

Plant health

Quality, innovation and efficiency
for the benefit of society
and the environment



GrupoTragsa

Partners in excellence



Tragsatec is a leading international consultancy firm in the development and implementation of highly technical, innovative solutions to comprehensive plant health management. This includes protecting the health of our environment's plants, the integrated management of pests and opening up new markets for our plant products in line with the International Standards for Phytosanitary Measures (ISPMs) by the IPPC-FAO.

solutions
HIGHLY TECHNICAL
innovation
management INTEGRATED
PHYTOSANITARY PROTECTION
pests
NEW markets

Our main values

The following competences define our work to improve the plant health field:

- | Over 20 years working with government departments has enabled us to acquire in-depth knowledge and a global view to effectively and efficiently manage complex projects all around the world, providing flexible and innovative solutions.
- | We guarantee the highest standards of quality in our projects.
- | Investment in R&D&I to develop innovative technological solutions so that we can provide our customers with cutting-edge answers to their problems.



experience
EFFICIENT AND EFFECTIVE
management
QUALITY
cutting-edge solutions

Products and services

Strengthening national phytosanitary systems and developing skills in line with FAO

1. Analysing national legislative systems and improvement proposals for national phytosanitary protection bodies.
2. It developments for managing national phytosanitary systems.
3. Training and information on plant health and phytosanitary legislation issues.
4. Auditing and designing phytosanitary systems.
5. Preparing pest contingency plans, research protocols and eradication programmes.

Key projects

| We have given over 30 national and international training seminars and courses on plant health, including inspection procedures and pest recognition, aimed at plant health inspectors in the Spanish regions and at border inspection posts (BIPs).

| Preparing pest contingency plans, research protocols and eradication programmes for the most dangerous pests that affect or could affect our crops, including: infestations of apple snails (*Pomacea spp.*) in wetlands, the annoying *Xylella* bacteria in olive trees and other host crops (citrus trees, vines, prunus, etc.), the African citrus psyllid (*Trioza erytreae*), the kiwi bacteria *Pseudomonas syringae pv actinidiae*, *Diaphorina citri* and HLB (*Huanlongbing*) which affects citrus trees.

| Preparing the official register of operators for standard number 15

of the international standards for phytosanitary measures (ISPMs).

Computerising and regulating this register and setting out the administrative procedure for getting authorisation to use the ISPM standard number 15 logo.



Monitoring border inspection posts (BIPs)

1. Developing IT systems to comprehensively manage phytosanitary inspections of vegetable imports so as to enable phytosanitary certificates to be issued in line with the IPPC–FAO international standards for this type of export.
2. Preparing procedure manuals and guidelines for identifying pests to be inspected at border posts.
3. Training inspection staff.
4. Auditing inspection systems.

Key projects

| **The CEXVEG IT system** handles 240,000 import/export cases a year with over 1,600 registered users, and it covers the production, import and export industries and also government departments.



development
preparing manuals
training auditing



Pest-risk analysis

1. Analysing the risk of quarantine pests linked to the import and export of plants in line with the international standards for phytosanitary measures by the FAO's international plant protection convention.
2. Training teams of pest-risk analysts.

Key projects

| **Undertaking over 50 risk analyses** on the introduction of pests linked to goods, natural spreading and other means of entry, such as the red palm weevil (*Rhynchophorus ferrugineus*), the apple snail (*Pomacea spp.*), HLB (Huanlongbing) and its vectors (*Trioza erytreae* and *Diaphorina citri*), moth lava (*Paysandisia archon*) and fruit flies (*Bactrocera invadens* and *Bactrocera zonata*).

risk analysis
TEAM training

Opening up markets for exporting plants

1. Studying the phytosanitary status of pests in a particular country or linked to a specific plant.
2. Analysing potential measures to reduce the risk of introducing quarantine pests in exports.
3. Technical justifications for removing non-customs related obstacles in line with the WTO Agreement on the Application of Sanitary and Phytosanitary Measures.
4. Training staff in charge of these kinds of study and analysis.

Key projects

| Inspecting and preparing phytosanitary agreements and border control documentation (2013-2014), drawing up over 200 reports on opening up new markets and updating/reviewing the entry requirements to established markets in the 5 continents, helping to introduce our products in over 40 countries.



Phytosanitary surveillance networks

1. Drawing up, designing and managing phytosanitary surveillance networks.
2. Pest detection.
3. Designing IT tools for managing biological and climate data.
4. Warning and information systems for managers and farmers on the phytosanitary state of key crops and the best time for intervention.
5. Training government specialists and inspectors.

