

Environmental Steward of the Year

Dr. Larry Jacobson

The business of raising pigs has changed exponentially over the years through the adoption of improved production practices, advancements in pig health, and the industry's unrelenting commitment to improvement has shaped a bright future for the industry.

The 2018 Environmental Steward of the Year has seen the change in pig farming throughout his professional career. Dr. Larry Jacobson played an important role in helping shape some of today's common industry practices, along with developing the OFFSET Tool still in use today.

"I actually grew up on a dairy farm and didn't raise any pigs, which was probably an advantage," Dr. Jacobson said with a laugh.

Dr. Jacobson's interest in agriculture, science, and math led him to pursue an undergraduate degree in agricultural engineering which led to a life-long career centered around environmental work on animal production farms. He completed two years at the University of Minnesota – Morris (UMM) campus then transferred to the University of Minnesota – Twin Cities to finish his degrees.

"When I was still an undergraduate at UMM, I took a required technical drafting class from an agricultural engineer at the North Central USDA Soil Laboratory," Dr. Jacobson said. "As part of the class, we toured the Soil Lab plus the West Central Experiment Station (now known as the West Central Research and Outreach Center) and saw some of the livestock research facilities on the station located just east of Morris. One of the projects they were doing was beef housing research and a U of MN agricultural engineering professor, Ken Jordan, from the St. Paul campus was on the research team and would later become my advisor. That spurred my interest in the area of agricultural engineering."

Upon graduating with his Master's degree, Dr. Jacobson began his position with the University of Minnesota Extension in 1974.

"During that first year, I remember visiting the largest pig operation in the state, I believe it was 600 sows," Dr. Jacobson explained. "Of course most producers at the time had between 50 and 100 sows and were farrow-to-finish operations. Very quickly, as we got into the 1980s, we started to see consolidation. First with sow co-ops to the integrators we have to day."

"Christensen Farms. I remember going to Bob Christensen's farm when he was still in high school with the county agent. He was looking to expand their sow operation. I also recall making a farm visit at Holden Farms near Northfield as they were expanding their pig production facilities in the late 70's," Dr. Larry Jacobson remembers.

"We've gone from small, diversified farrow-to-finish and feeder pigs operations to now more specialized facilities. This production model has worked out well for the Midwest producers for a variety of reasons including the benefit of recycling manure nutrients onto nearby crop land," Dr. Jacobson remarked. "I think the industry was wise to move to this type of production and it proved very beneficial both economically and for the most part environmentally."

Dr. Jacobson explained it was not unusual to visit 200 or 300 farms a year for the first five to ten years of his career in the late 70's, early 80's.

"As I look back, from a biosecurity standpoint, that was probably not a good idea!" Dr. Jacobson said. "I think one day in Watonwan County near St. James, I remember visiting 13 farms in one day."

For the first ten years of his career, Dr. Jacobson had strictly an extension appointment.

"I did extension education, primarily through county extension agents, visiting farms, and working with other extension specialists from other departments on the St. Paul campus. I worked with Chuck Christians (swine genetics), Jerry Hawton (swine nutrition), and Dr. Al Leman (swine health)," Dr. Jacobson said. "Together, the four of us put on many swine extension programs throughout the state for pork producers."

In the late 80's, Dr. Jacobson added a 25 percent research component to his faculty position at the U of M.

"I took a one-year, sabbatical leave in Denmark, in the mid 1990's, where I worked with researchers at their national animal research facilities located in the western part of the country which has the most pork production," Dr. Jacobson explained. "I focused on environmental, indoor air quality in pig facilities to kind of hone my research skills. It was good timing because when I came back to Minnesota in 1995, the issues with odor and the 'livestock wars' were really heating up. That was when we began the odor research and outdoor air quality."

Dr. Jacobson explained that in the late 90's, there was a lot of animosity as the state's livestock industries were consolidating. With bigger farms and more intensely concentrating animals in one location, there was a lot of friction in Minnesota and surrounding states.

With grants from several institutions, including the Minnesota Department of Agriculture and support from the pork producers and other producer groups, Dr. Jacobson worked with a team to develop a tool based on scientific measurements of odor.

This issue proved to become one of the hallmarks of Dr. Jacobson's environmental stewardship career including the development of OFFSET (Odor From Feedlot Setback Estimation Tool) to help farms during this time of consolidation while facing pressures from neighbors and the public.

"It was the most rewarding but was probably one of the biggest challenges in my career," Dr. Jacobson said. "There was very little research data out there. We basically had to go back to square zero. We helped develop an odor measurement (olfactometry) laboratory and worked with a private firm to build the lab and acquired the olfactometer. We had to work from the ground up and developed the data base and dispersion models. There wasn't really an existing model that we could use directly. There was something similar being developed in Europe so we modified that approach and implemented it here."

Once OFFSET was developed, Dr. Jacobson and his team worked with county feedlot officers and other local officials on an individual basis to reach the local level and get support.

"There was a lot of science involved but also a lot of political and social push dealing with this pretty contentious issue at the time. Producers were dealing with complaints from people about odor," Dr.

Jacobson said. “We helped farmers with what they should do to try and mitigate these problems. It was my biggest challenge and I think that’s why it was rewarding. This spanned about 5 years; it was a long-term effort that paid off in my opinion.

During that time and throughout his career, Dr. Jacobson recognized the common thread of environmental stewardship all producers shared.

“In my experience, producers want to do the right thing,” Dr. Jacobson said. “I think, fundamentally, producers want to be good environmental stewards of the land. Producers all want something sustainable that doesn’t waste nutrients or water, that recycles and reuses resources. I think that’s environmental sustainability.”

While the industry is likely to see continued pressure from the political and social circles, Dr. Jacobson is optimistic about the future and environmental sustainability of pork production in Minnesota.

“I think Minnesota will be strong in animal and pork production for the reason that we can grow most of the feed. We grow the corn and the soybeans here where we can utilize the valuable bi-product, manure, that is created in animal production,” Dr. Jacobson said. “It’s the Midwest’s secret weapon compared to other places in the country. I think we will always be able to be the leader for animal production because of our ability to grow the feed and utilize the manure on crop land, and that’s a tremendous advantage.”