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Specialized Section on Standardization of Seed Potatoes

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Item 6 of the provisional agenda
Herbicide carry-over and seed potatoes – draft position paper

Draft position paper on herbicide carry-over*

Submitted by the rapporteur's group

Summary

At its 2022 meeting, the Specialized Section decided to develop a position paper on herbicide carry-over, in preparation for a possible consideration to include a provision on herbicide carry-over in the United Nations Economic Commission for Europe Standard S-1 concerning the marketing and commercial quality control of seed potatoes. It asked the rapporteur's group set up for this topic at its 2021 meeting to work on preparing the position paper. The Specialized Section is invited to discuss the draft position paper on herbicide carry-over.

* This document was submitted late for processing due to late reception from the rapporteur's group.

The position of the Specialized Section on herbicide carry-over and seed potatoes

- Herbicides are routinely used in crop production systems to improve yields by controlling weeds, thereby reducing competition for water etc. Selective herbicides target specific weed species, while non-selective herbicides can kill all plant species.
- Persistent herbicides, such as clopyralid and aminopyralid, are herbicides that bind to organic matter and persist on vegetation or in the soil for months or years. They can also pass through the gut of an animal and contaminate manure which may then be applied to the crop. Such problems are usually associated with herbicides including glyphosate, aminopyralid/clopyralid, dicamba, and acetolactate synthase inhibitors.
- Accidental contamination with agrochemicals (specifically systemic herbicides) is a major concern in seed potato production. The most common reason for such contamination is drift from sprayers operating in neighbouring cereal crops, although poor sprayer hygiene (such as spray tank contamination) and human error (misapplications) are also common causes of contamination.
- Visible symptoms in the foliage of the potato crop are usually evident and vary by the chemical involved. Tuber symptoms include growth cracking or elephant hide and multiple weak stems at emergence, although crops may also have poor emergence with numerous tubers failing to emerge and uneven plant growth of emerged plants.
- Glyphosate contamination due to drift from neighbouring fields is typically the most common problem and also the most serious as glyphosate is extremely effective at translocating to daughter tubers. Glyphosate contamination may lead to full/partial crop failure and may only become apparent in the progeny crop which may exhibit symptoms such as deformation and/or stunting of the plants.
- If chemical contamination is suspected in a crop, best practice is to discard the affected portion of the crop (along with a significant safety margin). It may also be acceptable, depending on the chemical suspected, to allow the grower to keep the affected portion of the crop for their own input seed the following season.
- Similar measures should also be taken if symptoms that are typical of herbicide damage are seen in tubers, with discarding being the best option, although growing on at the grower’s own risk could also be considered.
- Potato plants will generally regrow normally after contamination with contact herbicides. If a crop has been contaminated with contact herbicides, field inspections can be delayed until the plant is at a stage of growth suitable for inspection. In extreme cases the plants may not fully recover, in which case they may be kept as a grower’s stock only.
- Training of spray operators in the careful application of herbicides, particularly those involved in the protection of crops other than potatoes grown in the vicinity of seed potatoes, is important to protect seed potato crops from chemical contamination.