



J.J. Pfister Distilling Company

Organically Grown, Hand-Crafted and Sustainably Distilled

CASE STUDY



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IT TAKES A TEAM

“Everything we use in the process is organic. There are no pesticides or other non-organic chemicals used in our distilling process.”



When Kevin Keck teamed up with his son Brian and family to build an organic craft distillery, he knew they had a lot to learn. They teamed up with Thoroughbred Spirits Consultants, organic farmer Mike Noonan, The Organic Consulting Firm, Borges Architectural Group, Jeff Smith Construction, and process design-build firm Barnum Mechanical Inc., to design and build a state-of-the-art organic distillery. In this interview, Kevin describes what it took to build a new distillery and to attain organic certification.

What does it mean to be an organic distiller?

Our products are made from all fresh organic ingredients. Everything we use in the process is also organic. Of course, there are no pesticides or other non-organic chemicals used in our distilling process.

Why did you decide to become an organic distiller?

We have a friend, Mike Noonan, who grew organic potatoes in the Klamath Basin up in Oregon for Whole Foods. Whole Foods sells organic produce and they are particular about how the produce looks. Each year he was faced with throwing away two-thirds of his potato crop because they didn't meet the standards of size or shape for Whole Foods. It didn't make sense to waste all those perfectly good potatoes. Anyway, he approached us with the idea using those potatoes to make organic vodka.

The original plan was to send us the potatoes he would have otherwise thrown out, but we've become so successful he doesn't sell to Whole Foods anymore, he just sends us the whole crop.

THE PARTNERSHIP

Did you own a distillery at the time?

No! I am a retired physician. At first, I thought “we don’t know anything about distilling,” but then I realized my son Brian knew a lot about wine and beer making, and the beverage industry, so I thought it might work. He was just getting started in his career, so we asked him if he would be interested in distilling spirits. He agreed, and we formed a partnership to start the distillery.

How did your son know about wine and beer making?

Our son Brian has two graduate degrees from UCLA and U.C. Davis - chemistry, viticulture and enology. While he was studying wine making he began brewing beer and along the way he became a connoisseur of spirits.

Has Brian worked at wineries?

Yes. He worked at Hunnicutt in the Napa Valley.

Would you say his work in the wine business prepared him to become a distiller?

Very much so. The beginning steps in wine making are the same as the beginning steps in distilling. In both wine making and distilling you begin with the fruit, grains, or potatoes. There is a lot of chemistry and precision in both processes.



Brian Keck, Master Distiller

How is an organic distillery different than other distilleries?

There are specific design regulations such as using culinary filters and specific boilers to ensure that no chemicals or banned substances come in contact with the product.

To be organically certified, all the chemicals in the boiler and cleaning systems need to be organically certified. These chemicals don’t necessarily work with every boiler or Clean-in-Place (CIP) system so Barnum Mechanical needed to select the right equipment that would work with the chemicals. We also had to consider how each filtration media would interact and affect the character of the product. We had to adhere to both 3-A sanitary standards and organic standards.



Mash tun and fermenters

What design considerations need to be addressed to build an organic distillery?

The process design needs to consider special tank venting, valves, special filtration, the boiler water make up and water additives for direct steam injection, all of which need to meet the certification standards. Our consultants, our contractor, Jeff Smith Construction and Barnum Mechanical Inc. (BMI) helped with that. BMI installed a water treatment system which runs city-provided water through a reverse osmosis system to remove chlorine and minerals. The system also softens the water. The venting was especially important because alcohol can be explosive, so BMI worked with the contractor to identify the potential hazards and then designed the system to mitigate them.

We bought a Prospero distilling system which we imported from Italy. We worked with our consultants and BMI to design the process which would work with the distilling system. BMI designed the equipment layout, the floor plan, sized and selected all major equipment, and provided the mechanical installation. But of course,

when the system came, there were some unexpected elements which we needed to modify to make it work. BMI helped with some custom fabrication to fit the system into the process and to ensure it met with U.S. building codes and was in compliance with California's codes. The system also needed to be modified to comply with seismic regulations.



The tasting room at J.J. Pfister.

When we started up the system, we discovered that the manufacturer's mounting configuration for the tank legs wasn't sturdy enough and we were getting some serious vibration from the mixers. BMI jumped in and created an emergency solution which allowed us to open on time. We were glad for that. BMI also created and installed a permanent solution for us.

What we learned was that you can buy foreign equipment, and the equipment can be quite good, but it may not necessarily meet the standards we need here in California. We were fortunate that our team, our consultants, contractors, architects and BMI worked so well together to solve the problems.

