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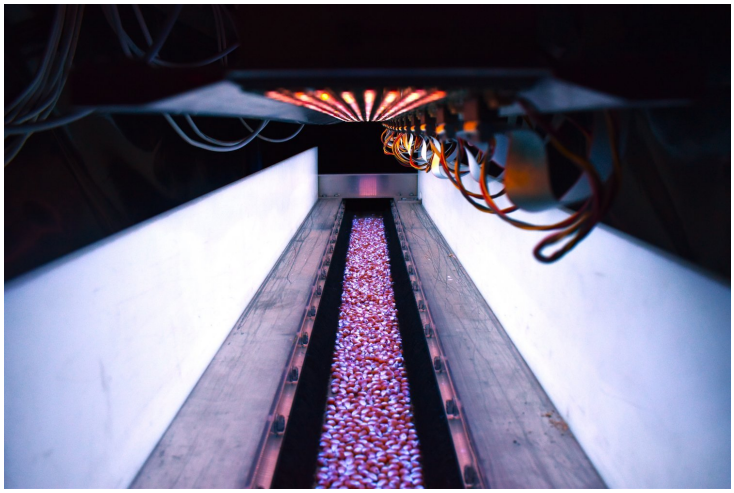
New Zealand's BioLumic to enhance inbred corn lines through UV activation of genetic expression

07 August 2024 | News

Pioneers New Seed Traits with Seed Company Partners



Pioneers New Seed Traits with Seed Company Partners

BioLumic, the worldâ??s only company treating seeds with light to activate genetic expression for new crop traits, has achieved a breakthrough in enhancing inbred corn lines. These genetically 'pure' parent seeds are crucial for producing the worldâ??s high-performing hybrid seeds favored by most farmers.

After achieving significant performance milestones in 2023 field trials, BioLumic is partnering with Beck's Hybrids, Peterson Corn Genetics, Peterson Farms Seed, Breeder Direct and other seed companies to use BioLumicâ??s Genetic Expression Traitâ?¢ light-activated technology on a wide range of inbred and hybrid corn lines aiming to enhance their productivity. The inbred trials specifically target improved germination, emergence, seedling vigor, yield, and hybrid seed quality â?? all issues often associated when working with inbred seed corn breeding and production.

BioLumic harnesses ultraviolet (UV) light signaling, a scientifically-proven process, to rapidly activate natural genetic expression in plants for improved yield, quality, and plant defense traits without requiring genetic modification or chemical additives. BioLumicâ??s technology is being commercialized for inbred and hybrid corn cultivars, with plans underway for light-treated seeds to be available to farmers for the 2025 planting season.

â??By activating Genetic Expression Traits in corn parent lines and showing the ability to lock in those traits to hybrid corn progeny without any ensuing treatments, our UV light technology is rewriting the playbook for seed production,â? said Steve Sibulkin, BioLumic CEO. â??It eliminates years of trait identification and breeding work for driving yield, quality and plant

health without the multi-year regulatory process associated with genetic modification.â?

BioLumicâ??s light treatments for inbred seed are tailored to solve the problems associated with inbreeding depression. In 2023 trials, treated inbred corn lines with the stand establishment and yield trait package demonstrated a more than 7.3% yield gain without any changes compared to the growerâ??s standard practice â?? and the company is targeting double-digit yield gains this year. These substantial improvements in inbred uniformity and yield were driven by enhanced early-season germination and increased seedling vigor, including an average 16% advantage in root biomass. BioLumicâ??s Genetic Expression Traits can also be stacked together as trait packages to target multiple traits, such as improved stand establishment, yield, and composition (e.g. lipid content).

BioLumic is set to commercialize Genetic Expression Traits for both inbred and hybrid corn in partnership with Gro Alliance in Q1 2025. The company is actively collaborating with genetics providers to develop new traits for their cultivars. Additionally, BioLumic is advancing trait development of soybean parent lines, with initial trials commencing this year.