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## Economic Commission for Europe

Steering Committee on Trade Capacity and Standards

Working Party on Agricultural Quality Standards

Specialized Section on Standardization of Seed Potatoes

**Fiftieth session**

Geneva, 16–17 March 2023

Item 5 of the provisional agenda

**Update of position papers of the Specialized Section**

### **Proposed revisions to the position papers of the Specialized Section on Standardization of Seed Potatoes**

**Submitted by the secretariat**

#### *Summary*

At its 2022 meeting, the Specialized Section decided to set up a rapporteur's group consisting of Australia, Finland, the United Kingdom of Great Britain and Northern Ireland (rapporteur), and the United States of America to review the Specialized Section's position papers. The rapporteur's group proposes minor revisions to the position papers as marked in strikethrough and underline. The Specialized Section is invited to discuss the proposed revisions to the position papers.



## I. The position of the Specialized Section on potato virus Y (PVY)

(Agreed at the thirty-seventh session of the Specialized Section in March 2007)

- New strains and variants of potato virus Y (PVY) are occurring worldwide and seem to be more readily transmissible than earlier strains.
- Strains and variants differ in their ability to cause leaf and/or tuber symptoms.
- Control of PVY is still only possible through strict PVY tolerances within a seed potato certification scheme, through breeding and through adoption of best crop management practices.
- An option to control ~~PTNRD~~ Potato Tuber Necrotic Ringspot Disease (PTNRD~~Potato Tuber Necrotic Ringspot Disease)~~ on susceptible varieties may be a specific certification tolerance for superficial necrosis, until an appropriate detection method becomes available.
- Applying a zero tolerance for widely distributed viruses, such as PVY, is not effective, practical or feasible.

## II. The position of the Specialized Section on vigour of seed potatoes

(Agreed at the thirty-eighth session of the Specialized Section in March 2008)

- Plant vigour is a very important quality aspect of seed potatoes, particularly ~~especially~~ in the southern regions with higher temperatures.
- Genotype determines loss of vigour; some varieties are very susceptible, while others are more tolerant. Growing and storage conditions, especially temperature, influence plant vigour.
- Determining plant vigour is still very difficult in seed lots.
- The only indirect reference to vigour in the UNECE Standard for Seed Potatoes is a tolerance for shrivelled tubers.
- Stricter requirements for plant vigour cannot yet be prescribed by the UNECE Standard for Seed Potatoes.

## III. The position of the Specialized Section on blackleg of seed potatoes

(Agreed at the thirty-ninth session of the Specialized Section in March 2010)

- Blackleg occurrence in seed potato crops is an important indicator of quality. In the UNECE Standard for Seed Potatoes, strict tolerances for blackleg in the growing crop and at lot inspection underpin, as part of the rot tolerance, the control of this disease in certified seed.
- Disease expression in the progeny crop is not always directly related to ~~either~~ inspection findings or bacterial loading in mother tubers. This is due to the importance ~~importance~~ role of ~~the~~ environmental and agronomic influences in the epidemiology of this disease. However, regular inspections remain an effective tool to limit the spread of the disease.
- Conditions which favour blackleg, particularly excessive moisture and in the case of *Dickeya*, high temperatures, can lead to spread of the disease. For the time being, enforcing strict tolerances at certification continues to be the best available regulatory mechanism to control blackleg in marketed seed potatoes.

- Good agronomic practices, such as forced ventilation immediately after harvest, removal of diseased tubers prior to planting, and allowing mother tubers to fully deteriorate prior to harvest, are all important in blackleg control.

#### IV. The position of the Specialized Section on silver scurf of seed potatoes

(Agreed at the fortieth session of the Specialized Section in March 2011)

- The cause of silver scurf, ~~is~~ the fungus; *Helminthosporium solani*, ~~which~~ is spread by infected seed pieces and potato debris in soil. This disease disfigures the potato surface and separates the epidermis from the tuber, causing excess moisture loss and shrivelling of tubers during the storage period.
- As with all certification programmes, a standard for silver scurf has to take into consideration the feasibility and concerns of buyer as well as seller. Tubers can become infected with silver scurf in the field as well as in storage. Progression of the disease is slowed down below 7° C and below 90 per cent relative humidity. The optimal spread of the spores happens during handling of the tubers. Chemical treatments are limited.
- Research indicates that there is no correlation between the percentage of the surface of the tuber affected and the potential contamination towards the rest of the tubers and/or the next crop. Surveillance of the disease indicates that it is ubiquitous in potato-production systems.
- The effect of ~~the~~ silver scurf on tubers is regulated in the UNECE Standard for Seed Potatoes through the tolerance for shrivelled tubers, i.e. tubers which have become excessively dehydrated and wrinkled, as these tubers lose vigour in the progeny crop.

