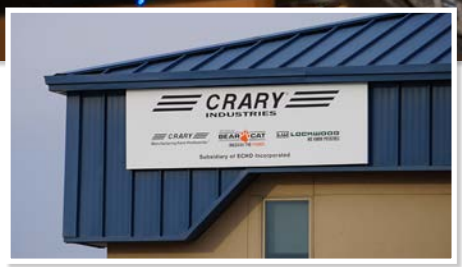

Interview

WYATT KRAM, Lockwood engineering manager

By Joe Kertzman, managing editor, *Badger Common'Tater*

NAME: Wyatt Kram

TITLE: Lockwood engineering manager

COMPANY: Crary Industries / Lockwood Manufacturing

LOCATION: West Fargo, North Dakota

HOMETOWN: Fargo

YEARS IN PRESENT POSITION: 1.5

PREVIOUS EMPLOYMENT: Trail King Industries

SCHOOLING: Bachelor of Science degree in operations management, and an Associate of Applied Science in manufacturing engineering technology

ACTIVITIES/ORGANIZATIONS: 4-H organizational leader and volunteer, and snowmobile club member

FAMILY: Wife, Katie, and kids, Jack (16), Daphne (13), and Sawyer (21 months)

HOBBIES: Vintage John Deere snowmobiles, custom design, welding and fabrication, long-distance motorcycle riding, and camping with family

In the northern plains of West Fargo, North Dakota, Crary Industries is best known in the Wisconsin potato and vegetable industry as home to Lockwood Manufacturing.

With a history that includes sunflower seed and bean harvesting equipment, anhydrous applicators, and cutting attachments for combines and swathers, Crary Company was sold to an investment firm, in 1999, and became part of a group of manufacturers specializing in potato planting.

One of those companies, Lockwood, boasted a manufacturing legacy dating back to 1935, but it was based in Nebraska in outdated facilities.

The decision was made to double the size of Crary Company to 200,000 square feet and move the Lockwood product line to West Fargo, in 2001.

In the years since, the company has been able to stabilize its market share as one of two dominant domestic manufacturers of potato equipment and penetrate new international markets.

In 2005, two of the potato companies, Mayo Manufacturing and Harriston Industries, were sold (and have since combined to become

Above: Lockwood Engineering Manager Wyatt Kram says Crary Industries / Lockwood Manufacturing of West Fargo, North Dakota, has been able to stabilize its market share as one of two dominant domestic manufacturers of potato equipment and penetrate new international markets.

Harriston-Mayo) to their employees.

That set the stage for the sale of the Crary Company to ECHO Incorporated of Lake Zurich, Illinois, creating a new company named Crary Industries.

Today, Crary continues to make quality products for the agricultural market, and potato planters, harvesters, and foreign material separators/cleaning systems (VACS Mobile) under the Lockwood brand.

Wyatt, what's your history with the company? In 2008, I started fresh out of school as a manufacturing engineer for Lockwood products. I worked heavily on the production side, improving efficiency through the shop, providing feedback to design engineering on the most efficient way to manufacture components, and doing jig and fixture design, and new equipment and procedure implementation.

I worked in that role for four years until I moved to Trail King Industries, also in West Fargo.

While working there, I advanced my career, developing people management skills while managing the tooling department as well as a revolving group of four co-ops / interns, per year.

I also learned a host of project management skills, manufacturing process improvement, jig and fixture design, new product development, and capital budget management. I progressed to senior manufacturing engineer during my 10 years at Trail King.

In spring 2022, I learned of the opening for a manager of Lockwood Engineering at Crary / Lockwood. I was excited to have an opportunity to re-join the Lockwood team and put all my skills to use leading the engineering group.

What attracted you to Crary Industries/Lockwood in the first place? I come from a strong background in agriculture. My dad farmed until 1993, and he was the third generation on our soil in northeastern North Dakota.

When I was young, we moved from Langdon, North Dakota, to the outskirts of Fargo, where I had the benefit of growing up with the opportunities provided by living in a metropolitan area as well as still being connected to agriculture through family and friends.

