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Agri-Inject's Product Redesign Yields Enhanced Market Position



Agri-Inject CEO, Erik Tribelhorn (center) and his team deployed their collective proactive mindset in redesigning the Insectigator™ chemigation system

We've all heard the phrase "if it ain't broke, don't fix it," aptly describing resistance to change when things are going quite well, thank you very much. It's understandable, right? For example, why would a business with an industry-leading product want to change it, while enjoying an already significant market share advantage over its competition?

Adding a rotomolding flavor to this quandary, consider the case of Agri-Inject, a worldwide industry leader in fertigation and chemigation systems based in Yuma, Colorado. Agri-Inject's Insectigator® product line, featuring rotomolded components manufactured by the company, has enjoyed a dominant market share in the chemigation sector (the process of applying fertilizer or pesticide by injection through an irrigation system - such as a center pivot) for more than 30 years, all while manufacturing and marketing a product that's gone virtually unchanged during this timeframe.

While conventional wisdom would dictate leaving well

enough alone, Agri-Inject instead decided to apply its proactive, "if it ain't broke, IMPROVE IT" cultural mindset and engage in a comprehensive redesign of the Insectigator™ product line. Featuring improved functionality, safety, ergonomics, and aesthetics, the newly designed Insectigator® will do more than just protect Agri-Inject's market share by delivering a better product to its existing customer base, it will position them to capture previously untapped market space by realizing its biggest growth opportunity: converting current non-users to chemigation technology.

Converting agnostics to evangelists

Though chemigation via center pivot irrigation (crop irrigation in which equipment rotates around a center pivot and crops are watered with sprinklers) is demonstrably the most effective means of delivering fertilizer, insecticide, and other crop management chemicals precisely where they're needed, it still remains a

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relatively under-utilized defense against crop-damaging insects, such as the Western Bean Cutworm (*Striacosta albicosta*) which if left unchecked, can reduce grain yield by 15-20%. Instead, crop dusting, ground rig spraying and other less-effective methods continue to be the predominant approaches to agricultural chemical application in the U.S.

“It’s likely a combination of old habits, reluctance to change and an ‘everything is good enough’ mentality that drives this,” commented Erik Tribelhorn, Agri-Inject’s CEO, describing the challenge facing his team in positioning chemigation as a preferred solution. “WE know it (chemigation) works better and saves the farmer money, and they all know about chemigation, but it’s still our responsibility to proactively offer better products that help deliver that message more effectively.”

So, despite the challenge, the Agri-Inject team remains undeterred, and bolstered by the newly redesigned Insectigator®, believes that capturing and converting the “agnostics” to chemigation technology is within reach. “The numbers clearly indicate there’s significant upside potential to our chemigation product line, added Tribelhorn, “and moving forward with a complete redesign of our Insectigator® underscores our belief that we can realize this opportunity.”

“The numbers” alluded to by Tribelhorn fueling Agri-Inject’s evangelical zeal are hard data illustrating the magnitude of this opportunity: currently, it’s estimated there are 250,000 to 275,000 center pivot systems in use on U.S. farms, which because of their ready integration with the Insectigator® chemigation system, quantifies a market opportunity exponentially larger than its current share, particularly considering that only 5-10% of all center pivot systems are currently paired with chemigation units.

Further expanding this opportunity is the significant efficiency and resultant cost-effectiveness advantage of chemigation compared to aerial chemical application (i.e., crop dusting). As Tribelhorn explains, “research shows that using chemigation vs. aerial application saves a minimum of \$7.00 per acre per application – meaning the payback on an Insectigator® unit is almost instantaneous.” And this is where Tribelhorn’s bullishness is palpable: “I mean, chemigation works better and costs less, and yet we still have only 5-10% usage with an opportunity 10 times its current size - the sky is literally the limit for this technology.”

Align. Define. Design.

With the growth potential now defined, and with its market-leading position still intact, it would be entirely understandable for Agri-Inject to attack the opportunity with the same tried-and-true Insectigator® product. So, what other factors contributed to Agri-Inject’s decision to re-design its flagship product? Who was involved in defining the redesign direction? And what aspects of the existing Insectigator® were changed?

It’s important to pause here and note that several years ago, Agri-Inject had embarked on a redesign initiative that didn’t quite make it to the finish line. After almost a full year of considering

options and investing significant time, finances and resources into the project, Tribelhorn and team decided to put the redesign process on hold. “Probably the best way to describe it (unfinished product redesign) is that the team just wasn’t quite satisfied with the results,” commented Tribelhorn. “We were all excited and went into it with good intentions, but we maybe lacked ‘connective tissue’ in pulling it all together and aiming the new design at our business objectives.”

