

PUM experts bring practical knowledge and experience across a wide range of livestock sectors. We support feed millers with advice on feed formulation, production processes, and feed quality and safety control. In poultry, our expertise spans the full value chain, from breeding and housing to processing. For aquaculture, our experts share insights into fish farming, hatchery management and product processing, including packaging and cold storage. In pig farming, we offer guidance in areas such as animal health, housing, breeding, and overall farm management.

# Animal Feed, Poultry, Fish & Pigs

Feeding the future starts with smart, sustainable farming. Whether you are producing animal feed, raising poultry, farming fish, or managing pig operations, success depends on efficiency, innovation, and resilience.

This PUM sector collaborates with SMEs involved in animal feed production, poultry rearing, fish farming, and pig management. Their success depends on efficiency, innovation, and resilience. Our experts offer practical, hands-on advice tailored to each entrepreneur's local context, ranging from feed formulation to biosecurity and value-added processing. Together, we address today's challenges and prepare for tomorrow's opportunities, aiming at business growth and strengthening impact within the agri-food sector.

PUM's Animal Feed, Poultry, Fish and Pig sector is well aware of the challenges facing these industries, including rising feed costs, climate change, weak biosecurity, limited infrastructure, and barriers to market access. At the same time, we recognise key opportunities such as sustainable practices, the use of local resources, technology adoption, and the growing demand for protein. Experts in this PUM sector therefore aim to collaborate with SMEs to promote sustainability, improve productivity, enhance feed and food safety, and build resilient value chains. Through training of professionals, innovation, and ecosystem development, PUM emphasises group-based learning, Train-the-Trainer models, and business development to empower farmers and agribusinesses in its partner countries.

Our sector draws on leading Dutch expertise and experience in animal feed, poultry, fish and pig farming. PUM experts bring this knowledge to ambitious entrepreneurs, collaborating to strengthen the food system and enhancing the role of SMEs across the entire value chain.

### Animal Feed

Dutch feed mills combine locally produced forage with globally sourced ingredients to create balanced and safe feed mixtures. Our experts advise on feed formulation, mill management, quality control, and the operation of specialised machinery and laboratories. Feed safety and efficiency are central themes to their approach.

### Poultry

From broilers to laying hens, and from housing systems to export logistics, Dutch poultry farming has developed into a high-tech, globally connected sector. PUM experts offer support on key topics like animal welfare, environmental standards, disease control, and sustainable farm management.

### Fish

The Dutch aquaculture sector is renowned for its innovation in both open water and indoor systems. Our experts collaborate with fish farmers introducing their knowledge of breeding, feed, water quality, and processing. They also provide training and advice on sustainable business models and compliance with international standards.

#### Pigs

Dutch pig farming combines advanced knowledge in breeding, housing, health, hygiene and environmental care. With rising global demand, PUM experts collaborate with local farmers to modernise their farms while taking animal welfare and sustainability seriously, often as part of broader local ecosystem development.



### Muhammad Hilal Ferdiansyah



Farmer, Indonesia

"During the PUM training, I learnt a lot about animal welfare. Most farmers here tie up their cows and I learnt to let them walk freely. Another thing we learnt was how to improve feed. We used to use only Napier grass, but the expert taught us to mix it with other types of plants, which have high nutritional value. I now do both."

# Areas of expertise

## Animal Feed

- Feed formulation and nutrition: Species-specific nutritional advice tailored to cost and performance.
- Feed manufacturing: Guidance on grinding, mixing, pelleting and packaging.
- Machinery & equipment: Support with setup, use and maintenance of feed machinery.
- Feed mill management: Expertise on sourcing, logistics, process optimisation and marketing.
- Feed safety: Training in HACCP, traceability and risk control.
- Quality & lab: Support in lab design, ingredient testing and quality assurance systems.

# Poultry

#### Poultry production

- Breeding, rearing, growing
- Operational management
- Healthcare
- Hatchery and hatching process
- Farm management and record keeping
- Health and veterinary care
- Family poultry farming, organic
- Manure handling, waste management

#### Poultry housing

- Farm buildings
- Equipment & systems
- Alternative poultry production systems
- Climate control

#### Processing

On-farm poultry slaughtering

#### Infrastructure

- Integrated farming (breeding, hatching, feed mill, slaughter, egg grading)
- Family farming
- Research
- Extension services
- Training

#### Others

- Ducks, geese, pigeons
- Rabbits, guinea pigs, etc.

# Fish

#### Aquaculture

- Shellfish culture: methods, species, reproduction, farming and catching.
- Sustainability, certification.
- Fish farming: RAS, aquaponics, bio floc, cages, ponds, tanks,
- Hatchery, nursery, breeding, farming, fish feed, certification, sustainability, farm management etc.

#### Processing

- Gutting, filleting, smoking, drying, cooling, freezing, storage, packaging etc.
- Machinery and installation.

## Pigs

#### General

PUM supports pig farmers in improving efficiency and quality. While market prices can't be influenced, cost price and output can. With rising threats like African Swine Fever (ASF), strong biosecurity is essential.

#### Breeding

Experts advise on breeding strategies using common global breeds (Landrace, Large White, Duroc, Yorkshire), with a focus on 3-way crosses and selection tools like BLUP. Exterior trait selection helps secure productive offspring.

#### Feeding & Feed Management

Feed accounts for up to 80% of pork production costs.

- Feed must match the nutritional needs of sows, piglets and fatteners at different stages.
- Feed optimisation doesn't always mean higher cost, local ingredients and by-products can be effective.
- Preventing feed waste (up to 25%) through proper feeding systems is crucial.
- Wetting dry meal and using feeding schemes improve intake and condition.

#### Management

Effective management boosts both technical and financial results, often without investment.

- Collect and analyse performance data (from pen cards to computer systems).
- Daily animal checks and prompt treatment are essential.
- Mating management improves fertility and litter size.

#### Trade

- Fish auction and fish market, fishmonger shops, distribution and shipping.
- Focus on the local and regional market, promotion and presentation.

#### Training and education

- Overall fish farming.
- Policies, environment, nature conservation.
- Business management, financial management.

#### Health & Hygiene

Hygiene prevents disease and supports healthy growth.

- Disinfection, floor types, pest control and visitor protocols are key.
- Vaccination plans should reflect local disease pressure.
- Reducing antibiotic use is a PUM priority to combat resistance.

#### **Housing & Climate**

Adapting housing to local conditions improves welfare and performance.

- Temperature regulation is crucial, especially for piglets.
- Simple solutions like piglet nests and curtains can prevent heat loss.
- A logical farm layout improves workflow and efficiency.

#### Artificial Insemination (AI)

AI can lower costs in larger farms.

• Success depends on hygiene, temperature control, and equipment like microscopes and colorimeters.

#### Training

Training is provided one-on-one or in groups, on site or via local seminars.

• "Training of trainers" builds long-term local capacity, especially through cooperatives or education centres.

### Professional people for positive impact

PUM collaborates with businesses and organisations to grow sustainably and build a brighter future for their community. Check PUM.nl for more information and criteria, and apply for advice.