I was a 4-H member and North Dakota state 4-H ambassador in my youth, which also helped keep me connected to my agricultural roots.

Today, my kids are in 4-H as well, and I lead the same club I was a member of as a kid. My 4-H involvement totals 18 years and counting with a family history of somewhere close to 250 years total over four generations.

During college, I interned at Amity Technology where I worked with Amity beet equipment, Fargo Air air-seeding products, as well as the Wishek disk. These experiences confirmed for me that I wanted to work in the ag sector.

A position as a manufacturing engineer for Lockwood was a great fit to start my professional career.

Lockwood potato equipment is special in that the products are large, heavy, and complex, but are capable of gently handling a potato at the same time.

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Lockwood's history in the potato industry of nearly 90 years' worth of design fundamentals mixed with leading technology makes the product fun and interesting.

As a design engineer, are you directly involved in designing, engineering, and/or building potato equipment?
As the manager of the Lockwood Engineering department, I lead my team of engineers and technical illustrators. It is my responsibility to break down barriers and chase issues for them.

I help guide the overall design of the equipment to make sure it not only meets our customers' needs, but also fits with the overall direction and vision we have for Lockwood's future.

My strong background in designing for manufacturability and overall hands-on mechanical ability make me uniquely qualified to offer guidance and direction to my team throughout the design, testing, and implementation process.

I am also given the opportunity to dig in on the most difficult of challenges where I utilize my philosophy of solving the issue in the most simplified manner possible.

My whiteboard is my best friend, where my team and I work through many iterations of possible solutions. My favorite part of my job is when we have that "ah ha" moment and finally solve the issue with a simple solution.

What sets Lockwood planters, harvesters, windrowers, and handling equipment apart?
Lockwood equipment, in general, is set apart, in my opinion, by the robust designs, industry-leading innovation, and customization available to our customers.

Above & Opposite Page: Potatoes are harvested in Washington State using the Lockwood 774 with high-level harvesting capacity, handling more volume and offering improved cleaning over previous models.

We do not build the highest volume of machines in the industry, but the machines we build are made to perform and last. We take great pride in every machine that leaves our factory, and this can be noticed in our service after the sale.

Of the newest models and technologies, what are those that stand out to you the most as being industry changing and why? I believe the advancements made in potato cleaning equipment, both in the field and at storage, have made a great impact in reducing the need for manual labor.

Laborers are a sought-after resource in all industries these days, so anything we can do with our equipment to reduce the need can make an impact.

The Lockwood VACS Mobile and VACS 8 have led this effort for us with our newest 774 Air Harvester tested this year complementing the VACS products perfectly. I see more opportunity for new technology to further advance cleaning operations in the coming years and am excited to see how it all develops.

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The VACS Mobile unit seems to be one of the most popular foreign material separators and cleaners in the industry. What features make it excel at its designed purpose? I agree that the VACS mobile and our VACS 8 are the industry leaders in foreign material separation.

Aside from a machine designed to handle high volumes, the fundamental method of separation using air in a vacuum allows for a very controlled system that can be easily dialed in to run optimally.

Recently, we have made some great advancements in these systems with a front-to-back overhaul of our VACS 8 product and a severe duty fan rotor for the VACS mobile.

The VACS 8 improvements have made the machine more user friendly and improved the overall cleaning and capacity.

The severe duty fan option for our VACS Mobile allows our fan rotors to last 10 times longer while running in abrasives like sandy soils. It is also optimized to shed heavier soil with a special coating and an improved profile.

Improvements like these, as well as many more on the way, ensure that not only will our VACS products continue to lead the industry, but also give our customers the best separation possible for their operation.

As an engineer, are you and your peers always looking for the newest, greatest machine, or on improving upon what Lockwood already does well? Part of my vision for Lockwood and my team is to do both. My team works on new product development

Left: Lockwood machinery, including the VACS Mobile foreign material separator/ cleaner, is set up at the Idaho Potato Conference, in 2023.

