Dextrin-based nanosponges as carriers for natural herbicides in horticulture

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Agriculture is increasingly demanding inputs which are harmless for the environment and human health. In this field, several promising results have been achieved by the use of nanotechnologies. Cyclodextrins and maltodextrins are polymers with a cage-like structure able to entrap several molecules and can be cross-linked with suitable reactants to form nanosponges. The remarkable characteristics of dextrin-based nanosponges are currently exploited in several industries, such as pharmaceuticals, but meaningful results can be obtained also in agriculture. Particularly, these nanosponges are proved to successfully deliver natural compounds, applied as an herbicide in horticulture and floriculture production.