The grapevine propagation process in nurseries is, in general, quite similar in all grapevine production areas of the world. However, some practices, such as cutting hydration, cold storage conditions, callusing and rooting phases, and general standards of nursery hygiene, which can have a significant effect on the quality of the vines produced, may vary considerably within and between nurseries.

The objective of the Working Group 4 of the COST Action FA1303 ‘Sustainable Control of GTDs’ is to propose protocols for the prevention and the reduction of the impact of GTDs pre-existing infections in the nursery. Therefore, by gathering information on the nursery propagation practices in different European countries we will be able to improve the management practices currently used against GTDs.
Propagation process of grafted plants

1. Grapevine rootstock mother fields
2. Rootstock cuttings
3. Hydration
4. Cold storage
5. Disbudding
6. Scion cuttings
7. Hydration
8. Cold storage
9. Grafting
10. Callusing and rooting
11. Nursery field
12. Uprooting and pruning
13. Distribution and sale
14. Potted plants
15. Distribution and sale
16. Grapevine scion mother fields
1 Grapevine mother fields

- Frequency of replacement
  Rootstock / Scion mother plants

- Transit of cuttings

- Irrigation system
  Drip irrigation – Overhead sprinklers

2 Nursery process

- Trellising method
  Sprawled on the ground – cultivated on trellis

3 Nursery field

- Pruning wound protection
  Fungicides – Biological control agents

- Removal of pruning debris
1 Grapevine mother fields

- Hydration of cuttings
  Before / After cold storage

- Cleaning of equipment
  Hydration tanks – Bins, boxes in cold storage

- Storage of planting material

2 Nursery process

- The use of fungicides, biocontrol agents
  Plant growth regulators
  Hydration tanks, callusing boxes...

- Hot-Water Treatments
  Knowledge, protocols, nursery stage

3 Nursery field

- Grafting process
  Omega – Whip – Other

- Callusing and rooting stage
  Substrates – Time and temperature
**NURSERY SURVEY**

2.9 Do you use biological control agents in any of the circumstances listed below?

(a) In hydration tanks  
(b) In callusing boxes  
(c) As a dip for cuttings before storage  
(d) As a dip for vines after grafting  
(e) As a dip for one-year-old vines before storage  
(f) As a dip for one-year-old vines before despatch

Yes / No

2.10 If you answered yes to any of the points in 2.9 above, please list the biological control agents that are used.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2.11 Do you use plant growth regulators in any of the circumstances listed below?

(a) As a dip for vines after grafting  
(b) In callusing boxes

Yes / No

2.12 Have you heard about Hot-Water Treatment (HWT) to control pests and diseases in the grapevine propagation process?

Yes / No

2.13 Do you currently use, or have you used, HWT to control pests and diseases in the grapevine propagation process?

Yes / No
## NURSERY SURVEY

### Part 2 – Nursery process

2.1 Do you hydrate rootstock cuttings at any of the stages listed below?

(Please tick where appropriate)

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Less than 1 hour</th>
<th>1-2 hours</th>
<th>2-8 hours</th>
<th>8-12 hours</th>
<th>12-24 hours</th>
<th>More than 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>On arrival at the nursery and before cold storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After cold storage and before grafting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2 Do you hydrate scion cuttings at any of the stages listed below?

(Please tick where appropriate)

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Less than 1 hour</th>
<th>1-2 hours</th>
<th>2-8 hours</th>
<th>8-12 hours</th>
<th>12-24 hours</th>
<th>More than 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>On arrival at the nursery and before cold storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After cold storage and before grafting</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

2.3 How often do you clean the hydration tanks?

(Please tick where appropriate. You may tick more than 1 option)

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Frequently during the season</td>
<td></td>
</tr>
<tr>
<td>Occasionally</td>
<td></td>
</tr>
</tbody>
</table>

- **7 pages**
- **15 minutes**

- Hungary - 20
- Slovenia - 4
- Czech Republic - 3
- France - 3
- Spain – 3

**Deadline for survey submission:** 31st March

**Results:** Workshop in Cognac (June 2015)