

THE USE OF GLYPHOSATE IN DEVELOPING SITES FOR BLUEBERRY CULTIVATION – FINAL RESULTS.

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In view of the environmental and social implications of the use of hexazinone in blueberry fields in Québec in recent years, scientific trials have been conducted to test the possibility of substituting glyphosate for this product in the developing and maintaining weed control in blueberry crops.

A reduction in hexazinone use in blueberry cultivation would have a positive impact on the three spheres of sustainable development. In terms of economics, producers would be able to reduce their production costs by avoiding this costly herbicide. In addition, new areas would be able to be developed, since limitations on the use of hexazinone are more stringent than glyphosate restrictions. Glyphosate is also better from an environmental standpoint, as it is much less soluble than hexazinone, and therefore carries less risk of leaking into the ground water. There are also social benefits; certain municipalities discourage blueberry cultivation within their limits because of the environmental problems associated with hexazinone. Identifying an effective and socially acceptable substitute would, then, facilitate blueberry production on new territories.

Studies of the use of glyphosate in blueberry cultivation have shown that it is possible to replace hexazinone by glyphosate, and that glyphosate is effective in weed control when preparing the site for blueberry plantation. Economic advantages have also been shown. The results have, however, pointed out certain limitations associated with this method.

During the two years of experimental use, glyphosate demonstrated good control over *kalmia angustifolia*, the most problematic weed which is commonly responsible for damage to blueberry crops. The optimal use of glyphosate is to apply it only once, in the fall following the first milling, at a rate of 0.9 kg/ha, with an adjuvant and fertilizer the following spring. Mowing in the fall, after glyphosate application, proved to be essential in order to avoid phytotoxicity in the plants. As in the case of hexazinone plots, wiping glyphosate during the summer season on glyphosate plots is necessary in order to control certain weeds not eliminated by the primary herbicide application.

Damages to blueberry crops occurring during the second application of glyphosate suggest that these may be caused by residual effects of the first application. Until this observation has been tested by further experimental studies, a second application of glyphosate in the fall, a year after the first application, is not recommended.

Further to this project, it would also be useful to continue the trials on the same plots throughout the first few years of production. This would determine whether blueberry crops can be effectively maintained following the use of glyphosate in site preparation.