Right Top and Bottom: As illustrated in Washington State where it's shown laying down two rows of potatoes, in 2022, the Lockwood 656 Windrower features dual discharge units.

as well as current product maintenance.

Each year, we define the scope of the new products we will be developing and testing. This development allows us to stay on the cutting edge with technology and bring to market new products that the potato industry needs.

We also have a robust system for managing and tracking requests for product changes and new options. These requests come directly from our customers and sales team, as well as from our manufacturing team.

Since starting back with Lockwood in this role, I have been driving a strong focus on designing for manufacturability and breaking down barriers for our manufacturing team.

We also receive great feedback from our customers through our sales and service teams, however my favorite way to learn how to improve our products is through directly interacting with our customers in the field.

Is your distribution of planters, harvesters, and windrowers mostly in the Midwest, or nationally/internationally? And aren't the harvesters, particularly, engineered for the rockier soil? Lockwood has shipped planters, harvesters, and windrowers both nationally and internationally. The U.S. and Canadian markets have been our primary focus, but we also have machines running in Russia, China, Ukraine, Saudi Arabia, Brazil, Australia, New Zealand, and South Africa, to name a few.

"There is only so much an engineer can learn behind a desk. Our best classroom is in the field, and I will continue to lead my team with this mentality."

– Wyatt Kram
Crary Industries / Lockwood Manufacturing

Lockwood has several harvester models that are designed with many different options that allow them to work in all soil conditions, including the rockier soils.

How about for the VACS Mobile and its various models—what is the distribution/sales area, and what soils/ground does it excel at cleaning off potatoes? The Lockwood VACS machines are currently used across Canada and the United States. Both the VACS Mobile and VACS-8 models use vacuum to separate the potatoes efficiently and gently from not only rock, but also dirt and field trash, and are available with different cleaning table options.

Is West Fargo, North Dakota an ideal location for the manufacture and distribution of Lockwood products, and if so, what makes it so? I feel that West Fargo is a great place to manufacture potato equipment. The area is growing quickly with a lot of new industrial growth. The residential growth has not slowed down either.

Fargo, Moorhead, and West Fargo are at the crossroads of two major interstates, I-29 and I-94. This allows for easy transportation of goods. The central location also helps in our industry.

Of course, we are close to the potato growers in the Red River Valley and Manitoba, but are centrally located, allowing us to easily ship to all other states and provinces.

The most challenging aspect of the location of Lockwood is the unemployment rate. Fargo has only 3% unemployment, which makes staffing difficult at times, however our HR team does a great job recruiting and finding talented help.

The area has numerous post-secondary school options, the most notable being North Dakota State University (NDSU), which graduates many fantastic young engineers.

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I work with NDSU to offer internship opportunities to these students, giving them some great experience.

How was potato harvest in the Midwest last year? Is it the busiest time for Lockwood employees?

This past harvest had ideal weather conditions for the most part. It seemed to be over as quickly as it started. This is great for our customers, and we like to see things go easily for them.

From an engineering standpoint, we learn the most when dealing with adverse conditions. In the valley, the heavy soil can create some challenging situations for our engineers to overcome. Equally challenging conditions in other areas of the country are solved in a completely different way.

I am sure, in years to come, there will be no shortage of opportunities to learn.

Harvest is our busiest time. This year started to get busy, out West, in mid-July and things didn't slow down until mid-October. Planting season is also busy for us, though it is a shorter and less demanding time.

During both planting and harvest, my team and I put in some long hours supporting our customers. The time following harvest is also a very busy time for us. This is when we focus on making changes with the knowledge we learned during harvest, as well as working on new designs for the next year.

Some of these new designs have a short window to be built and ready in time to display during the show season in January and February.

Above: As the manager of the Lockwood Engineering department, Wyatt Kram leads his engineers and technical illustrators to help guide the overall design of the equipment and make sure it not only meets customers' needs, but also fits with the company's overall direction.

