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AgGene expands canola innovation pipeline through strategic biotech partnership

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In a move reflecting growing industry efforts to strengthen crop resilience amid increasing climate volatility, biotechnology companies genXtraits Inc., Mendel Biotechnology Inc., and Canadian crop innovation startup AgGene Inc. have announced a strategic collaboration to develop a new generation of stress-resilient canola traits designed to improve yield stability under challenging growing conditions.

Under the agreement, AgGene has secured royalty-bearing commercial licenses to intellectual property portfolios developed by genXtraits and Mendel, providing access to advanced genetic technologies focused on enhancing crop performance, stress tolerance, and productivity. The collaboration will initially concentrate on developing canola varieties with improved resilience to heat and cold stressâ??two environmental factors that are increasingly impacting oilseed production across major growing regions.

The partnership brings together three complementary areas of expertise. AgGene contributes its crop-development platform and gene-editing capabilities tailored specifically to canola breeding. Mendel provides access to decades of functional genomics research and a proprietary database identifying key regulatory genes associated with traits such as abiotic stress tolerance, disease resistance, nutrient-use efficiency, and crop quality. Meanwhile, genXtraits contributes its proprietary STRM platform, which enables precise modification of gene control regions to elevate the production of beneficial proteins within plants.

The companies believe this integrated approach could accelerate the development of dominant genetic traits capable of delivering more consistent performance under increasingly unpredictable weather conditions.

â??Canola has become one of Canadaâ??s most important agricultural success stories, but farmers are facing growing challenges from heat, drought, and temperature-related stress,â? said Dr. Logan Skori, Chief Executive Officer of AgGene. â??Producers are making significant investments in seed and are looking for solutions that help crops perform more reliably. By combining validated gene targets with precision trait-development technologies, we aim to create practical innovations that complement existing breeding programs and support long-term productivity.â?

Climate resilience has emerged as a major focus area for global crop breeding programs as growers contend with more frequent weather extremes, shifting rainfall patterns, and increasing pressure to maintain yields while using resources more efficiently. Canola, one of the worldâ??s leading oilseed crops, plays a critical role in global food, feed, and biofuel supply chains, making improvements in stress tolerance increasingly valuable to both producers and seed developers.

According to the partners, the collaboration seeks to move beyond conventional breeding approaches by leveraging regulatory gene networks that control key physiological responses within plants. Rather than introducing entirely new genes, the strategy focuses on fine-tuning the activity of existing genes through targeted modifications in their control regions, allowing plants to express beneficial traits at optimal levels.

â??Each partner brings highly complementary strengths to this initiative,â? said Dr. Oliver J. Ratcliffe, Chief Executive Officer of Mendel Biotechnology and Co-Founder of genXtraits. â??Mendel has spent decades identifying regulator genes that influence important agronomic traits, while genXtraits has developed algorithms that help determine where precise genetic edits can be made to enhance the expression of those genes. AgGene adds deep expertise in canola trait development and commercialization. Together, we believe this creates a powerful framework for delivering transformative improvements in crop resilience.â?•

The companies expect the collaboration to generate novel canola trait candidates capable of maintaining performance under environmental stress conditions that increasingly threaten crop yields and farm profitability. Beyond heat and cold tolerance, the underlying technology platform may also create future opportunities to address nutrient-use efficiency, disease resistance, and overall crop productivity.

As climate adaptation becomes a central priority across global agriculture, the partnership highlights a broader industry trend toward combining advanced genomics, artificial intelligence-driven trait discovery, and precision gene-editing technologies to accelerate the development of crops capable of thriving in a more variable production environment.

The first phase of the collaboration will focus on trait development and evaluation, with the longer-term objective of integrating successful stress-resilience traits into commercial canola breeding programs serving farmers across Canada and other key oilseed-producing regions.