders and damage to plants)

- Symptoms and causes of damage, preventive and protective measures.



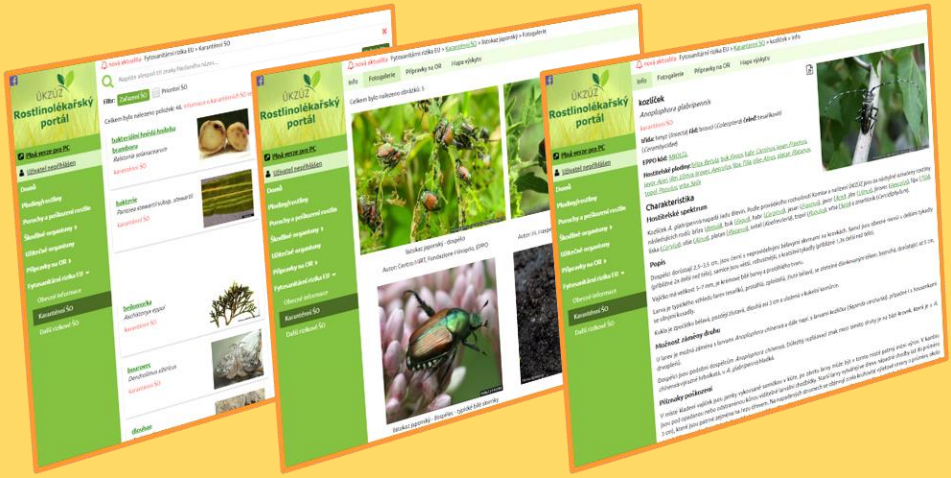
Searching for a harmful organism according to the link to the crop, resp. host plant or using keywords.

Plant Health Portal

Phytosanitary Risks for the EU

Information on regulated pests

- Module dedicated not only to quarantine and regulated non-quarantine, but also to other risky harmful organisms or species newly discovered in the Czech Republic.
- Legislative issues available in the Czech language.
- Information including a description of **70 species** of harmful organisms with symptoms of infestation or damage to plants, potential for confusion, life cycle, modes of spread, host plants, economic importance, geographical distribution or phytosanitary regulation for:
  - bacteria and bacteriosis
  - phytoplasmas and phytoplasmosis
  - fungi and fungal diseases
  - oomycetes
  - viruses, viroids and virosis
  - nematodes
  - insect pests and mites
  - parasitic plants
- For selected species, also information on monitoring the occurrence, or prognosis, protective measures, including currently authorized plant protection products.
- Links to other sources.

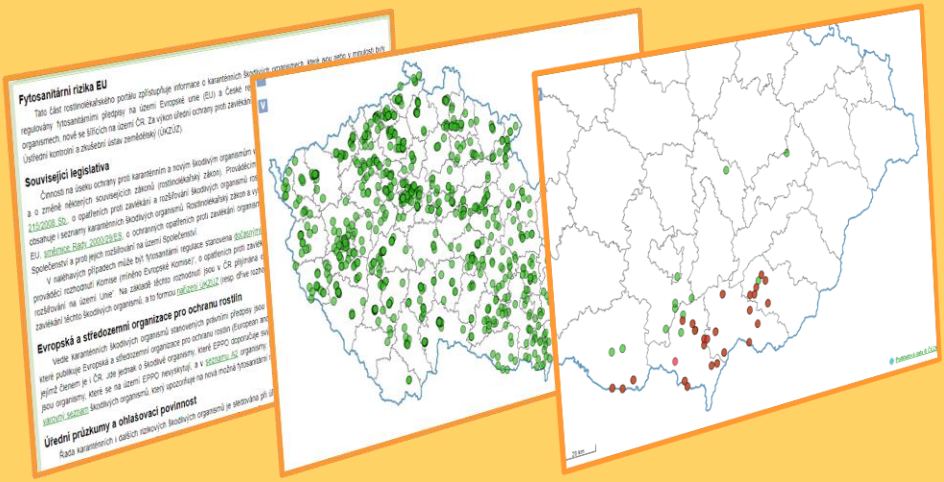


Information on quarantine pests in the national language, including pictures from abroad.

- Valuable information for not only farmers or gardeners, but also for florists, nurseries, orchards or foresters and for everyone who works with plant material.
- All is accompanied by a number of illustrative photographs from abroad.
- An interactive form for notification of suspected quarantine pests, which will ensure a quick investigation by ÚKZÚZ inspectors. The notification may also include attached photos.

