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BetterSeeds unlocks the full potential of CRISPR with breakthrough EDGE delivery system

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BetterSeeds has achieved a significant breakthrough in plant biotechnology with the completion of its EDGE (Efficient Delivery of Gene Editing) platform. This innovative technology directly addresses a major hurdle hindering the widespread adoption of gene editing technologies like CRISPR: the reliance on inefficient and crop-specific tissue culture methods.

The limitations of tissue culture mean that currently, only a small fraction of commercially important crops (approximately 10) can be efficiently improved using CRISPR. This critical bottleneck was a key discussion point at the recent CROP Innovation and Business conference in Cologne, Germany, which focused on the applications of CRISPR with leading experts and companies highlighting the urgent need for alternative tissue culture free delivery solutions.

While viruses have long been considered a promising delivery vehicle for CRISPR, the large size of the standard CRISPR-Cas9 system has proven to be a significant obstacle. BetterSeeds' EDGE technology overcomes this challenge through the ingenious use of engineered viruses capable of carrying a reengineered, split CRISPR-Cas9. This allows for the effective delivery and function of the gene editing machinery directly within the plant, bypassing the need for tissue culture altogether and resulting in edited progeny.

The successful development of EDGE means that CRISPR could be applied to a far wider range of crops, eliminating a major constraint in agricultural innovation. Furthermore, this direct delivery method significantly reduces the time and resources required for developing gene-edited plants thereby shortening time to market of introducing new improved crops.

"We anticipate that the increasing clarity in CRISPR regulations in Europe and Globally will drive wider adoption of gene editing technology as a standard tool by the seeds industry," commented Ido Margalit, CEO of BetterSeeds. "Our EDGE

technology will facilitate this widespread integration, paving the way for the broad and rapid adoption of this powerful technology."

Dr. Tal Sherman, CTO of BetterSeeds, elaborated, "We are already looking ahead with the development of EDGE V.2, which will utilize smaller CRISPR systems. This next generation of EDGE promises to further enhance the efficiency and broaden the applicability of our delivery platform beyond the current capabilities of CRISPR-Cas9."