

# Farm resilience

From German ponds to global aquaculture transformation  
By Vladislav Vorotnikov

In the green valley of Grüner Tal near Dortmund, a fish farm established nearly a century ago has gradually evolved into one of Germany's most technically advanced aquaculture operations. Founded in 1926 under the name Fischgut Bräke, the site originally operated as a classic salmonid farm, raising trout in traditional ponds fed by fresh spring water from the Sauerland region.

Like many agricultural enterprises in post-war Europe, the farm went through several changes of ownership. By the 1960s, it had gradually lost strategic importance. Production declined, infrastructure aged, and parts of the facility were eventually shut down. What had once been a vibrant rural enterprise became, over time, a largely dormant property.

That could have been the end of the story. Instead, it became the beginning of a new one.

In 1987, a 21-year-old fish enthusiast Lothar Primus acquired the neglected site. Raised in the region and fascinated by aquaculture since childhood, Primus saw potential where others saw decay. His initial objective was pragmatic: reactivate the infrastructure, restore the ponds, and reintroduce trout production.

"When we took over the site in 1986/1987, it was largely shut down. The infrastructure was outdated, and production had almost come to a standstill", Primus said.

In 1987, Fischgut Bräke changed its name to Fischgut Primus. The first years were about reactivation. Trout production for direct marketing helped restore cash flow. But the turning point came in the early 1990s, when Primus began focusing more on reproduction than on grow-out.

"We made a conscious decision to move into controlled breeding," he said. "Salmon, sturgeon, ornamental fish – especially Japanese koi – became part of our portfolio. But we quickly realized that ponds limit you. If you want precision, hygiene, and year-round spawning, you need closed systems."

That realization led to a fundamental transformation. In 1997, Fischgut Primus began converting the old pond-based operation into a recirculating aquaculture system. By 2002, a large-scale warm-water RAS hatchery for sturgeon and koi was fully operational.

"That was the decisive step," Primus explains. "We moved from seasonal breeding to continuous, controlled reproduction."

## Diversification is the key

Today, the Iserlohn facility functions primarily as a reproduction center. Multiple halls operate as closed hatchery and juvenile rearing systems, designed and built by the company's own engineering arm, Fischgut Primus Anlagenbau.

"We operate several independent full-recirculation circuits," Primus said. "That allows us to reproduce different species simultaneously – even species with completely different temperature requirements."

The hatchery portfolio includes sturgeon, grass carp, common carp, pikeperch, European catfish, tench, crucian carp, and gibel



Nearly four decades after reviving a declining pond farm, Lothar Primus has built a reproduction-focused enterprise defined by technical rigor and biological expertise.

carp, alongside selected ornamental lines.

"The species are selected based on three criteria," he explained. "Technical feasibility, market demand, and the ability to produce them year-round."

RAS technology is central to that capability. Generously dimensioned trickling filters break down ammonium, nitrite, and nitrate, ensuring stable water chemistry. Sensors continuously monitor oxygen levels, temperature, and CO<sub>2</sub>. Primus stressed that stability is everything. "Even small fluctuations in water parameters can affect survival rates. That's why we focus on oversized filtration and precise monitoring."

Among all species, sturgeon remain the backbone of the hatchery. Primus emphasizes that, while sturgeon is robust as juveniles, their early life stages require meticulous care. Controlled RAS conditions significantly improve survival rates compared to traditional pond systems.

"With closed systems, we reduce pathogen exposure and control every variable," he says. "That's the difference between hoping for success and engineering it."

Koi breeding follows a different philosophy. "In koi production, hygiene is the top priority," Primus says. "Immediately after spawning, we separate the eggs from the female and fertilize them outside the water. That prevents infection from the broodstock."

Selective breeding plays an equally important role. Desired color morphs and body shapes require strict broodstock management.

"You don't get stable color lines by accident," Primus noted. "It's genetics, documentation, and disciplined selection."

Although koi now represent a niche within the company's overall production, the hatchery protocols developed for ornamental fish have strengthened biosecurity standards across all species.

### Standardization as philosophy

Beyond producing fish, Fischgut Primus exports hatchery expertise worldwide.

"Our systems are standardized," Primus said. "Whether we build a facility in Germany, Switzerland, or Asia, the operational logic is identical. That makes training easier and results reproducible."

Projects have included carp hatcheries capable of producing up to one million larvae per batch. The emphasis is not only on delivering hardware but on ensuring partners understand biological and technical processes.

"A hatchery is not just tanks and pipes," Primus stressed. "It's biology, monitoring, and discipline."

### Energy autonomy and biosecurity

Energy is one of the largest cost factors in RAS hatcheries. In 2024, Fischgut Primus completed the installation of large photovoltaic systems combined with energy storage units.

"We are now largely energy self-sufficient and CO<sub>2</sub>-neutral," Primus said. "For a hatchery, energy security equals biological security. If the power fails, the fish suffer."

Water use is equally controlled. The hatchery operates with minimal freshwater input from on-site wells. Excess water infiltrates the company's own property, reducing environmental discharge.

"Our full recirculation systems – from hatchery to juvenile rearing – are designed to conserve water," Primus noted. "Sustainability is not a marketing tool for us. It's an operational necessity."

### Expansion and succession

As the company prepares for a generational transition, hatchery expansion remains a priority.

"We plan to expand into additional warm-water species," Primus said. "Especially in commercial fish production, there is strong demand for a reliable year-round supply."

International markets are also under review. "We are evaluating overseas locations," he confirms. "The goal is to strengthen our global presence while maintaining our standards."

For Primus, the future remains rooted in precision.

"In hatchery work, you must control what you can control," he said. "Temperature, water quality, hygiene, genetics. The rest is experience."


Nearly four decades after reviving a declining pond farm, Lothar Primus has built a reproduction-focused enterprise defined by technical rigor and biological expertise. For the hatchery sector, his message is clear:

"Closed recirculating systems are not the future," he concludes. "For professional hatcheries, they are the present." | HI




**cryogenetics**

## SUPPORTING YOUR GENETIC PROGRESS!



**Cryo-Service:** Provides clients the best practice for cryopreservation of sperm in SquarePack® for bulk fertilizations year round

**Cryo-Storage:** Providing Biosecure storage for individual clients



**AquaBoost® Activator:** Rinses eggs while increasing fertilization

**AquaBoost® SpermCoat:** Dilutor and storage media for gonadal sperm

**AquaBoost® Quattro:** Provides fast fertilization results

**Consulting:** Genetics and breeding. Best practices for optimum fertilization results by our global experts.

Canada: [maureen.ritter@cryogenetics.com](mailto:maureen.ritter@cryogenetics.com)  
US: [meghan.aguirre@cryogenetics.com](mailto:meghan.aguirre@cryogenetics.com)  
Chile: [mariaela.tiznado@cryogenetics.com](mailto:mariaela.tiznado@cryogenetics.com)  
Other regions: [artur.zolotarev@cryogenetics.com](mailto:artur.zolotarev@cryogenetics.com)

[www.cryogenetics.com](http://www.cryogenetics.com)



# Aqua-Life

## PRODUCTS



**Where Complex Problems Meet Innovative Solutions**



**WWW.AQUALIFEPRODUCTS.COM** **SINCE 1975**