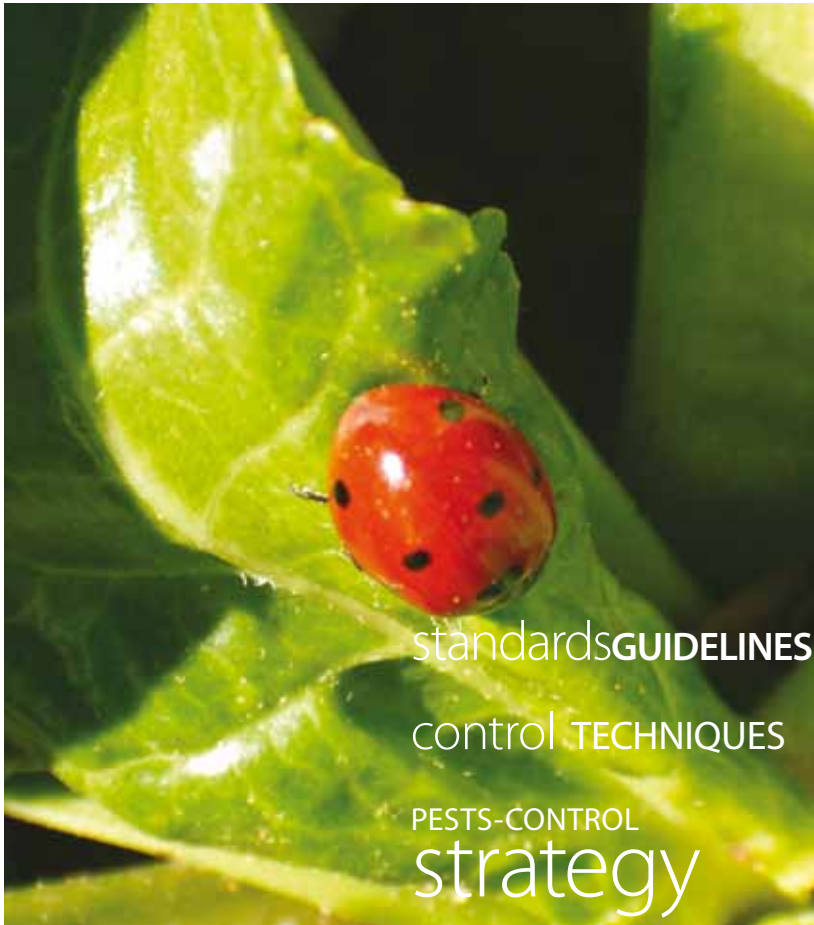
Key projects

| **The DACUS network** controls, warns and assesses information regarding population numbers of the olive tree fly. Over 1,500,000 hectares of olive plantations have been simultaneously monitored by 95 technicians over a period of 21 years.

| **The RAIF network** (phytosanitary warning and information) deals with key crops. There are over 6,500 observation points, 750 technicians and 209 agrometeorological stations.

| **Specific networks have been created to research quarantine pests**, such as the citrus tree surveillance network in the region of Valencia, which uses 180,000 hectares of citrus trees to detect new species that have been introduced, such as the coccidae *Coccus pseudomagnoliarum*.





Integrated pest control (IPC)

1. Preparing specific crop standards and guidelines.
2. Introducing new control techniques.
3. Designing strategies to fight the appearance of new pests.
4. Audits on the application of IPCs.

Key projects

| Preparing draft versions of 15 “specific technical standards for identifying a national guarantee of integrated production” in different crops: citrus trees, olive trees, beetroot, garlic, table grapes, seed-bearing fruit trees, cotton, potatoes, strawberries, tomatoes, peppers, cucumbers, courgettes, aubergines, melon, watermelons and green beans.

| Preparing draft versions of the “integrated pest management guidelines” with regards citrus and olive trees, cereals, stone and seed-bearing fruit trees, table and wine

grapes, corn, potatoes, quercus, beetroot, almond and hazelnut trees.

| **A comprehensive plan to control vector insects on tomato and pepper plants.** New techniques have been launched to fight pests by releasing natural enemies. Preparing a register of producers and mapping production areas, managing the distribution of natural enemies and monitoring the main pests and natural enemies on these crops.



Phytosanitary products and agricultural production

1. Reports assessing phytosanitary products and other phytosanitary protection methods.
2. Support and IT applications to help manage official registers.
3. Official systems to monitor agricultural production.
4. Surveys on the use of phytosanitary products.

main phytosanitary products used according to type of crop and to specify the amount of active substances used per unit of farmed surface area.

| Maintaining and expanding the register of phytosanitary products. IT systems to manage the official register of phytosanitary products in line with the latest EU regulation.

Key projects

| Assessing the technical documents contained in the phytosanitary protection methods register reports.

Over 4,000 assessment reports have been written over a period of 10 years. These reports contain assessments on ecotoxicology, the environment, phytotherapeutic efficiency, waste and operator safety, according to current European Union legislation.

| Surveys on the use of phytosanitary products. Over 6,000 questionnaires have been undertaken with farmers so as to understand the

R&D&I

We have developed mathematical models to predict the behaviour of pests and to pinpoint the best time to use phytosanitary treatments.



We are experts

- | We undertake risk analyses to protect our crops from being affected by pests from other countries.
- | We draw up technical documents to open up new markets and enable the exportation of plant products.
- | We develop phytosanitary crop surveillance networks to quickly detect and control pests and we monitor relevant international regulations.
- | We use the latest ICTs in plant health.
- | We standardise phytosanitary inspection procedures.
- | We assess phytosanitary products in the areas of ecotoxicology and the environment, phytotherapeutic efficiency, waste and operator safety.

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