Despite pausing the initial redesign effort, Tribelhorn continued to work diligently with his team and all stakeholders to build complete alignment and ensure shared satisfaction and excitement with the redesign results. “We knew we would eventually re-engage in the process,” said Tribelhorn, “so we kept the dialog going and included everyone whose input mattered: customers, salespeople, ownership, manufacturing team, etc.” Added Tribelhorn, “we wanted more than preaching a better product to the same choir – by aligning our design approach with our objective of ‘converting



Agri-Inject’s Insectigator™, prior to redesign, in its natural habitat: integrating with a center pivot irrigation system to deliver crop-saving chemicals precisely where needed.

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In addition to improved product performance, the newly-designed Insectigator will also improve Agri-Inject's manufacturing outcomes.

the agnostics, we really felt we could define a clear and shared vision for a redesigned Insectigator®.”

Thus, fully aligned and armed with input from all stakeholders documented, the Agri-Inject team defined a list of “must-haves” relative to the redesigned Insectigator®, which included:

- Enhanced uniformity of chemical dispersion in Insectigator® tank via improved mixing performance.
- Improved ease of use and access to electronic controls via consolidation and relocation of components.
- Improved ease of use and transport with handles integrated into tank and base.
- Improved ease of electrical cord management via ability to wind around base, plus capture cord in the tank channel.
- Facilitate securing the Insectigator™ during transit via integrating tie-downs into base.
- Facilitate shipment through integrating a channel on underside of base, allowing it to secure to 2” x 6” on a pallet.
- More visually appealing product through improved aesthetic design.
- Improved rotomolding and manufacturing outcomes: reduced flash, eliminate warpage and deformation of Insectigator™ tank, minimize tool maintenance costs, improve dimensional fit between tank and base, etc.
- Reduced manufacturing costs: integrated handles eliminate need to source and install stainless steel handles, fewer inserts to secure handles, lower inventory costs, etc.

The “X” factor

Following the disappointing conclusion to its initial redesign initiative, Agri-Inject bolstered its in-house design capabilities via investment in solid modeling design software. “It helped,” said Tribelhorn, “but it wasn’t enough, and it was evident we needed to get some outside help to get this to the finish line.” At this stage, Agri-Inject contracted Xcelerant Growth Partners (Madison, Wisconsin) to serve as the previously eluded-to “connective tissue,” and complete a design integrating all the “must haves,” while capturing the hearts (and market share) of the aforementioned chemigation agnostics.

“We were a little hesitant to re-engage in this process, based on past experience, and maybe a feeling that we might be messing with success,” commented Tribelhorn. “But working with Xcelerant, we laid out a clear path and process, stayed focused on our objectives and emerged with a redesigned Insectigator® that we’re all pretty stoked about.”

Once the decision was made to proceed, the process to which Tribelhorn alluded proved to be a significant and positive departure from the previous design experience, with Xcelerant providing the following phased approach:

- **Phase 1:** determine why previous redesign initiative failed.
- **Phase 2:** define specific objectives, budget, and timelines.
- **Phase 3:** initial consultation to define general design direction.



The newly designed Insectigator™ base is engineered to fully enclose system controls, an industry-first that optimizes performance and safety.

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- **Phase 4:** input & involvement from key stakeholders (internal and external).
- **Phase 5:** ongoing interaction throughout process to maintain alignment with objectives.
- **Phase 6:** review design vs. objectives. When objectives have been met, complete design.

All told, following delivery of initial redesign renderings, the project involved 11 different iterations prior to final approval. “The Insectigator® is fairly complex, with electronic components and controls, mixer and motor, etc., so the process took some time and wasn’t without its moments,” commented Tribelhorn. “That said, the entire process was disciplined and efficient, our team was engaged and accepted accountability for the outcome, and we checked off all the boxes on our list.”

The best way to predict the future? Invent it.

As Agri-Inject prepares to launch its newly designed and vastly improved Insectigator®, it’s interesting to consider the various components that converged to drive a successful result. Among them, and important to emphasize, is the collective, proactive mindset that Tribelhorn’s team deployed in tackling the redesign initiative. “We talk a lot about a proactive mindset as a tool to manage change and future-proof our business,” reflected Tribelhorn, and the team really applied this approach in redesigning the Insectigator®.”

Combined with a clear vision, solid gameplan and capable external partners, the Agri-Inject team decided it wasn’t satisfied with having the best chemigation product in today’s market, it wanted to redefine what “best product in the market” meant within a context much broader than just today’s. “Of course, we wanted to deliver a better product to our current customers,” said Tribelhorn, “we also decided that a redesigned Insectigator® needs to make believers of folks who haven’t used chemigation in the past. And we’re excited and confident that this new design will do just that.” ■



New Insectigator design (on left) features cylindrical tank design with augmented mixing motor angle for optimal chemical dispersion.



The new Insectigator™ integrates upgraded aesthetics with enhanced functional features such as integrated handles, enhanced cord management, and improved access to controls, positioning the product for broader appeal among current and prospective customers.