

How AI and gene editing can combine to revolutionize climate-smart farming

While precision agriculture promises to reduce indiscriminate use of water, fertilizer and pesticides, intensive efforts are also being made at the start of the agricultural chain, namely seeds.

Calling seeds the “unsung heroes” of agriculture, Ponsi Trivisvavet, CEO of Inari, said her company is using artificial intelligence (AI) and multiplexed gene-editing technologies to develop seeds that use less land, water, and nitrogen fertilizers, one of the biggest sources of greenhouse gas emissions.

The combination of AI and multiplexed gene-editing, in which numerous enzymes are expressed at once, could vastly enhance the scope and efficiency of agricultural investment and reduce the timeline of product development, she said.

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Current technologies of breeding and genetic modification can take between 7-10 years for the former to as long as 15 years for the latter, for the product to get to market, according to Trivisvavet. “That’s billions of dollars per year” for less than 1% in annual yield increase, she said.

From the beginning of the food chain with inputs like seeds, down the line to planting, harvesting, distribution and food waste management, climate change is “such a big problem ... the more players we get into this area, the better it is,” she said.

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