



06-12807

EPPO/FAO Workshop How to manage invasive alien plants: The case study of *Solanum elaeagnifolium*

Sousse, TN, 2006-05-29/31

Conclusions and recommendations

The Workshop recognized that *Solanum elaeagnifolium* is an invasive alien plant of economic importance threatening Mediterranean agro-ecosystems. It was considered that this plant has not reached its geographical distribution limits and presents a threat for southern and south-eastern countries of the EPPO region.

The participants (annex 1) exchanged information on the status of the plant in the region, its pathways for introduction and its control (annex 2). They also had the opportunity to observe the plant in infested areas in the field in the Kairouan and Sousse Gouvernorats.

The Workshop made the following recommendations:

International measures

Phytosanitary measures to avoid the introduction of S. elaeagnifolium

The Workshop took note of the Pest Risk Analysis (PRA) elaborated by the EPPO Panel on Invasive Alien Species. It also took note of the proposal made to add this plant to the EPPO List of Pests recommended for regulation to the 47 Members Countries. This proposal will be made at the next Working Party on Phytosanitary Regulation (2006-06-19/22). Risk management measures identified while performing the PRA have been discussed. The PRA has been adjusted in the light of technical and scientific information presented during the Workshop.

Regional and international collaboration

The Workshop underlined the need to strengthen regional and international collaboration (in particular through FAO programmes for technical assistance) in order to facilitate the information sharing necessary to better prevent and manage the risks presented by this pest.

The South-African "Working for Water" initiative, which mobilized thousands of unemployed people, was cited as an example of good practice while reference was also made to the European Strategy on Invasive Alien Species and to the Mèze Declaration.

National measures

The Workshop drafted the following recommendations concerning national measures:

- A national technical committee on *S. elaeagnifolium* coordinated by the National Plant Protection Organization should be established and should include all sectors concerned (e.g. representatives from government departments for transports, water management, management of the environment, research, and representatives from other relevant sectors). This committee will perform the following roles:
 - o to establish, follow up and evaluate a national action plan against *S. elaeagnifolium*,
 - o to facilitate communication between different stakeholders at national and local levels,
 - o to propose, when appropriate, official control measures,
 - o to propose research programmes,
 - o to follow up regional and international cooperation actions.

The National Action Plan should include:

- The conducting of an annual delimiting survey (according to the International Standard for Phytosanitary Measures no. 6 "Guidelines for surveillance"). This survey will aim to determine:
 - o areas in which outbreaks are limited and where eradication may be considered,
 - o areas where management measures aiming at limiting plant impacts and preventing its spread to other areas have to be undertaken.
- The establishment of warning and training programmes for agricultural technicians, farmers, shepherds (in particular with the FAO programme Farmer Field School or FFS). Vegetable growers should be warned about the risk presented by *S. elaeagnifolium* as a reservoir of other pests such as Potato Virus Y (PVY) or Tomato Yellow Leaf Curl (TYLC).

The management measures recommended for infested areas are:

Mechanical control

- ploughing infested areas before fructification in order to pull propagules to the surface so that they will dry out,
- manual weeding,
- repeated mowing to weaken the plant and avoid fructification.

Cultural control

- rotation with cover crops such as *Medicago sativa* and *Mentha viridis*.

Chemical control

- the use of non selective systemic herbicides on road sides, in fallow fields and in orchards.
- the use of selective systemic herbicides.

Biological control

Currently, there is no biological control programme against *S. elaeagnifolium* in the European and Mediterranean region. Several orders of insects and nematodes are referred to in the literature as natural enemies of *S. elaeagnifolium* in its native range. Some have been evaluated as biological control agents in other countries (South Africa, USA, Australia).

Measures recommended in very infested areas in order to prevent further spread of *S. elaeagnifolium* are:

- to eliminate *S. elaeagnifolium* plants situated in strategic points for spread such as irrigation ditches¹, roads and wadies by destroying dried plants with fruits (e.g. by collecting and burning or by composting),
- to avoid using manure likely to be contaminated by seeds or viable underground parts of *S. elaeagnifolium*, or to only use the manure when well decomposed,
- to avoid grazing sheep in infested places when *S. elaeagnifolium* is in its maturation period,
- to avoid moving sheep between contaminated and non-contaminated zones, or to hold sheep at least 48 hours in a non-contaminated place before moving them to an area free from *S. elaeagnifolium* and only use the manure when well decomposed,
- to survey areas of high sheep concentrations (livestock markets), and only use the manure when well decomposed,
- to clean agricultural machinery following use in contaminated areas; organize farm work by beginning with non infested plots.

Eradication measures for low infestation areas are:

- to delimit the areas of concern (cf. delimiting survey),
- to eradicate all new outbreaks quickly by implementing the measures recommended in the previous "management section" for a minimum period defined by the National Plant Protection Organization. The eradication programme has to follow the International Standard for Phytosanitary Measures no. 9 "Guidelines for pest eradication programmes". Regular surveys of these areas should be organized before fructification.

The Workshop also identified the need for deeper knowledge about the following topics:

- the effects of composting on *S. elaeagnifolium* seeds,
- biological control,
- efficient and cost-effective herbicides,
- integrated control strategy.

¹ The setting up of filters on irrigation ditches will help to prevent the spread of the plant.

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Annexe 1

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