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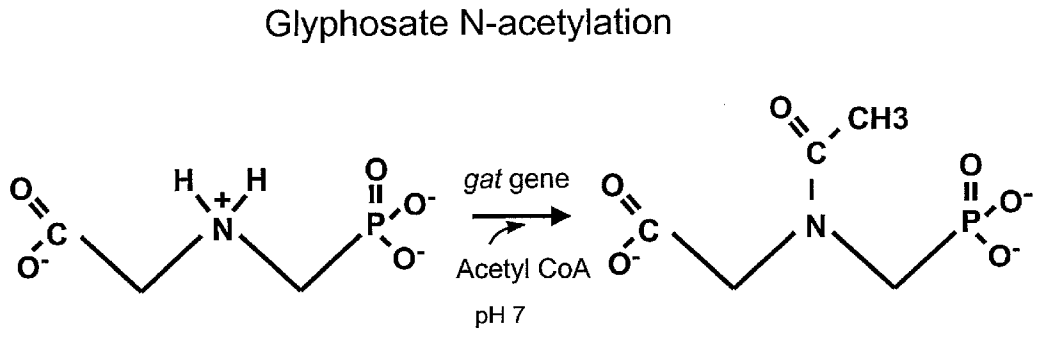
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(54) Title: NOVEL GLYPHOSATE-N-ACETYLTRANSFERASE (GAT) GENES



(57) Abstract: Novel proteins are provided herein, including proteins capable of catalyzing the acetylation of glyphosate and other structurally related proteins. Also provided are novel polynucleotides capable of encoding these proteins, compositions that include one or more of these novel proteins and/or polynucleotides, recombinant cells and transgenic plants comprising these novel compounds, diversification methods involving the novel compounds, and methods of using the compounds. Some of the novel methods and compounds provided herein can be used to render an organism, such as a plant, resistant to glyphosate.

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