

Sustainable dairying in Thailand

A 60-year-old project designed to bring European dairy expertise to Thailand has been reinvigorated in a bid to help the country's dairy sector become more sustainable and efficient – to produce yields that satisfy surging demand. Caroline Stocks reports.

Thailand isn't known for its dairy sector, but the revival of an old project is bringing modern technology and genetics to bear. First established in 1962, the international programme started out as a collaboration between Denmark and Thailand to bring milk production to the south-east Asian country.

Industry kickstart

Impressed with Danish dairy farms on a trip to Europe some years earlier, Thailand's King Bhumibol Adulyadej decided he wanted his subjects to be able to enjoy fresh milk. Together with King Frederik IX of Denmark, and with the support of the Danish government and dairy sector organisations, they agreed to export Danish dairy genetics to help kickstart Thailand's dairy industry.



Danish experts helped build a demonstration farm where modern production methods could be showcased

Along with cattle, Denmark also sent over dairy experts to train local farmers, and helped to build a demonstration farm in Muak

Lek, 150km north of Bangkok, where modern production methods could be showcased and farmers could learn.

With ongoing support from Danish farm staff, the project evolved to become the Thai-Danish Dairy, a state-owned dairy company that works with 3,500 farmers across the country and remains Thailand's largest dairy processor.

"Denmark has a very long co-operation with Thailand, beginning when we first started trading with the country 400 years ago, so it wasn't as strange as it might seem that we shared dairy genetics and knowledge," says Henning Nigard, Minister for Food and Agriculture at the Danish embassy in Bangkok. "Denmark exported dairy technology all over the world in

Feed Processing Specialists

Tub Grinders

- Exclusive UK Distributor of VDW, Haybuster and Rotaground Tub Grinders
- Range of models from 30 - 250 / hour output
- Now, used & refurbished machines available
- Ideal for straw, hay, green waste, roots, biogas feeds etc.

Root Choppers & Cleaners

- Loader, 3 point linkage, free standing PTO and electric drive available
- UK Distributor of VDW range of choppers, cleaners & feed dispensing equipment
- Output from 100/hour to over 1200/hour available

Diet Feeders

- Largest stock of mixers in the UK - over 50 machines in current stock
- Refurbished, used & nearly new units available
- New Mini-Mixer available
- Diet feeder parts available - Blades, Conveyor belts, gearboxes, weigh cells
- All feeders undergo 10 point service
- Finance available subject to terms
- Nationwide delivery available

Current Stock as follows:

- Tyler 12, 20, 24
- Strutmann 14, 20
- BM 10, 15, 17, 20, 24
- JP Forges 20, 22 x 2, 24
- Kaerfjord 104 x 2
- Sau-Sau 12
- Kaerfjord 140, 120, 140, 160, 180
- Shelburne Reynolds 11, 13 x 2, 22, CH50
- Albury 14, 30, 35 for parts
- 18 Spax 15, 20, 18 Minimax
- Radrock 18, 20
- Rotaground 100 x 2
- Tregid 120 tub grinder
- Farmland 180 tub grinder

Please visit www.enegis.co.uk for more photos
or call 01789 205132 or 07721 442979

A growing market

Traditionally, milk hasn't been a part of the Thai diet, and dairy consumption in Thailand is still relatively low, with the average person consuming about 18 litres/year (average milk consumption in the UK is about 64 litres/person).

However, that figure is rising as the country's growing middle classes demand more dairy products, particularly yoghurts and flavoured milk.

The DPO's goal is for average consumption to increase to 25 litres/year, thanks in part to promoting dairy products to young people through the government's school milk programme – which sees all school-aged children receive a free bottle of milk every day – and through its franchised Milk Land retail outlets, which are located in malls and petrol stations.

The DPO also operates smaller Milk Shops, which sell pasteurised milk and drinking yoghurts in universities across the country.

