**Economic Commission for Europe**

Steering Committee on Trade Capacity and Standards

**Working Party on Agricultural Quality Standards**

**Specialized Section on Standardization of Seed Potatoes**

**Meeting of Bureau and Rapporteurs**

Kimberly, South Africa, 13-18 March 2016

**Seed potato virus testing and PCR-method:**

Proposed survey on current practices for virus testing

**Post-session (work in progress)**

Seed potato virus testing and PCR-method

1. Country\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Name of seed potato certification authority (Designated Authority)\_\_\_\_\_\_\_\_\_\_
3. Potato virus testing in your country is
   * 1. Compulsory for all crops as part of seed potato certification
     2. Compulsory for all crops with exemptions under certain conditions
     3. Voluntary
4. Virus testing is done by
   * 1. Your organization
     2. Other governmental laboratory
     3. University or research institute
     4. Private laboratory
     5. Laboratory in other country
     6. Other\_\_\_\_\_\_\_\_\_
5. The criteria to choose the laboratory (tick all that apply)
   * 1. The efficacy and reliability of virus tests
     2. The rapidity of virus tests
     3. The price of the virus tests
     4. Third party accreditation
     5. Other criteria \_\_\_\_\_\_\_\_\_\_
     6. No possibility to choose the laboratory
6. Type of potato virus testing
   * 1. Potato leaf testing during growing season
     2. Post -harvest virus testing
     3. Both
     4. Other \_\_\_\_\_\_\_\_
7. If virus testing depends on circumstances, describe (aphid status, haulm killing time, varieties etc.)
8. Seed categories tested, virus tested and the method

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **PBTC** | **PBTC** | **PB** | **PB** | **Basic** | **Basic** | **Certified** | **Certified** |
|  | field/tuber | method | yes/no | method | yes/no | method | yes/no | method |
| PLRV |  |  |  |  |  |  |  |  |
| PVY |  |  |  |  |  |  |  |  |
| PVA |  |  |  |  |  |  |  |  |
| PVX |  |  |  |  |  |  |  |  |
| PVS |  |  |  |  |  |  |  |  |
| PVM |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |

If other methods are also used, please specify.

Sampling

1. Please specify the sample size for each set of circumstances described above.\_\_\_\_\_\_\_\_

Timing of leaf sampling in relation to age of the crop

1. Timing of tuber sampling in relation to harvest

Test methods

1. Official potato virus testing method used by laboratory
   * 1. PCR
     2. ELISA
     3. visual assessments
     4. bioassay
2. Other potato virus testing methods used by laboratory
   * 1. PCR
     2. ELISA
     3. Other\_\_\_\_\_\_\_\_\_\_
3. Samples used for PCR testing
   * 1. Tubers
     2. Leaves from field
     3. Leaves grown from tubers (in greenhouse)
     4. Sprouts grown from tubers
     5. Other\_\_\_\_\_\_\_\_\_\_
4. If tuber testing is conducted, at what stage is it usually tested?
   1. Direct tuber: Number of weeks after harvest \_\_\_\_\_\_\_\_
   2. Chitted tuber (eyes open, no green tissue)
   3. Green sprouts
   4. Other
5. If ELISA is used in the laboratory, how was it developed
   * 1. In-house developed method
     2. Commercial kit method (please specify supplier)\_\_\_\_\_\_\_\_\_
     3. Other\_\_\_\_\_\_\_\_\_
6. How are the samples pooled for ELISA testing? Number of subsamples?
7. If PCR is used in the laboratory, how was it developed
   * 1. In-house developed method
     2. Commercial kit method (please specify supplier)\_\_\_\_\_\_\_\_\_
     3. Other\_\_\_\_\_\_\_\_\_

Are the PCR primer sequences publicly available for use? Please provide reference.

1. How are the tubers/leaves pooled/bulked for PCR testing? Number of subsamples?

Tuber samples:

Leaf samples:

How are the results statistically interpreted for use in certification e.g. ISTA seedcalc?

How does the DA use the lab result to determine the classification of the crop:

1. Please supply the classification table, including the how the results determine the class of the crop
2. Other, if the result of the testing does not directly affect the class of the seed lot. Please specify how the information is used.

Quality Assurance

1. Is the laboratory accredited/approved for the above tests? By which accreditation/approval body?
2. If not, do you have an internal Quality Control system? Yes/No.
3. Has the laboratory validated their PCR virus testing method? Yes/No/In progress
4. Have the PCR methods used for certification been independently validated/accredited?

Tuber testing:Yes/No

Leaf testing: Yes/No

1. Does the laboratory participate in any ring tests/ proficiency tests of potato virus testing? With whom?

Laboratory: Yes/No

Testing Procedures: Yes/No

1. In your experience, do the different testing methods give comparable results?
2. ELISA and PCR: Yes/No/Don’t know/Not Applicable
3. ELISA and visual inspection of the progeny: Yes/No/Don’t know/Not Applicable
4. PCR and visual inspection of the progeny: Yes/No/Don’t know/Not Applicable
5. Other

Please explain your answer:

1. Have your clients provided feedback on the virus test methods or results? Provide details.
2. Other comments?

* *Include example table from NL (virus result interpretation)*