#### V. The position of the Specialized Section on cutting seed potatoes

(Agreed at the forty-first session of the Specialized Section in March 2013 and amended in October 2014)

- Cutting seed potatoes is a common practice in areas or cases where potato varieties with large tubers are in demand. Cutting facilitates the production of varieties with large tubers and reduces seed costs. However, marketing of cut seed is not allowed in some parts of the world, because seed cutting increases the risks of disease spread and seed piece decay. It may also ~~may~~ reduce emergence.
- In countries where cut seed is accepted into a certification programme, the countries may enforce provisions to minimize the risk of spread of diseases. Cutting of seed potatoes is recommended to be done in a closed chain if possible, because cutting by third parties creates a greater risk.
- Extreme temperatures and difference in temperature between soil and cut seed tubers generally cause poorer emergence and plant growth. The risks of seed cutting can be mitigated by pre-cutting and allowing the cut surfaces to suberize. It is important to take proper measures to prevent the spread of diseases between seed lots by thoroughly cleaning and disinfecting all equipment.
- Cut seed is considered a “defect”. Under the UNECE Standard for Seed Potatoes, however, “defects” are only countable when they are expected to have a negative impact on yielding capacity or storability or if they are likely to lead to secondary infection.
- Cut tubers may be acceptable for a Certifying Authority~~designated authority~~ for entrance into their certification programme if the inspection certificate of the seed lot before cutting indicates that the lot meets the Certifying ~~designated~~ Authority’s

requirements and lot identity has been maintained, or the cutting has been done at the farm producing the next generation.

- Seed growers accept the risks and responsibilities of using cut seed.
- When cutting seed of protected varieties, permission may be required from the breeder rights holder.

## VI. The position of the Specialized Section on sprouted tubers

(Agreed at the forty-second session of the Specialized Section in October 2014)

- Seed potato tubers which have sprouted present a potential problem for the certifying authority. Sprouts can be damaged during transport, handling and planting, with the potential for uneven emergence. Excessive sprouting can result in the tubers being commercially unacceptable.
- De-sprouting tubers (running the potatoes over a grading line to knock sprouts off the tubers) can also be detrimental to tuber quality, as this process can lead to the spread of pathogens ~~symptomlessly~~.
- Pre-sprouting (or chitting) seed potatoes can be used to promote dormancy breaking and to manage early emergence in crops. Where pre-sprouting is well managed, sprouts will be short with well-formed robust growth points capable of withstanding the handling process involved in mechanical planting.
- Seed pre-sprouting carries a certain risk, which should ideally be borne by the seed user rather than the seed producer (i.e. post certification). In practice, pre-sprouting may be conducted by the seed producer who may have the facilities and expertise to achieve the desired tuber growth stage on behalf of the customer, which is likely to take place before certification (tuber inspection).
- Under certain circumstances, sprouted tubers may be acceptable to the Certifying Designated Authority at tuber inspection. Regulation of this aspect of tuber quality with a single prescriptive tolerance under the UNECE Standard for Seed Potatoes would be inappropriate given the dynamic nature of sprouting during the storage season and in the immediate period prior to planting.
- It is recommended that the Certifying Designated Authority regulate the marketing of sprouted tubers at the point of inspection to reasonably ensure that sprouts be sufficiently robust to withstand mechanical planting. This should be done taking into account the time of inspection relative to the time of planting and the likely period and conditions of shipping and storage prior to planting.
- Ultimately the seller bears the risk of excessive sprouting which may take place after official inspection of tubers.

## VII. The position of the Specialized Section on True Potato Seed

(Adopted at the seventy-fourth~~74th~~ session of the Working Party on Agricultural Quality Standards in November 2018)

- Currently commercial trading of propagative material of potatoes for the purpose of commercial planting is through the marketing of seed potato tubers. Small volumes of potatoes are also traded as microplants and mini/microtubers, particularly early-generation material intended for further multiplication or for the purposes of moving high-health status potato propagative material between territories. Thus, the material being marketed is clonally propagated potatoes where the progeny is genetically identical to the preceding generation. The UNECE Standard for Seed Potatoes covers this trade.
- Trade in True Potato Seed (TPS), also known as botanical seed, has been limited due to non-uniformity of the progeny crops derived from TPS. However, in recent years

several plant breeding companies are advancing knowledge and techniques in the production of TPS which provides for much more uniform progeny. ~~This has culminated in the first ever F1 hybrid potato variety 'Oliver' being granted plant breeder's rights in the Netherlands in 2017.~~

- In countries with a well-established potato industry, tubers are the established method of trade in propagative material. However, the UNECE Specialized Section recognizes the potential merits of marketing TPS to growers outside the established potato supply chains whose production is based on horticultural methods.
- The UNECE Standard for Seed Potatoes does not currently cover TPS within its scope and the Specialized Section will consider whether and how to bring the trade of TPS within the scope of the standard in its future work programme.

~~(Adopted at the 74th session of the Working Party on Agricultural Quality Standards in November 2018)~~

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