Two of the biggest challenges to increasing consumption have been around taste and dietary requirements: Thai people favour sweet drinks and food, and for many plain milk doesn't hit their sugary sweet spot.

Lactose intolerance is also incredibly high in Thailand, so the dairy has created lactose-free and a wider range of flavoured products that it hopes will meet consumer demands. "We heard school children were pouring away their free milk because they didn't like the taste, so it's a problem we've had to work hard on," says Nawano.

FARMING OVERSEAS

the 1960s, 70s and 80s, but in many places it didn't succeed because there was a lack of knowledge and training about dairy production.

"In a lot of cases dairies were called white elephants, but in Thailand it was different," he explains. "The government and private sector educated farm managers and people who were interested in developing their farms by bringing in cattle, and together we were able to help it succeed."

"There's a gap in the market for more good quality milk."

The first European dairy genetics to reach Thailand's shores were 200 red cows shipped from Denmark.

"In the 1960s when this project began we had three main breeds in Denmark: Jersey, Holstein Friesian and the red cow," says Henning.

"The red cow was the biggest in number and the highest yielding



Thai consumers prefer sweeter dairy drinks to their western counterparts

at that time, so that's the breed we exported."

Despite Denmark's good intentions however, the red cow of 60 years ago wasn't necessarily the best breed for Thailand's hot, humid and rainy climate. "Over the years interest in the red cow dipped; they had different diseases in Thailand, it was hard to get calves sucking and the yields weren't fantastic."

"In the 70s and 80s farmers started to cross-breed the red cows

with Holstein Friesian semen from Germany and the US, and numbers of red cows gradually fell."

The reduction in red cow genetics and the growth in dairy knowledge in Thailand coincided with Denmark handing full control of the project to its Thai partners. The government's Dairy Farming Promotion Organisation (DPO)

Agro-tourism

As part of the efforts to grow milk consumption, tourism has become an important part of the Thai-Danish Dairy's business.

At its demonstration farm near Bangkok, Thai-Danish Dairy welcomes more than 80,000 people a year to showcase its production systems to tourists, as well as to share the latest innovations and practices with dairy farmers, researchers and people from state agencies.

Income from tourism is less than 1% of the company's 100m baht (£228m) revenue, but DPO says it is an important example of how sustainable tourism can provide rural communities with income.

"Creating a site for tourists was an important part of our five-year plan," says Nawano Chantaprasarn at DPO.

"We want people to connect with dairy production and understand the work that goes into the food they eat."

Continued on page 36.



**BvL self-propelled
diet feeders!**
Efficiency without compromise
- day and night!

V-MIX DRIVE MAXIMUS GIANT 2S

For more information, please contact:
North: Paul McUlrich - 07810 040100 / paul.mculrich@gmail.com
South: John Molton - 07947 719985 / john.molton@bvl-group.de
www.bvl-farmtechnology.com



FARMING OVERSEAS

Continued from page 35.

— an organisation which also acts as an extension service — became entirely responsible for producing and marketing the dairy's produce, and by the mid-90s Denmark's involvement had all but ended.

In the following decades Thailand's dairy sector grew steadily, but the Covid pandemic threw the industry into turmoil. Rising costs of production and a dramatic decline in tourists — who consume a huge amount of the dairy produced in Thailand — left farmers struggling. Many went out of business, causing production to drop by 20%.

Since then yields have struggled to recover but demand has surged, leaving the DPO scratching its head over how to increase productivity. "We needed to find a way to reduce losses and encourage more efficient ways to produce milk," says Nawano Chantaprasarn, DPO's Chief of Dairy Farming Development. "We needed the dairy industry to become more sustainable."

"We want to be a frontrunner in green agriculture."

The answer was a five-year strategic plan, which included a redevelopment of the demonstration farm and processing facility, made possible by a government loan of 51.7m baht (£1.18m), interest-free over nine years. The government also awarded the dairy a 4.2m baht (£96,000) grant for training and study visits so producers could travel to Europe to learn about modern production systems.



