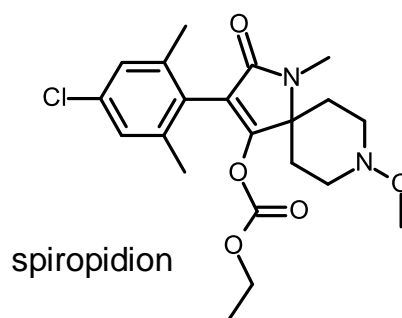
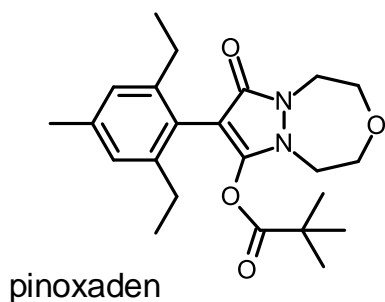


Ambimobile Aryldiones in Crop Protection: Chemistry for Grass Weed Management and Control of Sucking Insects and Mites

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A research journey over two decades at Syngenta and its legacy companies culminated in the discovery and development of pinoxaden for post-emergence grass weed control in cereals (launched 2006) and of spiropidion for the protection of multiple crops from damaging sucking insects (launched 2020/21). Both are 2-aryl-cyclic-1,3-dione derivatives, the corresponding active principles of which disrupt fatty acid synthesis by acting as acetyl-CoA carboxylase inhibitors. Aryldione-based chemistry is fully plant systemic leading to a robust and effective crop protection performance.



Innovation path, synthesis, optimization milestones and relevance of physicochemical properties to mode of biological activity will be reviewed.