

Company Overview

Insignum enables plants to use their pigments to talk to you. Plant stresses decrease the quantity and quality of crops by at least 50%. Growers have tools to protect their crops but are cost limiting and time-consuming. Our technologies allow plants to tell growers directly what they need so they can be treated exactly when, precisely where, and only if needed. Our first product, a gene made of plant DNA, causes corn leaves to turn purple before disease can be diagnosed by the eye. Our platform includes using multiple natural colors to signal for a variety of issues, such as red for insect attack and blue for lack of fertilizer, across all crop species. With Insignum, farmers will optimize production sustainably and profitably.

Problem or Market Opportunity

Insignum will form channel partnerships with seed companies to have its proprietary trait cross-bred into their seeds. Introgression of trait into the seeds, and the manufacturing, distribution, and selling of the seed all are part of the normal seed industry value chain. These channel partners retain a portion of the additional retail price farmers pay for the gene over a bag of seed without the gene. We calculate that farmers will be \$40 per acre better off using the Insignum gene, justifying a \$10 per acre fee for the gene. Seed companies will keep \$3, Insignum will receive \$7 royalties. This model is very easy to scale. Once the gene is cross-bred, scaling is as simple as growing more plants to have more seed for next year. 164M acres of genetically modified corn seeds are planted yearly, where we could achieve 25% market penetration. Additional corn genes and additional crop species would generate additional revenue within a \$62B seed industry.

Technical & Competitive Advantage

Farmers appreciate that our technology is real and tangible, their own plants say what they need. Seed companies gain the ability to better support their seed products with clear recommendations to farmers, deliver data through their integrated platform, then can sell them products to solve the problems Insignum highlights. Simple cameras on ground equipment, drones, or satellites can detect color changes at speed and scale to solve real-time issues. We turn precision ag into decision ag. Not another data point, simply a clear answer to optimize crop growth for profitability and sustainability.

Regulatory Strategy & Intellectual Property

Insignum creates new genes from pieces of DNA that are already present in the plant, not from foreign DNA or transgenes. As a leaf reacts to the first sign of an infection at a molecular level, Insignum's new gene activates purple pigment production. A patent for Insignum's genes and ancillary systems has been issued by the US and filed abroad. The first patent covers plant genes in any plant species, electronic systems that can detect color changes created by the genes, and methods of treating plants based on signals that the color-changing plants give farmers. Without transgenes, regulatory rules about risks to people, animals, or the environment are muted. Insignum received a rapid approval from the USDA in Q4 2023 and is preparing to file for approvals in other jurisdictions..

Key Milestones

Q/YYYY	Objective	Milestone Description
Q3 2023	Partner Field Trials	Beck's Hybrids and Insignum collaborated to demonstrate gene's efficacy in commercial genetics in field trials. Successful tests resulting in additional field trials in 2024.
Q4 2023	Regulatory Approval	USDA says that Insignum's first corn gene can be grown, bred, and tested in the field without restriction.
Q1 2024	Patent Issuance	USPTO issued Insignum's first patent covering three large categories of claims.
Q1 2025	Beta Test w/ Farmers	Insignum will deliver seeds to farmer/investors to generate groudswell of support and excitement.

Capitalization History

Year	Grant or Equity Type	Description	Amount
2019	Angel Round	SAFE Note	\$810K
2022-23	Pre-Seed Round	Convertible Note	\$1,232,205
2024	Seed (in progress)	Priced, lead in diligence	\$2,500,000

Current Round, Terms, and Use of Proceeds

Hire VP of Business Development for commercialization and partnerships. Develop remote sensing algorithm, field demo. Secure additional regulatory approvals. POC of next product to show platform capabilities.

Key Team Members and Advisors

Kyle Mohler, PhD | Founder and CEO

Kyle is a many times published and patented plant scientist. Raised on a family farm in Indiana. Passion for sustainable agriculture.

Advisory Board

Dan Burdett | Syngenta's Global Head of Digital Ag (ret.)
 Rodrigo dos Santos | Brazilian serial entrepreneur and CEO
 Anonymous | Corteva Global Director