Results of official surveys

- Current results of official surveys on the occurrence of regulated pests in clear maps with color-marked occurrences.
- Access to historical results of surveys according to individual harmful organisms with the possibility of displaying all so far officially confirmed occurrences.
- Display of the results of official surveys within **15 minutes** after entering the database.
- Possibility to work with individual layers of data on performed surveys and detected occurrences of harmful organisms.

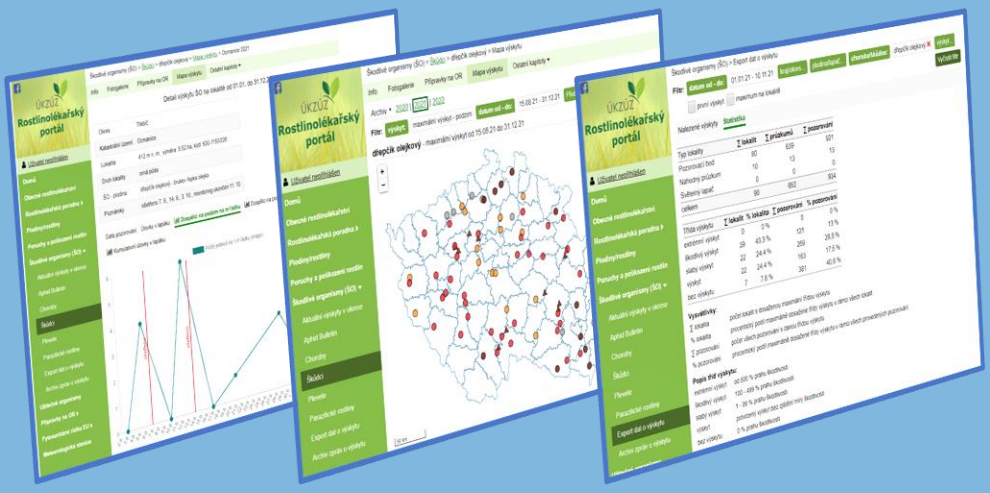


An interactive form for the possibility of reporting suspected quarantine pests.

Plant Health Portal

Maps of occurrence of harmful organisms

- Information on the occurrence of harmful organisms on a national scale.
- Up-to-date information not only on the nationwide occurrence of a given harmful organism in the Czech Republic, but also on the overall condition of harmful organisms in a specific locality.
- Data on the occurrence of **150 species of harmful organisms** depending on the crop (s) or without crop choice (polyphagous pests).
- Data on the occurrence of harmful organisms are offered in three modes:
  - ✓ **current occurrence** = information on occurrences of harmful organisms max. 7 days old,
  - ✓ **maximum occurrence** = data on the maximal status of occurrence of harmful organisms in the locality in spring and autumn,
  - ✓ **first occurrence** = date, possibly intensity of the first detected occurrence of harmful organisms on individual localities in spring and autumn.
- Access to historical data series by crop, possibility to export occurrence data to an excel file for further processing and basic statistics.

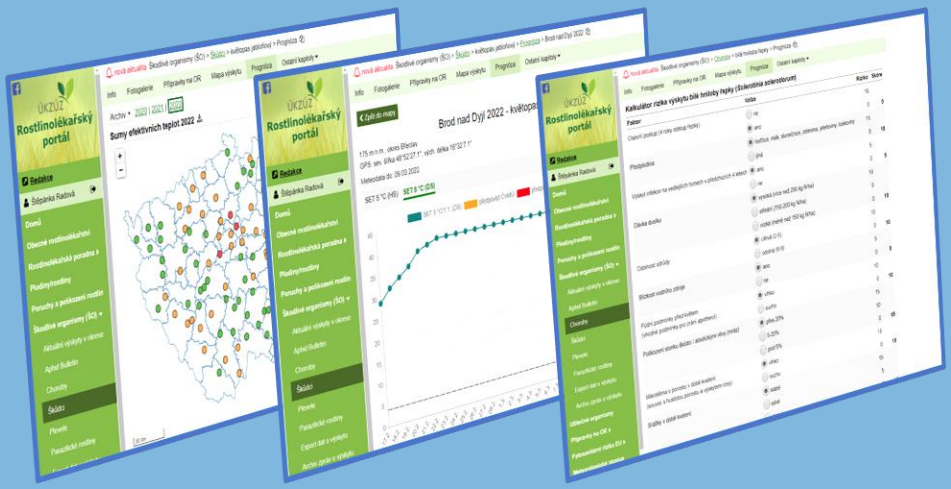


Possibility to export data on the occurrence of monitored pests for further statistical processing.

