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Syngenta and Enko deploy AI to advance molecular herbicide technology building sustainable weed control solutions

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Syngenta Crop Protection has reached a new milestone in its collaboration with AI-informed crop health company EnkoÂ® to discover novel weed control molecules, advancing efforts to bring much-needed innovation in herbicide technology to farmers. The collaboration targets a new Mode of Action (MoA), which is the way the herbicide controls susceptible plants. The discovery of new leads targeting this MoA was made using Enkoâ??s ENKOMPASSâ?¢ platform, which reduces time and cost compared to conventional agricultural R&D approaches.

Today, resistant, aggressive weeds, such as Palmer amaranth, waterhemp, and many types of grasses such as blackgrass and Italian ryegrass, are a major challenge to the health of crops worldwide. Total crop losses to weeds worldwide are estimated at US $32 billion a year. Using new MoAs and different methods of controlling the weeds â?? such as manual weeding or crop rotations â?? are crucial to addressing the challenge of resistant weeds and ensuring the sustainability of crop protection solutions.

The collaboration is focused on a new, plant-specific MoA which is part of Syngentaâ??s â??Safer by Designâ? research strategy that aims to deliver higher yields while lowering the impact to the planet through more sustainable technologies. The goal is the discovery of novel weed control molecules capable of controlling a broad spectrum of weeds that affect vital cropping systems worldwide.

Camilla Corsi, Head of Research at Syngenta Crop Protection saidÂ â??As an innovation leader, Syngenta is pursuing some of the most cutting-edge research in the field of agricultural technology. This novel solution will be an important breakthrough in the field of weed control and will represent a critical tool for resistance management.â?

Jacqueline Heard, CEO and Co-founder, Enko said, â??Weed and pest adaptation to changing climate conditions and resistance to on-market products will create a dearth of food in many parts of the world as populations grow. By using our ENKOMPASS platform, we can significantly reduce discovery time for new safe crop protection solutions and get them into the hands of farmers as quickly as possible."

The discovery milestone represents the advancement of new molecules, discovered as part of a multi-year collaboration between Enko and Syngenta, to the proof-of-concept phase. The weed control collaboration builds on the success ofÂ fungal control researchÂ that was announced earlier this year and adds new herbicide capabilities to the alliance.

Enko (Enko Chem Inc.) designs safe and sustainable solutions to farmersâ?? biggest crop threats today, from pest resistance to new diseases. By applying the latest drug discovery and development approaches from pharma to plants, Enko is bringing an innovation model to agriculture and meeting farmersâ?? evolving needs