



Sauerkraut Success Story

GLK Foods processes 140,000 tons of raw cabbage into 105,000 tons of sauerkraut each year between its facilities in Bear Creek, Wisconsin and Shortsville, New York, and the company has recently expanded beyond its signature product.

On a sunny September weekday, trucks loaded to the brim with freshly harvested cabbage arrive on the regular to offload their haul at the GLK Foods facility in Bear Creek, Wisconsin — the surest sign that it is, indeed, peak sauerkraut season.

From late-August through early November, this is standard operating procedure for GLK Foods. Each year, the company processes 140,000 tons of raw cabbage into 105,000 tons of sauerkraut between its facilities in Bear Creek and Shortsville, New York, making it the world's largest producer of sauerkraut.

The company, which traces its roots back to 1900 when a pair of brothers started Flanagan Brothers in Bear Creek, produces a number of top-selling sauerkraut brands on the market, including Silver Floss, Krrrrisp Kraut, Cortland Valley, Saverne, Kissling's and Willie's. Beyond its retail line, GLK also supplies product to food manufacturers and foodservice and private label customers.

And GLK Foods has recently moved beyond its signature product.

In 2014, the company introduced the OH SNAP! Pickling Co. line of single-serve refrigerated pickles, and earlier this year expanded the OH SNAP! lineup to include pickled carrot sticks and pickled green beans. GLK plans to launch a line of roasted chickpeas under the GoBitos brand name, in multiple flavors, in November 2016.

Food Manufacturing had the opportunity to tour the Bear Creek facility and visit with GLK Foods President Ryan M. Downs, who represents the fourth-generation of the company's family ownership. During that conversation — and via some follow-up correspondence — Downs discussed the company's history, operations, products and more. (Editor's note: some responses have been edited for clarity and concision.)

Food Manufacturing: What can you tell us about the company's history?

Ryan M. Downs: (The Wisconsin) part of the business, which was originally called Flanagan Brothers, was founded in 1900.



Ryan M. Downs, President, GLK Foods

And it actually originally didn't start as a sauerkraut business. What they were doing was basically fresh market cabbage that they were sending by rail, when the railroad used to back right up behind the main processing area (at the Bear Creek facility) ... They would ship fresh cabbage

Photo courtesy of GLK Foods



Photo by Jesse Osborne

Heads of raw cabbage are tumbled and washed to remove dirt, and employees remove excess green outer wrapper leaves before the cabbage is conveyed to large shredding blades and made into slaw at the Bear Creek, Wisconsin facility of GLK Foods. The Bear Creek facility has the ability to process 1,200 tons of raw cabbage in a day.

on blocks of ice on rail cars down to Chicago. And that was how this part of the business started ... Maybe a decade in or so, they had a glut of cabbage and no home for it, so they decided to grind it up into kraut, and that's how we got into the kraut business.

And then out East, our Shortsville, New York plant, I believe that was maybe founded in 1910, I want to say, and that was the Empire State Pickling company is how it started. And it was its own kraut operation. And then there was some consolidation that happened out East, and we were kind of competitors throughout the 20th century, really.

... We went through kind of a round of consolidation in the 1990s where we bought up a number of competitors and then actually formed a joint venture with what was, at that time, Agrilink Foods, which became Birds Eye Foods, and that was born out of the Empire State Pickling Company side of the business, if you will. In 1997, after a few rounds of consolidation here in Wisconsin and the Midwest, we decided to form a joint venture with that Eastern end of the operation and run it as Great Lakes Kraut from 1997 until 2003. In 2003, Agrilink, which owned the other half of Great Lakes Kraut, was purchased by a private equity group ... When (the private equity group) bought (Agrilink), they either wanted to own all of the joint venture, or none of it. So, at that point, we bought back the other half of the business ... Since 2003, we've been independent. We were called Great



Photo by Jesse Osborne

Lakes Kraut until 2010 when we changed the name to GLK Foods, just kind of as an indication we're going to be doing things other than kraut.

FM: Can you give us a sense of the GLK operation/yearly cycle for sauerkraut production?

