

SharCo

Containment of Sharka virus in view of EU-expansion

Small Collaborative project of the 7th Framework Programme

Theme 2

Food, Agriculture, Biotechnologies

ML10

Cultivation guidelines

Due date	28/02/2011
Actual submission date	30/04/2011
Project start date	01/03/2008
Workpackage concerned	WPA.1
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Dissemination level	PU: Public

Milestone report structure

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1. General Presentation

1.1. Objectives of the workpackage

The SharCo European consortium on sharka containment is designed to become a source of knowledge and expertise to support policy-makers, regulatory bodies, extension services and other stakeholders through the provision of new protocols, methods and tools for the containment of sharka disease in stone fruit trees. Among the different workpackages, WPA.1 is the one focused on the applicative tasks of the project and, in particular, to provide

- i) Cultivation guidelines to restrict the virus and a computer programme, a Decision Support System, aimed at helping endusers in evaluating the outbreak situation and taking proper decisions to limit the impact of the disease, locally,
- ii) Recommendations for the implementation of an Early warning system, assessing the risk of occurrence of unknown PPV variants in EU and new PPV outbreak;
- iii) Procedures for a risk management system for developing strategies to manage new PPV outbreak or PPV variants.

Therefore the development of Cultivation guidelines is one of the major objectives of the WPA.1 and will be attained through the combination of ecological and agronomic tools as well as current knowledge on PPV epidemiology and risk, depending on the environment and on the strain. It must be based on the results obtained in the other pillars, which are aimed at assessing the potential of innovative protection strategies. It is expected to provide recommendations for stone fruit tree production, including mother plants, nurseries and orchards.

1.2. Conditioned issue of this milestone

To better define the context in which will be developed the guidelines, a survey on the implementation of the phytosanitary directive was performed during the first step of the SharCo program (DA 1.1: Overview on the current implementation of European directives), in collaboration with relevant national Plant Protection

Services. It has shown that the current European directive regulating the containment of sharka (COUNCIL DIRECTIVE 2000/29/EC of May 8th, 2000 which concerns protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community) is not fully implemented. Moreover, some of its requirements have been criticized by various stakeholders as appearing in some cases too weak (i.e.: control of propagation materials limited to visual inspections) or too severe or unrealistic in other cases (i.e.: 3 years of suspension of a whole nursery, even if a contamination occurs only in one site of production, distant from the other ones). Because of the non-application (or the partial application) of the directive, the conditions of delivery of the phytosanitary passport do not guarantee the absence of PPV from propagating material. It requires revision of the directive or/and, at a more applied level, the proposition of cultivation guidelines, for the endusers (nurserymen, fruit producers, gardeners, plant protection services ...). The aim of the cultivation guidelines is to propose a list of recommendations concerning the cultivation of mother plants, propagation material and orchards in order to limit both the entry of PPV or new strains in the area and the propagation of the disease once the outbreak occurred. All together those recommendations will condition (and will be part of) the elaboration of a risk management system (deliverable DA1.5) in the third period of SharCo.

2. Detailed description

Different parts of the stone fruit production industry (nursery industry or fruit industry) play different roles in the spread of Sharka, especially in case of long distance distribution. Therefore different approaches and procedures of management of the plant material are necessary in order to have a rational control of the virus.

Following the above consideration the present guidelines (see **deliverable DA1.2**) have been divided in different branches, addressing the following fields:

- Mother Plant Blocks
- Nurseries, intended as sites of production of planting material
- Production orchards

Distinction between the various phytosanitary status analyzed for a given area: in each of the three proposed set of guidelines [mother plants, nurseries, production orchards] a further differentiation has been made according to the phytosanitary status of the geographical area (the following terms are defined at the beginning of

each cultivation guideline): i) PPV-free, ii) with PPV outbreaks under control, iii) with endemic presence of PPV.

The reason of this further differentiation is that in areas where the virus is endemic, as it is in the majority of the Central and Eastern European countries, it is not realistic any more to insist in the eradication of any infected material, therefore the actions must be aimed at (1) reducing the impact of sharka, (2) preventing the introduction and spread of new PPV strains, (3) slowing down the contamination of new orchards and finally (4) absolutely avoiding the spread of the pathogen to uncontaminated areas of EU. In the areas where the virus is present with outbreaks under control, for exemple in France, Italy and Spain, the major objective remains disease containment or, even better, eradication (if applicable), as well as the prevention of further introductions of the virus. Obviously, in uncontaminated areas the most critical objective is to avoid the introduction of any PPV isolate.

To ease the interpretation of the sequence of the recommendations in the different steps of the cultivation procedures, a "Decision tree" has been developed for each of the three different fields of production (see deliverable DA1.2).

3. Means of verification and actual achievements

The guidelines have been designed taking into account all the knowledge and expertise accumulated on the disease until now by SharCo partners. The preliminary document is based on a consensual discussion process of a chore of 5 partners (partners P1 –coordinator and WPE1 leader-, P5 –WPA1 leader-, P6 –WPE3 leader-, P7 –WPA2 leader and in charge of the DSS-, P11 –WPE1 leader-). This discussion group was later extended to three other partners (countries) as follows: Partner P10 (Germany), P17 (Romania) and P14 (Bulgaria). They should of course be subjected to revisions as new results with practical applications for stone fruit production are obtained. Some indications about exclusion distances or periods are provided. These values are proposed on the basis of actual experience of SharCo partners and are considered to be minimum requirements to maintain a safe situation in their defined context.

The major means of verification are the reactions and the comments of the stakeholders to which the guidelines will be proposed. A preliminary version of the

Guidelines was presented during the SharCo research workshop in Sofia (September 2010) which was open to other European and non-European representatives who joined the ISHS international Symposium on PPV. A fruitful discussion followed this presentation, especially with representatives of Plant Protection Services and other agricultural extensions from Slovenia, Switzerland, USA and Japan.

4. Contingency plan

None