

Bixlozone: A new Isoxazolidinone herbicide for a wide range of major crops

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Summary Bixlozone, trademarked Isoflex™ active, is a new herbicide from the isoxazolidinone family discovered and developed by FMC's research and development organization. It provides a new and unique selective residual weed control solution in a wide range of crops including, cereals, corn (*Zea mays*), legumes, rapeseed (*Brassica napus*), rice (*Oryza sativa*) and sugarcane (*Saccharum officinarum*), and will offer a new mode of action herbicide solution for many of these crops and crop rotations. Isoflex™ active provides both systemic and contact activity, with residual control and can be applied pre-emergence, early post-emergence or incorporated by sowing, across a wide range of agronomic environments. It controls major problematic grass weeds including annual ryegrass (*Lolium rigidum*) and several key broadleaf weeds by inhibiting 1-deoxy-D-xylulose 5-phosphate synthase resulting in the disruption of plastid isoprenoid biosynthesis. Isoflex™ active is classified as a Group 13 herbicide mode of action by the Herbicide Resistance Action Committee and will offer a new tool for resistance management,

especially annual ryegrass (*L. rigidum*). Trials conducted in Australia between 2015 and 2020 demonstrate that pre-emergent control of annual ryegrass (*L. rigidum*) from Isoflex™ active is comparable to leading industry standards. It will also be an ideal complementary mixing partner for other pre-emergent herbicides as it can extend the utility of existing molecules by expanding the weed spectrum and increasing weed efficacy. It will also be safe to a wide variety of rotational crops seeded after initial crop planting. Isoflex™ active received first global registration in 2020 in Australia with subsequent launches planned in Asia Pacific, Latin America, and Europe. In Australia, Isoflex™ active is registered for pre-emergence application at the rate of at 500 g a.i. x ha⁻¹ in wheat (*Triticum aestivum*), barley (*Hordeum vulgare*), canola (*B. napus*), field pea (*Pisum sativum*) and faba bean (*Vicia faba*) under the tradename Overwatch® Herbicide.

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