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LIST OF DISEASES AND PESTS

Submitted by the delegations of the Netherlands, the United Kingdom
and the United States*

This note is submitted by the delegations of the Netherlands, the United Kingdom and the United States. It contains draft definitions of rots for inclusion in annex VII of the Standard.

This document is being issued pursuant to paragraph 5 of the Working Party's Terms of Reference.

* The present document has been submitted after the official documentation deadline by the Trade and Timber Division due to resource constraints.

Definition of soft rot

Soft rot is also generally called bacterial soft rot, caused by the black leg bacterium (*Pectobacterium* spp and *Dickeya* spp). Some fungal diseases, however, cause symptoms very similar to those of bacterial soft rot. The most common examples are pink rot and watery wound rot ("leak"). Pathogens invade lenticels and wounds or cause secondary infections on areas of the tuber that were previously infected by other diseases. Potato tubers start showing a mushy, creamy, watery or slimy disintegration (or decomposing, softening, including liquefying of potato tissue), initially odorless, but may become malodorous after secondary infection with other organisms. Division between healthy and diseased tissue may be very distinct or rather vague. Soft rot is also called wet rot.

Definition of dry rot

Dry rot is dry decomposition of potato tissue caused by a fungus, usually a *Fusarium* species. A disease with which dry rot is likely to be confused is gangrene, caused by a *Phoma* species. Usually gangrene and *Fusarium* dry rot are both considered "dry rots". The first symptoms of dry rot are small brown spots on the skin, which slowly develop into characteristic dry rot lesions. As dry rot advances, the affected tissue dries out and ultimately the entire tuber can be mummified. Concentric wrinkles on the skin around the expanding lesions are characteristic of dry rot. The border between healthy and diseased tissue may be vague (*Fusarium*) or distinct (*Phoma*).

Alternative definition of rots from the point of view of the symptoms seen by the inspector

Rots are any progressive decomposition of the interior tuber tissue. Rot includes wet rot/soft rot, dry rot, late blight, gangrene, watery wound rot/leak, and pink rot as well as other less common rots. Rot can be caused by a range of primary fungal or bacterial potato pathogens or by weaker secondary pathogens exploiting a damaged or otherwise vulnerable tuber. Rot is characterized by breakdown of the tuber flesh such as a mushy, creamy, watery or slimy decomposition or can be accompanied by formation of cavities which may contain mycelium of various colours or a cheese-like ooze. Rotting tubers may or may not have a distinctive smell which, if present, can aid diagnosis to a particular pathogen. Tubers whose flesh is deteriorating due to chilling injury (frost damage) are counted as rots.

Rots caused by *Ralstonia solanacearum* (Brown rot) and *Clavibacter michiganensis* spp. *sepedonicus* (ring rot) are counted separately from other rots in respect of minimum quality for lots in the Standard.