RMD: The (cabbage) crop comes in kind of a set time (August-November), but we're different than a traditional cannery in that we are producing all year round. So that (sauerkraut) doesn't need to make it into a can or a bag or a jar or a barrel or a tote right when it comes in off the field, because it holds in the (facility's holding tanks). When it's warm like this (in September) and the field temps are higher, that kraut can ferment out in ten days and be ready to go. When you bring it in, in the beginning of November ... it can take three months, four months. What happens is, it gets to

a certain acid level, and it plateaus. We don't want to hold it in the tank any more than a year. You could, but we don't have any reason to. It's nice in that regard. Our cheapest form of inventory is to keep it in our tanks.

... We would try and carry a little safety stock into maybe the third week of September (the following year) or something like that, just in case the cabbage comes on a little late (the next season). You just don't want to find yourself without. And then you just kind of hold some back in the tanks so that you can divert it where needed ... It cycles perfectly. It's supposed to, let's put it that way.

FM: Can you describe the sauerkraut production process at a GLK facility?

RMD: Large raw heads of cabbage are dumped on a pad and then conveyed into (the facility). Heads are washed and

tumbled to remove any dirt, as well as excess green outer wrapper leaves. The heads are then conveyed to large shredding blades where the heads are made into slaw. The slaw then is sorted both by infrared laser to remove undesirable core material, as well as by high-speed color sorters to remove any remaining green leaves. The shredded and sorted cabbage then is conveyed to the salting station where it is salted at about 2 percent. After salting, the slaw makes its way via conveyor to one of our vat rooms. The slaw is covered in the vat with large, heavy-duty sheets of plastic. A bed of water is then applied to the plastic in order to create an air-tight seal which allows for the fermentation process to begin.

FM: What kind of equipment does GLK Foods utilize in sauerkraut production and packaging?

RMD: Much of the equipment used in sauerkraut packaging is common to other food processing plants — can/glass fillers, VFFS (vertical-form-fill-seal) and pre-formed bagging equipment, case-packers, palletization, etc. The more unique equipment is the cabbage cutting and vat unloading systems we use. For cabbage cutting, both infrared lasers and high-speed color sorting equipment is utilized. For vat unloading we utilize a proprietary pumping system which allows for high-speed unloading of vats with no human intervention.

FM: How is the sauerkraut production split between the Bear Creek and Shortsville facilities?

RMD: We do more (at Bear Creek). It's probably 65-35, 70-30 (percent in favor of Bear Creek). It varies. For example, this year in New York, their crop is not looking as hot as it does (in Wisconsin). They had 40 or 45 days this summer straight of no rain and 90-plus degrees ... So they were real dry out there. (In Wisconsin) we've had a near perfect growing season. So that balance will shift probably a little bit more (in Bear Creek's favor) this year.



In 2014, GLK Foods transitioned to a high-speed, automated shredding and sorting process that utilizes state-of-the-art infrared lasers and high-speed color sorters. Any remaining cabbage core material and green leaves are removed during this process. Shredded and sorted cabbage is then salted before being conveyed to one of the Bear Creek facility's vat rooms where the fermentation process takes place.



GLK Foods at a Glance

GoBitos

OH SNAP!
pickling co.