Plant Health Portal

Prognosis of harmful organisms

- Outputs of more than **35 mathematical models** of harmful organisms development obtained on the basis of evaluation of meteorological data.
- Meteorological data, regularly measured and sent by automatic meteorological stations of CHMI and ÚKZÚZ, are provided daily from almost **160 localities**.
- Graphs of the development of effective temperature sums also show the forecast of CHMI or Norway for **3 or 9 days in advance**.
- Possibility to display the value of the sum of daily or hourly degrees from several types of the lower development threshold (from 0 ° C, 3 ° C, 5 ° C or 10 ° C) for the selected locality.
- Nationwide prognoses for signaling treatment against potato blight, septoria diseases of wheat and cercospora betae of beets based on evaluation of corresponding meteorological data.
- Access to historical results of these prognostic models.
- Possibility to use risk calculators for prediction of the risk BYDV and WDV in cereals, sclerotinia in winter rape or fusarium infection in winter wheat.



Prognostic models based on selected meteorological data in combination with calculators may indicate treatment signaling.

Plant Health Portal
Maps of resistance

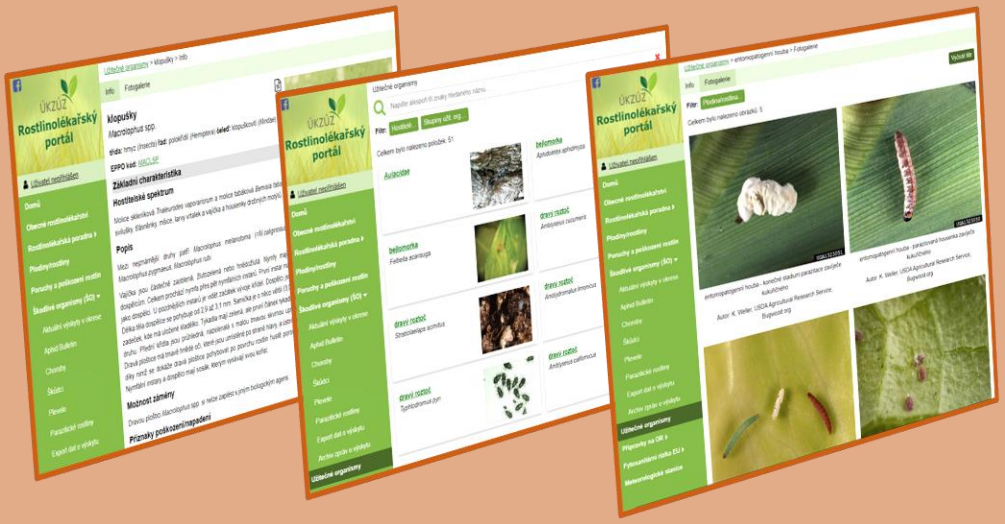
What does the information on pest resistance in the Czech Republic contain?

- General information on the resistance of harmful organisms to herbicides, fungicides and insecticides:
  - ✓ explanation of basic concepts in the field of resistance
  - ✓ mechanisms, causes and current risks of resistance
  - ✓ prerequisites for the emergence and acceleration of the development of resistance
  - ✓ basic measures to delay the development of resistance
- Results of regular laboratory testing of resistance of research institutes and ÚKZÚZ prepared according to internationally recognized methods.
- Possibility to select plant protection products from a predefined group of active substances or with only a certain mechanism of action.
- Possibility to compare current and historical data in terms of the development of pest resistance in the area.
- Comprehensive, annually updated results of national importance displayed in clear maps, including explanations clearly interpreting the results.

A unique tool for agricultural practice created on the basis of long-term cooperation between the state administration and agricultural research.

Phytosanitary portal
Beneficial organisms

- Information on more than **50 species** of commercially produced and native **beneficial macro and microorganisms** applicable in non-chemical plant protection.
- Search for a useful organism according to the host spectrum (beetles, midges, scales, diptera, phytopathogenic fungi, leafhoppers, butterflies, aphids, rust, etc.) or according to the group of useful organisms to which the species belongs (predatory mites, parasitic nematodes, pathogenic bacteria or fungi, parasitoids, predators, etc.).
- Known and less known species of useful organisms with detailed information on how individual species look like, where they live and what their life cycle is. Additional information on their economic significance and use for growers.
- In the chapter supporting measures, you will learn more about how the distribution, application and possible use of the given beneficial organism take place. All accompanied by information on direct and indirect effects of the use of plant protection products may have on the beneficial organism.



