United Nations ECE/CTCS/WP.7/GE.6/2024/4

Economic and Social Council

Distr.: General
9 February 2024

Original: English

Economic Commission for Europe

Steering Committee on Trade Capacity and Standards

Working Party on Agricultural Quality Standards

Specialized Section on Standardization of Seed Potatoes

Fifty-first session
Geneva, 26–28 March 2024
Item 6 of the provisional agenda
Development of a position of the Specialized Section on herbicide carry-over

Draft position of the Specialized Section on herbicide carry-over*

Submitted by the rapporteur's group

Summary

At its 2022 meeting, the Specialized Section discussed the issue of herbicide carry-over and decided that a position paper was necessary before considering whether to include a provision on this issue in the standard. At its 2023 meeting, the Specialized Section decided to postpone the review of the draft position paper to its 2024 meeting.

The Specialized Section is invited to discuss the draft position paper on herbicide carry-over.

* The present report was submitted to the conference services for processing after the deadline as a result of consultations with the Member States.

Draft position of the Specialized Section on herbicide carry-over

- Herbicides are routinely used in crop production systems to improve yields by controlling weeds, thereby reducing competition for water. Selective herbicides target specific weed species, while non-selective herbicides can kill all plant species.
- Residual herbicides, such as clopyralid and aminopyralid, can bind to organic matter and persist on vegetation or in the soil for months or years. Such residual herbicides can adversely affect seed potato crops.
- Some herbicides can pass through the gut of an animal and contaminate manure which may then be applied to a crop. Such problems are usually associated with herbicides, including aminopyralid/clopyralid, picloram and dicamba. Similarly, herbicides can also contaminate compost. Therefore, the use of such products should be carefully considered.
- Accidental contamination with agrochemicals (specifically systemic herbicides) is a major concern in seed potato production. Common causes of contamination include drift from sprayers operating in neighbouring crops, poor sprayer hygiene (such as spray tank contamination) and human error (such as incorrect dosage, use of non-selective herbicides, incorrect timing of application, etc.).
- Visible symptoms in the foliage of the potato crop, such as chlorosis, necrosis, and disrupted or distorted leaf growth, are usually evident and vary by the chemical involved. Tuber symptoms may include misshapen/malformed tubers, growth cracking or elephant hide and multiple weak stems at emergence. Affected crops may have poor emergence and uneven plant growth.
- Glyphosate contamination in seed crops is a common problem. Glyphosate is extremely effective at translocating to daughter tubers. Contamination may lead to full/partial crop failure and symptoms may only become apparent in the progeny crop.
- If contamination is suspected in a seed crop, if practical, best practice is to discard the affected portion of the crop (along with a significant safety margin).
- Potato plants may regrow normally after contamination with contact herbicides e.g. metribuzin. If a crop has been contaminated with contact herbicides, field inspections can be delayed until the crop has recovered sufficiently. In extreme cases the plants may not fully recover, therefore the field inspection cannot be reliably conducted and consequently the crop should be rejected.
- The complexity of defining herbicide contamination in a seed crop makes it difficult for the Certifying Authority to determine a tolerance for the purpose of certification. Therefore, management of herbicide contamination relies largely on prevention. Including:
    i. 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
    ii. selecting a field with suitable herbicide history
    iii. education of seed growers regarding herbicides that may affect seed potatoes.

Reference: Robinson, A (A1949, February 2020). Herbicide Injury in Potatoes poster. NDSU/University of Minnesota. Available at: www.ndsu.edu/agriculture/ag-hub/publications/herbicide-injury-potatoes