The Thai-Danish dairy processes about 450t of milk per day



The farm returned to Danish red cows to connect consumers with the brand

"We had already switched to organic production on the demonstration farm 13 years ago as part of our efforts to improve milk quality," says Nawano. "But when we built the new farm we wanted to think about cow welfare in the wet and dry seasons, and have enough space to be able to install robotic milkers in future. It's designed to be easy to maintain, as well as having high biosecurity."

Cow comfort was the highest priority, so DPO calculated for 22m² per cow to avoid poaching during the rainy season, and installed giant fans to keep cows cool when summer temperatures hit. And with Thailand struggling with a lack of skilled farm labour, the DPO also invested in heat detection technology, farm management software and a waste management system to help make the unit easier to manage.

"The goal [by the end of the five-year plan] was to milk 75 cows on this site, reaching 18kg/cow of milk per day, but by year four we're

already at 20.4kg thanks to the new technologies and switching to a maize-based total mixed ration (TMR), which is available 24 hours a day," explains Nawano. "We're very pleased with the progress we have made and the knowledge we can share with our farmers across Thailand, particularly around improving diets."

Technology and knowledge

The Thai-Danish farm's drive to make production improvements coincided with Denmark deciding to 'reinvent' its relationship with Thailand's dairy sector. In 2022 the two countries signed an agreement to share technology and knowledge once again in an effort to further increase productivity and drive environmental sustainability.

"There's a gap in the market for more good quality milk to be produced in Thailand, and we want to help facilitate that growth in a sustainable way," explains Henning. "Danish agriculture has a very green profile, and if we

promote more efficient dairy and milk production here it will increase efficiencies and minimise Thailand's climate footprint.

"There's no commercial interest for us, but we want to be a frontrunner in green agriculture and if we can help Thailand then it's in our interests to promote these solutions."

The current focus of Denmark's activities is on breeding and genetics, together with Viking Genetics — a Danish, farmer-owned co-operative with 15,000 farmer members — the country has gone back to its roots, donating red cow semen to Thailand this year.

Fat and quality

Returning to genetics that didn't perform incredibly well 60 years ago might seem like a folly, but Denmark and Thailand have learned a lot from their previous efforts, he notes. "Rather than focusing on yields, we're looking at fat and quality this time around; we want to help farmers produce milk that fits with the types of products Thai consumers want to eat."

"It might be that they cross-breed with red cow genetics depending on what parameters Thai farmers want to focus on, but that will be for them to decide. We're discussing what's suitable for Thailand's climate. With better breeding practices, quality of milk and genetics, we hope farmers will have better earnings and be able to sustain their businesses."

Going back to the red cow is also a marketing tool the Thai-Danish Dairy is keen to adopt, explains Nawano. "We have a red cow on our logo, and we wanted to bring it back for consumers so they connect their milk with the cows they see on our farm. We are proud of our history with Denmark and we want to reconnect with that."

Dairy production in Thailand

Dairy farming is a relatively small sector in Thailand's farming industry, which is otherwise mainly focused on rice production. Farms tend to be small, with farmers owning an average of 30 cattle.

Around 3,500 producers with 70,000 cattle produce 450t of milk per day for Thai-Danish Dairy, with collections made twice a day through regional co-operative collection hubs. Raw milk is then transported to the central processing facility north of Bangkok within 24 hours.

"The standard milk price is 21.25 baht/kg (£0.48/kg), but for better fat the price can go up to 22 baht (£0.50/kg)," says Nawano. While milk prices are set by the government, the high cost of milk production is a challenge for producers. "We are seeing people leave the industry, especially since the pandemic when production costs rose even higher."

"We are trying to encourage people to use maize silage or other organic wastes to drive efficiencies, as well as sexed semen and better genetics to make sure it's a profitable industry and one young farmers want to be involved in."