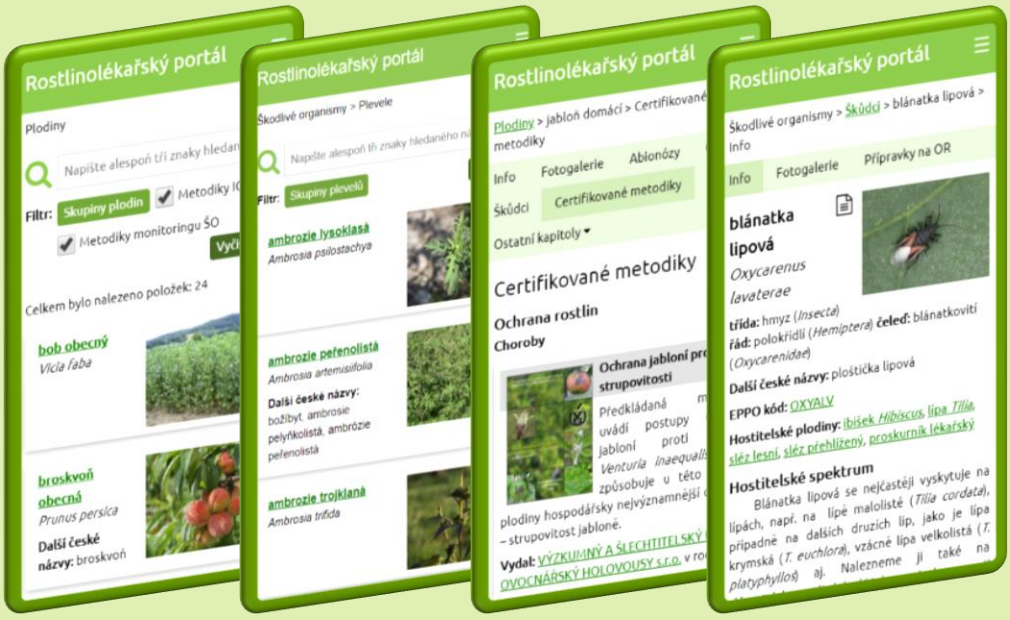
- Texts of beneficial organisms accompanied by photographs, interesting links and short videos.

Search for information on individual species of beneficials and choice of a non-chemical alternative to plant protection for a greenhouse or garden.

Plant Health Portal

Information anytime at hand!

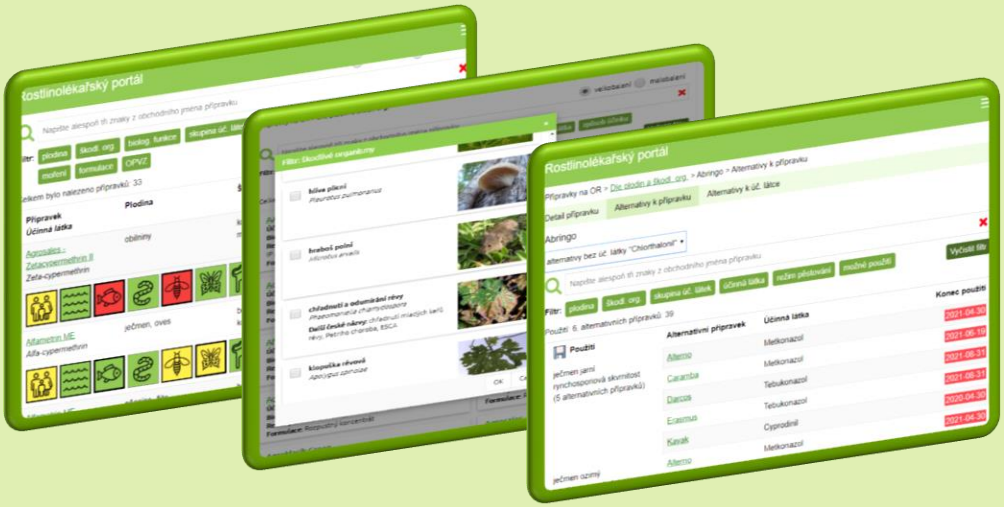
- All in a **responsive design** that fully adapts to the device used (PC, smartphone, tablet,…).
- The clear appearance and intuitive layout allows its users to access information on plant protection not only from their homes, but also when solving various situations **directly in the field**.
- The "semaphore of PPP´s" in the form of simple icons allows easy and quick orientation even on smaller displays.
- Crops, diseases, pests, weeds, plant protection products sorted on simple cards; partial information in thematic tabs.
- Possibility to display maps of current occurrences of harmful organisms.
- Photo gallery of symptoms of damage, depiction of known or less known pathogens and pests of field or garden crops directly on the phone, including an overview of bionomy and recommended measures.