Silver Floss

Krrrrisp
Kraut
Artisanal Food Kraft

SAVERNE
ARTISANAL KRAUT

- GLK Foods, LLC is the world's largest producer of sauerkraut, accounting for approximately 85 percent of the North American market and more than all of Western Europe combined.
- The business began in 1900 when brothers Dave and Henry Flanagan started Flanagan Brothers in Bear Creek, Wisconsin. After a number of acquisitions and a merger with Birds Eye Foods, Great Lakes Kraut Company, LLC was created in 1997.
- In 2003, Great Lakes Kraut bought back the other half of the business and was once again independent.
- In 2010, the company was renamed GLK Foods, LLC to align with a strategy to bring innovative products to market beyond sauerkraut.
- The company's top-selling sauerkraut brands include: Silver Floss, Krrrrisp Kraut, Cortland Valley (organic), Saverne (Raw and Artisanal flavored kraut), Kissling's and Willie's in a variety of portion sizes in poly bags, stand-up pouches, glass jars, cans and pails.
- Probiotic Saverne Raw Kraut is packaged in a vented stand-up pouch that allows the kraut to naturally ferment in the package.
- Every year, GLK Foods processes 140,000 tons of raw cabbage into 105,000 tons of sauerkraut. This volume requires 4,700 acres of cabbage fields and more than 50 million cabbage plants.
- The Bear Creek plant can process 1,200 tons of raw cabbage in one day.
- GLK Foods is the only sauerkraut manufacturer to use stainless steel tanks, pumping systems for unloading tanks and high-speed Vertical Form/Fill/Seal equipment. GLK is currently the only U.S. sauerkraut manufacturer with automated glass packaging capabilities.
- In 2014, GLK Foods transitioned to a high-speed, automated shredding and sorting process using state-of-the-art lasers and optics in order to improve quality, yield and worker safety.
- The concrete tanks at the Bear Creek facility hold an average of 130,000 pounds of sauerkraut. The fiberglass tanks hold over 600,000 pounds of sauerkraut and the stainless steel tanks average 1.3 million pounds of sauerkraut.
- The Bear Creek facility can produce more than 300 cans per minute and 125 32-ounce glass jars per minute. The Shortsville facility can produce 140 poly two-pound bags per minute.
- In 2014, GLK Foods launched the OH SNAP! brand of refrigerated fresh-packed pickles in single-serve standup pouches with no added brine. The company extended the product line in 2016 with pickled green beans and pickled carrots.
- In 2016, GLK Foods launched the GoBitos brand of roasted chickpeas in single-serve standup pouches.



— Source: GLK Foods, LLC

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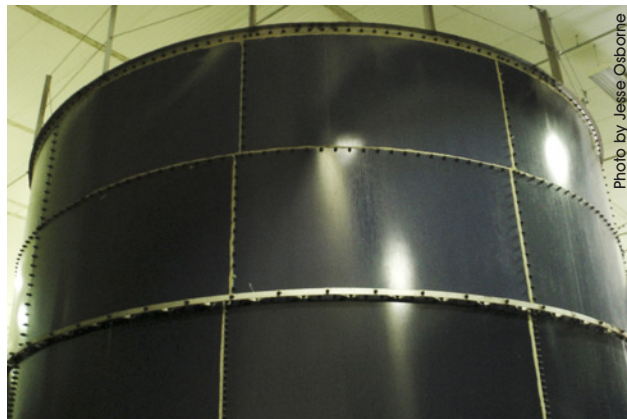


Photo by Jesse Osborne

The stainless steel tanks (left) at the Bear Creek facility hold an average of 1.3 million pounds of sauerkraut. The facility's blue fiberglass tanks (right) hold an average of more than 600,000 pounds of sauerkraut. The Bear Creek facility also has concrete tanks that hold an average of 130,000 pounds of sauerkraut.

FM: Are there any products/product lines that are specific to each facility?

RMD: Out in New York, that's where all of our poly-bagged product is produced. That's the laydown poly bag that typically goes in the meat case at the retailer. The poly that we do (in Wisconsin) is the stand-up bags that are pre-formed bags that would have the valves on them ... that's for our Saverne brand. That's a slightly more boutique, kind of upper-end brand. ... The (OH SNAP! Pickling Co. products), right now, is just (at Bear Creek).

FM: Where does the company source its cabbage?

RMD: This is the first year ... ever since I've been involved, and certainly it's got to be (going back) 50 years, that we haven't planted our own (cabbage) because we were able to bring on more (contract) growers to spread that load around a bit. Here in our Wisconsin facility, we brought in four new cabbage growers this year (and now work with a total of 10). It's the first time we've brought in a new grower of any type in probably (20 or 25 years). The same thing in upstate New York. There's a heavier grower base out there though, because they grow a lot for the fresh market. The farmers in New York leverage us for anything that gets away from them in the field that would have been tidy, pretty market cabbage. And if it gets away from them, or there's any issues with it, they know they have



Photo by Jesse Osborne

GLK's Bear Creek facility can produce more than 300 cans of sauerkraut per minute. The company also has automated glass packaging capabilities and can produce 125 32-ounce glass jars of sauerkraut per minute in Bear Creek.