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In 2023, Lockwood set up equipment at the Potato Expo and Washington-Oregon Potato Conference, as well as other industry shows across the potato growing region.

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Above: Lockwood has shipped planters, harvesters, and windrowers both nationally and internationally.

Do you get out into the field and get your hands dirty as an engineer? My favorite part of my job is being in the field. I am and always have been a hands-on learner, taking things apart at a young age, much to my mother's dismay.

When I am in the field, I like to take as much time as I can to watch and understand the mechanics of the machine at a very in-depth level. My team and I take any opportunity to crawl inside the machines, make necessary adjustments and help optimize capabilities.

There is only so much an engineer can learn behind a desk. Our best classroom is in the field, and I will continue to lead my team with this mentality.

Does Lockwood service machinery and implements after the sale? We rely heavily on our network of dealers to help our customers keep their machines running and in good repair on a day-to-day basis.

However, the engineering and sales teams both get to the field as much as we can to help and learn. We know machines eventually break down, so being there to help means a lot to our customers.

Growing potatoes takes a lot of effort and can be stressful for the grower at times. We don't take that lightly. They want brands and companies they can trust when times get tough. We at Lockwood pride ourselves on being that brand.

With small potatoes being a push as of late, can the planters and harvesters be set up easily to handle the smaller seeds and tubers? We had a great test of our ability to handle small potatoes this past fall in Wisconsin. The 774 Air Harvester that we tested at Sand County Equipment was set up for small potatoes and worked out wonderfully.

This harvester is our largest and most complex machine to date, with a host of automatic functions and a capacity that is second to none. I was very happy with how well the harvester performed and how clean and fast the loads were.

The machine was also tested on russets after a change to the primary webs and performed well with those, too. Our partnership with Sand County Equipment certainly helped make this machine possible, and I am excited to see what the future holds.

Will Lockwood continue expanding or improving its operations? Lockwood is seeing a lot of exciting growth right now. We are expanding our sales both in new regions and existing regions.

We have numerous well-developed products and some exciting new ones coming to market. There has been a lot of support internally to help grow and develop numerous different parts of our operation.

With the rapid growth, our manufacturing facility is being streamlined, implementing numerous quality and organizational processes to ensure our customers are receiving the best products possible.

Developing these processes takes a lot of time and diligence, but the payoff to our customers will be great.

What are your own personal goals for the company and your role within it? My goal for Lockwood is to help grow the business in a methodical way in the future. A slow, sustained growth for all areas of the business will ensure a quality product for our customers with a wide variety of equipment that can be customized in many ways.

My direct contribution will be continuing to grow and develop a well-rounded, experienced engineering team that can both improve our existing products and bring new, innovative designs to the field for many years to come.

What do you see as the top ways potato farming will change in the future? In the future, I see many exciting changes coming. One that I am watching closely is the shift to electric powered equipment. This has the potential to be a great improvement to our industry because of the clean, smooth power transmission it allows.

I am also watching the development of visual sorting and AI. This area of technology is growing rapidly. In a short period of time, I believe we'll see many new possible applications for it in the potato industry.

The hardware for these systems is reasonably priced, and the development of systems using this hardware has never been easier with open-source programming and the ability to adapt solutions from other sectors into our industry.

Above: Lockwood Engineering Manager Wyatt Kram says the 774 Air Harvester had a great test of its ability to handle small potatoes this past fall, in Wisconsin. Tested at Sand County Equipment, in Bancroft, the Air Harvester was set up for small potatoes and worked out wonderfully. Kram says he was very happy with how well the harvester performed and how clean and fast the loads were. The machine was also tested on russets after a change to the primary webs and performed well with those, too.

How can Lockwood help growers ease into those changes? The goal for Lockwood with these new technologies would be seamless integration with simple user interfaces. The research and development of these new technologies will be a concerted effort for the Lockwood engineering team in the future.

With new technologies, our team likes to ease in slow to give us time to learn what works and what doesn't. BC'T