



Technology for Green Manufacturing of Glyphosate

Opportunity

The use of glyphosate-based herbicides (GBHs), including glyphosate and glufosinate, dominate agricultural practice worldwide. Glyphosate or 'Roundup' is used in the production of soybean, cotton and corn. Glyphosate manufacture generates mother liquor containing 1.5-2% of glyphosate that is released as a waste stream. This both reduces the manufacturing yield and causes major water pollution. The ability to capture the glyphosate in the mother liquor would simultaneously improve the economics of glyphosate production and reduce waterway contamination.

Technology

This technology is a material that can reversibly adsorb glyphosate. This material could be incorporated into the downstream process of glyphosate manufacturing to capture the 1.5-2% glyphosate present in the mother liquor sent into the waste stream.

This would improve the economics of glyphosate manufacturing through process intensification.

The material is functional under aqueous conditions, which supports the tenets of Green manufacturing.

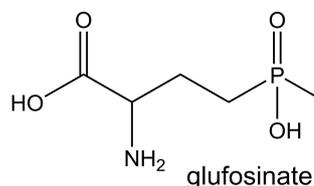
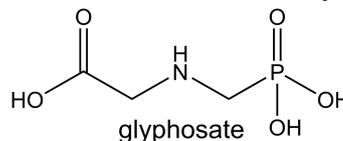
Tests have shown that the material is competent in binding and releasing glyphosate for at least three cycles.

The material would also bind glufosinate.

The production of the material is simple and robust.

Inventors

This technology was developed by Prof Rachel Codd, Dr Michael Gotsbacher, Dr Sean Humphrey & Mr Lukas Roth of the University of Sydney.



Commercial Opportunity

This represents an opportunity to acquire a new technology to improve the yield of glyphosate manufacture and to reduce the release of glyphosate into wastewater for environmental benefit.

The University of Sydney is seeking industry partners for the co-development and licensing of the material.

Intellectual Property Status

This technology is the subject of an Australian provisional patent application.



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