



Joey Aguirre / January 22, 2018 / News, Tech

Powerpollen: An AgTech startup turning a problem into a solution






(Left) PowerPollen Chief Technology Officer Jason Cope explains how the Ankeny-based company has developed technology that increases corn yields by more than 20 percent. Cope was the guest for the January edition of "Startup Stories" with Mike Colwell.

An engineer and a scientist left their corporate jobs because they believed they could develop technology to improve seed and grain production.

So Jason Cope and Todd Krone started Powerpollen—an Ankeny-based AgTech startup—that develops technology to preserve and apply pollen. Cope was an engineer and Krone was a molecular geneticist at Pioneer Hybrid (DuPont Pioneer) before the duo met and started Powerpollen.

After three seasons of testing, Powerpollen has shown an average of increasing yields by more than 20 percent and a 50 percent reduction in contamination.

Cope—the Chief Technology Officer—was the January guest for “Startup Stories” last Wednesday and discussed the origins of Powerpollen and its future with Mike Colwell of the Greater Des Moines Partnership.

 Colwell says Powerpollen is part of this, “Classic thing with startups” where it’s either, “The year-old in the hoodie and then there are the startups who are the 40 or 50 somethings who have been in the industry space going, I know I can do this better.”

 Colwell and Cope would talk for nearly forty minutes.

 Our Q&A has been edited for conciseness.

Explain Powerpollen...

JC: My partner and I are scientists and engineers, so business doesn’t come easy to us, we’ve been in the industry for a long time and working for a large company. We’ve both been involved in technology for our entire careers. If you look at ag industry right now, there’s a lot of mergers going on and a lot of disruptions. It’s going to take time to settle some of these issues with these mergers. There’s just a lot of real struggles right now that are out there in the industry.

So based on knowing that there was opportunities independently, my business partner and I both resigned from the industry knowing there were things we could do on our own. We connected after we had resigned and got to talking about seed production. It’s what we kept coming back to.

There are better ways to produce seed. It’s been done the same way for 90 years and PowerPollen is a new take on that.

What is your first product?

JC: We took a fresh look at how seed is produced and I'm not sure how many people are familiar with the process of detasseling, but it's a major labor effort that goes into crop production. That's a large cost of goods for seed companies, and you look at the yield, those are all risks coming into producing seed.

So Todd and I really thought about if we are waiting for the weather to come in and behave or not behave and miss pollination. Because pollination has to be at the right time otherwise that process doesn't happen.

So we preserve pollen at a very large scale so we can go out anytime the female parts of the plant is ready and apply that pollen. Not only do we reduce the costs of goods associated with detasseling, we would also increase the yield, decrease contamination and de-risk a lot ^ the risks you see with pollen.



What happens when seeds are contaminated?



You have a farmer who is a block or mile away, pollen can blow from his in her field in under the right conditions and take what and contaminate a seed production field that a seed company would have sold for a product—millions and millions of dollars they will make off of this—and it gets contaminated by another source of pollen. They can't sell that and have to discard all of that.

So there's a limited supply to sell...

JC: Annually seed companies look at demand they have for products to get an understanding of how many units they need to produce to meet their demand. Farmers who have good success with a hybrid are going to come back wanting more and if you don't have it for them because your field was contaminated or the weather interfered, it's bad for business and you probably just lost a farmer for the future.

So you store pollen?

JC: It's only really been done if you look on very small quantities, but it's never been scalable. And the process to get to those milligram quantities has been with complex machinery.

Right now we have validation at eight months of preservation. Pollen shedding out in the field in a normal situation lives anywhere from 30 minutes to an hour. It's not very long lived but very important.

What type of machinery do you use?

JC: You really can't build a new technology and expect people to go out and buy new 200,000 pieces of machinery. So we tapped into sprayer tech, they already go through the field and have toolbars, so why not build our collection technology right on top of that.

What crops are you targeting?

JC: Our patents are written very broadly. There's a huge opportunity in corn, then wheat and rice really stand out.

Rice is largely hybrid, the problem is it's very labor-intensive to produce the hybrids. Our technology could greatly minimize the cost of producing the hybrid rice where wheat two percent globally is sold as hybrid and those companies lose money generally because the process is so resource intense. So the yield potential is flat where if you make a hybrid the yield potential could climb and climb.

How many employees?

JC: We have 14 employees now and are actively hiring.

Talk about raising money...

JC: It's not that easy, we ended up going in front of a lot of groups and referred to a lot of individuals. We did a debt round and closed within three weeks. We are currently doing a Series B round with a target of \$5 million and it's set to close Jan. 31. It is going very well, we are most likely completing the round using individual investors.

It's good to have investors that support you and see the vision.

How long did you think about leaving the corporate job before you actually did?

JC: Too long, once you make that decision to go I think you are ready. For me—and for Todd, it's a different reason—but for me, it was because I could no longer create technologies when budgets were locked up due to mergers, etc. So what do you do? You want to keep creating, now budgets are frozen up so I thought I'll go out and do it on my own.

How do you price this?

JC: You look at a field of 200 acres and you rescue it, where there would have been no yield, and that's \$2 million that you just saved a seed company, do you price that the same as a 20 percent yield increase? So there are still more things we have to work out.

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