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BASF advances next-generation weed control with Replexor active registration push across global markets

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New PPO herbicide innovation targets resistant grasses and broadleaf weeds, strengthening BASFâ??s crop protection pipeline for soybean, corn and cotton growers worldwide

BASF Agricultural Solutions has initiated the regulatory registration process for Replexor Active (fendioxypyracil), a new herbicide active ingredient designed to address one of the most pressing challenges facing modern agriculture — the rapid evolution of herbicide-resistant weeds. Developed through BASF's protoporphyrinogen oxidase (PPO) innovation pipeline, Replexor Active represents a new generation of weed management technology with broad-spectrum activity against both broadleaf weeds and grasses. At full adoption potential, the active ingredient could support weed control programmes across more than 50 million hectares globally, highlighting its potential impact on major crop production systems.

BASF has submitted the first regulatory dossiers for Replexor Active in Brazil and Australia in July 2026, with submissions planned for the United States and Argentina in 2027. Subject to regulatory approvals, the company expects the first commercial launches of products containing Replexor Active around 2030.

Addressing the Global Challenge of Herbicide Resistance

Herbicide-resistant weeds have become an increasing threat to agricultural productivity, particularly in major crops such as soybean, corn and cotton. Farmers worldwide are facing growing difficulties in maintaining effective weed control as resistance develops against commonly used herbicide modes of action. At the same time, increasing regulatory scrutiny is reducing the availability of crop protection active ingredients, creating additional pressure on growers seeking reliable weed management solutions.

In this environment, PPO herbicides have remained an important component of resistance management strategies for more than five decades. BASF's latest innovation expands its PPO portfolio, which already includes Kixor Active and Tirexor Active, by introducing a broader spectrum of weed control capabilities.

Replexor Active Brings New Grass Weed Control Capability

Unlike many existing PPO herbicides that primarily focus on broadleaf weed control, Replexor Active provides activity against several economically important annual grasses, including Eleusine indica, Echinochloa species and Setaria species. The ability to target both broadleaf weeds and grasses addresses a significant gap in current weed management programmes. Grass weed resistance to PPO herbicides remains relatively uncommon, creating an opportunity for Replexor Active to become an important tool in resistance management strategies.

“Replexor Active fills a genuine gap in the PPO space,” said Maximilian Becker, Member of the Management Board of BASF Agricultural Solutions, responsible for Business. “Growers have had very few new solutions for resistant grasses in recent years. Replexor Active addresses this challenge directly while complementing the resistance management programmes growers are already developing with our PPO portfolio.”

Supporting Sustainable and Efficient Farming Practices

Beyond its broad-spectrum weed control performance, Replexor Active offers several agronomic advantages designed to support modern farming systems. The active ingredient delivers rapid weed control, helping farmers manage difficult weed populations more effectively. It also supports no-till farming practices, which can contribute to reduced soil erosion and improved soil conservation.

Another key benefit is its effectiveness at low application rates, reducing the quantity of active ingredient required per hectare while improving handling convenience for growers. These characteristics align with broader agricultural trends focused on improving resource efficiency, protecting soil health and developing more sustainable crop production systems.

BASF Strengthens Crop Protection Innovation Pipeline

The registration progress of Replexor Active highlights BASF’s continued investment in crop protection research and development as the agricultural sector faces increasingly complex weed management challenges. “The start of Replexor Active’s registration process is another milestone demonstrating the strength of our innovation pipeline,” said Melanie Bausen-Wiens, Member of the Management Board of BASF Agricultural Solutions, responsible for Technology.

She added that the development reflects BASF’s ability to convert long-term research investments into practical solutions addressing real-world challenges faced by farmers. BASF is also developing PPO herbicide-tolerant traits, which could provide growers with additional flexibility in how and when Replexor Active-based solutions are applied within integrated weed management programmes.

Future Outlook: Innovation Becomes Central to Weed Management

The introduction of Replexor Active comes at a time when global agriculture is seeking new approaches to manage increasingly complex weed challenges while maintaining productivity and sustainability. As resistance patterns continue evolving, growers are expected to rely increasingly on diversified weed management strategies combining new chemistry, integrated application programmes and advanced crop technologies.

With its ability to target both broadleaf weeds and difficult grass species, Replexor Active could become a significant addition to global herbicide resistance management programmes once regulatory approvals are secured. BASF’s latest innovation reinforces the company’s strategy of developing next-generation crop protection solutions that help farmers protect yields, improve efficiency and adapt to the changing demands of modern agriculture.