How long did it take you to design and build the distillery?

In retrospect it was fast! From design to the opening of the distillery was one and a half years.

How did you select the team you put together?

We started with an internet search of a potato distiller and went from there. We knew we needed innovation in our design since this had not been done before in this area. We joined trade groups in craft distilling and we found our consultant there. We wanted Borges Architecture because of their experience. Borges led to the referral of Barnum Mechanical Inc. who did our process and utility piping. We knew we had construction expertise within the Pfister family, so we hired Jeff Smith Construction to build the building.

There are different types of organic certification. Which did you attain?

We are certified by the USDA. They have contracts with California Certified Organic Farmers (CCOF) in Santa Cruz.

Each organization has their own process, which can be complicated. We hired The Organic Consulting Firm in Temecula to help us learn the regulations. They helped us submit the required documentation to get certified.

What was the most surprising thing you discovered when you set out to go organic?

How meticulous it is to be certified. The organic requirements are stringent—the hardest. We had to go through all the building permits, the fire codes, hazardous area classifications, the alcohol production licensing and regulations. The organic certification process required the most effort.

Is it more expensive to be an organic processor?

Yes. The ingredients can cost up to twice as much as non-organic which makes it hard to be competitively priced.

Was it worth it?

Sure! Our customers benefit from having a pure spirit. It has nothing in it that tastes bad or can harm you. There are no dangerous chemicals. You'd be surprised to know that most spirits have chemicals in them which affects the taste.

Are there benefits to you, the distiller?

It helps in sales because consumers want organic products. Sustainability is important to the whole system. We make our product from scratch and we know where the ingredients come from—down to the field. Our customers care about the environment and what they put in their bodies.

How does your distillery measure up to traditional distilling?

We marry new technologies with traditional distilling. We have traditional stills and we use traditional techniques. We also have the benefit of adding winemaking techniques to the distillation process. It is a very sensory process. It's all about the fruit and the temperature. Just as in wine making, you don't move forward to the next step until the product has reached the right time.

With distillation we start with an organic product such as potatoes or rye. We must wait until just the right time to distill it because flavor is key. Blending spirits is an art just like wine. When making gin, we add flavors such as juniper and other botanicals to get just the right ratio. It's a combination of art and chemistry. Even choosing the barrel is important. A lot of art and a lot of chemistry.

How are things going with your new vodka?

We are doing well. We already have 75 points of sale for our vodka and we're hoping to double that in the next quarter with our new gin. We're in the Farm to Glass operation and we're getting more business at our new tasting room.



The Keck family at the grand opening.

Sustainability is important to the whole system.

What are the next spirits you are working on?

A honey-based liquor called Drakas, silver and aged rums, bourbon, rye whiskey, wheat whiskey, apple brandy and a few more. We can make anything, but the main engine will be brandies, rum, vodka and gin.

How many potatoes does it take to make a fifth of vodka?

It takes 15 pounds potatoes for one fifth of vodka.

How did you name the distillery?

J.J. Pfister was my great grandfather. His company has been in operation for more than 170 years. We named it in honor of his spirit of entrepreneurship and dedication to excellence.

Where is the distillery?

We are at 9819 Business Park Drive in Sacramento, California 95827.

Can customers tour the facility?

Absolutely! We are open for tours and tastings on Fridays from 3:00 to 6:00 p.m. and on Saturdays from Noon to 6:00 p.m. We also host private events. You can get more information on our website which is jjpfister.com.

How has the community accepted the distillery?

They have been great! Really welcoming and supportive. In addition to not adding poisons to the environment we try to give back directly to the community too. For example, we donate a percentage of our profits to the Pacific Flyway Refuges. These refuges in California and Oregon are a very important source of support for migrating waterfowl.

Anything else you'd like to tell me?

The processes we're using are ancient, but we're applying modern methods. I'm proud of the products, they taste great and they are not hurting the environment. It's all good.

You Know Your Product. We Know the Process.

ABOUT THE AUTHOR

David Hepworth Jr. is a process engineer with a Barnum Mechanical Inc. He graduated from the University of Utah in 2012 with a B.S. in mechanical engineering. David designs process systems for the food and beverage industry.

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ABOUT BARNUM MECHANICAL INC.

Barnum Mechanical Inc. (BMI) is a forward-thinking design-build firm specializing in the food, beverage and specialty process industries. BMI is known for superior design, project management and installation services. BMI has operated throughout the United States since 1980.



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