Photo by Jesse Osborne



Photo by Jesse Osborne

The company's line of OH SNAP! Pickling Co. pickles was launched in 2014 — and pickled carrot sticks (Carrot Cuties) and pickled green beans (Cool Beans) were added to the product line in 2016. OH SNAP! products are distributed nationally, and can be found at Walmart, Target, convenience stores and other mainstream retailers across the U.S.



Product photos courtesy of GLK Foods

us as kind of the backstop to take excess cabbage. It works really well out there, we have a good partnership and we're kind of their outlet. They still have contracts with us to grow for us, but then there is some times that we'll take excess that they have. And (in Wisconsin) it's all grown for us.

... (All the cabbage) that's (at Bear Creek) would be within probably a 50-mile radius ... probably call it a 50-mile radius (in New York), as well.

FM: What makes the areas near the company's Wisconsin and New York facilities ideal for growing cabbage?

RMD: In between Bear Creek and Shiocton (Wisconsin) is a glacial lake bed and it's just got a great kind of sandy loam soil that's perfectly suited to growing cabbage ... Then the Central Sands (Wisconsin) area, the natural aquifer under the ground allows for high-capacity wells. It's a real sandy soil, so during planting it drains very well, so even if you get heavy rains you can get back on the ground quickly and continue planting. And then with irrigation, you can give the plant all the water it needs. Those two things in Wisconsin are great ... The soils are actually very similar in New York to the Bear Creek/Shiocton soils of Wisconsin. They are almost in the same latitudinal band, and it's just good cabbage-growing ground ... Both areas are just well-suited to cabbage.

FM: How has the company grown or evolved in recent years?

RMD: A big evolution for us in the past five years has been in the way that we grow cabbage. Still, a good portion of our product is grown from plugs in a greenhouse, and then transplanted into the ground. The seed comes from Europe and goes to a couple of different greenhouses here. It's grown to a seedling height of maybe five inches or so, and then transplanted. But the transplanting portion of it is super time-consuming, a very slow process, and it takes like 16 people per crew to do it. The acreage you plant in a day is minimal. So you are stretched over this spring planting season, and you're just exposed to what might be happening with the weather. So what we've done, is now we plant a lot of our seed, actually we direct seed it with ... carrot planters, essentially. And we do it over in the Central Sands area around Waupaca (Wisconsin). It's a real fine soil and it's all under irrigation, so we're able to direct seed, give it the water it needs, and go from there. When you have something under irrigation and control that water, it's just taking risk out of the equation. And it takes risk out, not only from getting it just the water it needs, but on those sands, if you get a rain during the planting season, you can get back on that ground, probably the next day, because it drains so well. Over in the Bear Creek tract and corridor where we were doing more of it before, heavy rain

could keep you out of action for a week to 10 days. When you are dealing with the long sunlight days, that just didn't make a lot of sense to me to be out of commission, because that's where all your heat units are to grow this cabbage. It's a relatively short season here. So we've moved that direction, and that's been huge for us because we can plant faster. If we don't like the way something looks, we can re-plant very easily. It's really revolutionary in the business for us.

FM: In 2014, the company introduced the OH SNAP! Pickling Co. line of refrigerated fresh packed pickles, and has since added pickled carrot sticks and pickled green beans to the OH SNAP! product line. What can you tell us about those products?

RMD: The brand is called Oh Snap! Pickling Company. You've got the Gone Dilly, which is a whole dill pickle, a kosher dill. Then you've got the Dilly Bites, which is that same pickle that's cut into slices for easier snacking. That's far and away the best seller. And then we've got the Hottie, which is a whole pickle, but it's been brined and capsicum is added, the jalapeño extract, so that's what makes it hot. And then there's the Hottie Bites, which is the sliced up version of that.

