How epigenetic tweaks can increase corn and soybean yields

Through a field of science called epigenetics, [Sound Agriculture’s On-Demand Breeding] platform increases or reduces expression of existing genes in a hybrid or variety, similar to a dial used to fine-tune a radio station signal.

For example, a corn plant facing hot and dry conditions can naturally turn on or off certain genes to help it adapt, says Travis Bayer, co-founder and chief technology officer of Sound Agriculture.

“The whole goal [of On-Demand Breeding] is to make breeding much faster, and to develop traits on demand,” he says.

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Sound Agriculture scientists can tweak gene expression in a matter of weeks, compared to the years taken by conventional breeding, he adds. If changes need to be made, scientists can quickly modify and retest them.

Unlike gene editing, no cuts are made to DNA. Nor are foreign genes inserted into DNA as occurs in transgenic technology. As a result, the regulatory process is less intensive, Bayer says.

Sound Agriculture is aiming On-Demand Breeding at corn, soybeans, and wheat in addition to specialty crops. The company is partnering with several seed firms to develop traits for existing varieties and hybrids, says Bayer.

This is an excerpt. Read the original post here.