The Plant Health portal publicly available on your mobile device in all parts of the country.

Plant protection products (PPP´s)

- Possibility to compare PPP´s according to pre-selected filter combinations.
- Possibility of filtering PPP´s according to crops and harmful organisms, including its available alternatives or alternatives to the whole active substance or according to biological function, group of active substances and active substance itself, mode of action, formulation or newly according to use in water protection zones, etc.



Phytosanitary risks in EU

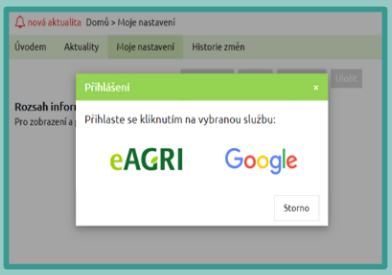
- Information on quarantine and other risky harmful organisms that are or were regulated in the past by phytosanitary regulations in the European Union and also on other, newly spreading pests in the territory of the Czech Republic.

New, easy to understand and more attractive background for better orientation in plant protection in the field.

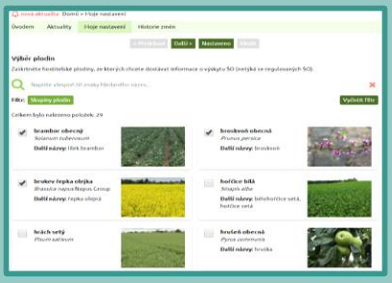
Plant Health portal
Sending news from the RL portal

From March 2020, it is possible to have news from the PH portal sent directly to **e-mail** according to individually selected parameters. Sending e-mails applies to users with an account on the **Farmer's Portal** (under Ministry of Agricultural) or via a **Google account**.

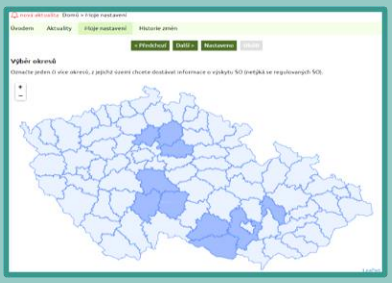
1. Login
Firstly, log in with your Farmer's Portal account or your Google Account.



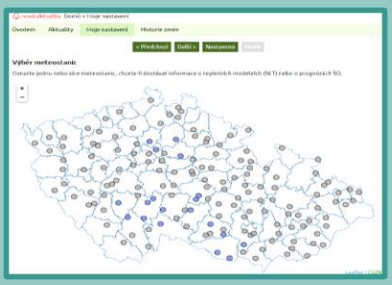
2. Crop selection
Choose the crops you are currently growing, or on what crops you want to receive regular information.



3. Selection of districts
Indicate the districts in which you farm, or from what territories you want to receive information.



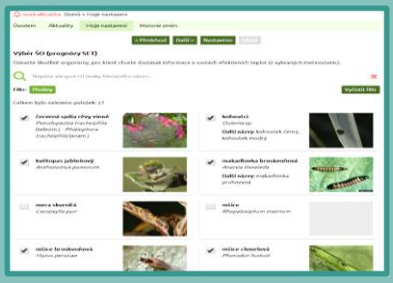
4. Selection of weather stations
Mark one or more localities, resp. weather stations from which you want to receive regular information about the current development of the sums of effective temperatures, or other prognostic models on the occurrence of selected diseases.



Information on the occurrence of diseases and pests, current status of prognostic models or other news can be sent to your e-mail on a daily basis.

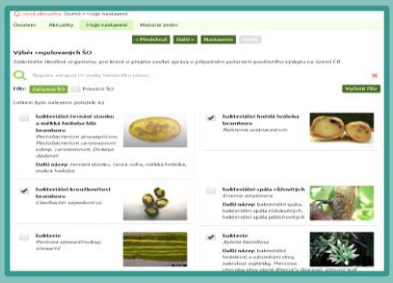
5. Selection of appropriate prognostic models

Mark the diseases and pests for which you want to receive information on the current development of the sums of effective temperatures (from previously selected weather stations).



6. Information on the occurrence of regulated harmful organisms in the Czech Republic

Check the individual regulated harmful organisms for which you wish to send reports.



7. Checking the scope of regularly provided information

Check and specify the scope of information sent. It is also possible to send notifications on news of the Plant Health Portal, where we inform the public about major occurrences of diseases and pests, or other interesting issues in plant protection.

8. Save the required parameters

Do not forget to **save** the set requirements or changes. The information will be sent regularly around six o'clock in the morning to your email address.

You will only receive the information which really interests you.