They've been in the market just about a year now. It's growing like crazy for us, which is fun. And then we just added the



In 2016, the company added roasting capabilities at its Bear Creek facility. GLK Foods plans to launch its GoBitos brand of roasted chickpeas in November 2016. Flavors will include: Aged White Cheddar, Sweet & Hot Thai Chili, Tangy Ranch, Hot Hot Hot Ghost Pepper and Garlic Parm.



carrots and the green beans. The carrots are the Carrot Cuties, and the green beans are Cool Beans.

FM: How did the OH SNAP! product line come about? Why was this type of product a good fit for GLK Foods?

RMD: You kind of look for — what are your facilities certified to do? And things that are high acid, we can do ... So just looking at opportunities there. And it just occurred to me that there's a void. We eat a lot of pickles in this country, and more and more people, they're interested in convenience. I tried the (single-serving pickle) products that existed in the market, and I wasn't exactly blown away, and just thought it was time for something different. It was really that basic. And it was something that we could kind of

step into without going crazy and see if it does have legs. And it demonstrated it has, so now we started brining our own cucumbers, we're ... getting deeper into the supply chain, and then we're going to fully automate all the (pickle) packaging and see where it goes. It's been fun.

FM: GLK Foods will launch its GoBitos brand of roasted chickpeas in multiple flavors in November 2016. What kind of equipment did the company have to invest in to accommodate the product line?

RMD: Pre-formed pouch packaging equipment, but that's kind of common among food products ... We have a large industrial-sized roaster from (Texas company) AC Horn ... That was a special piece of equipment that was

unlike anything we have in our operation.

We have a pre-roasting oven that takes excess moisture off of the product before the main roast, and then there's the soaking equipment. A chickpea, when it comes to us, is in a dry (state), I think it's at like 13 percent moisture, or something like that. We have to soak it ... and then you roast and then you season. And the seasoning equipment we have is unique, too.

FM: What do you believe sets GLK Foods products apart from others in the marketplace?

RMD: On the kraut side, it's really that we've focused on this business like nobody else has. Kraut is a relatively simple product, but it requires a fair bit

Product photo courtesy of GLK Foods



of infrastructure to tackle it in the right way, and we've gone about that. Scale helps to make us the low-cost producer. And innovation, not only in the process, but also (the products). We do a craft beer (flavored sauerkraut), we do a sriracha, a dill and garlic.

... Then, on the pickle side, it's pretty basic. The branding is right ... (OH SNAP!) is a refrigerated pickle, so it's never heated and it's not fermented. It goes directly into its brine to equilibration and then we pull it back out and put it in the bag. It's gas-flushed, so it holds through at least a six-month shelf life. They taste good, there's no brine, there's no mess, the branding is right. It's just a slight tweak on things that already existed, and it works.

FM: What can you tell us about any future plans for expansion of the company's product line?

RMD: I think there will be further line extensions for Oh Snap!, if I had to guess. The chickpea line, we'll see how that fares as it launches in (November), and see where that heads. There will be more coming. I couldn't say exactly what it will be just

yet, but now with our roasting capabilities I imagine we will be trying more things in that realm.

FM: What does the future hold for GLK Foods in terms of capital expansion plans/growth?

RMD: From a capital perspective, we're putting in a new can label line, and high-speed automated case-packing and palletization in our Bear Creek facility. On that can-label line, we're putting in a new glass filler. We are putting in new pickle packaging equipment for our OH SNAP! line — high-speed, automated equipment. We're going to be adding more cooler space at the Bear Creek and New York facilities. In not too long, we'll be putting in the same automated (cabbage) cutting line that we have in Wisconsin in New York, as well. We'll continue to add more automated elements to our roasted chickpea line, that's for the GoBitos product.

... One of the biggest (projects involves) putting a new massive vat room in Bear Creek that will be all automated with pumping, stainless steel vats. So there's lots going on. **FOOD**

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