



YOUR GLOBAL PARTNER

# MID-YEAR MILL REPORT

Over the last few months the team at Milling and Grain have travelled the globe meeting millers. Today we present the highlights from our tour, in the form of four very different mills



# ADM FEEDMILL

A GIANT AMONG TURNKEY PROJECT COMPANIES

## Meeting growing food demand requires fast, smart work

by Roger Gilbert, Publisher



Over the past decade, or possibly longer, one of China's major feedmilling equipment companies has been constructing more than 350 feedmills annually. In 2014 the company built an astonishing 400 new feedmills around the world. Many of those mills have been constructed within short time frames and often within 10 months from ground-break to commissioning.

Milling and Grain was fortunate enough to visit one all-concrete construction coming online when I visited China in December 2015, and was invited by Famsun (Muyang Holdings) to tour the new 110,000-tonne ADM feedmill – the first the company has built in China.

"This is our high-speed solution," says the project manager for Famsun (Muyang Holdings) to the country's growing demand for more food and who will remain committed to the project for three months following commissioning.

### Slower growth projected

However, the future is not so bright in terms of total constructions as more competitors enter the internal market and falling local demand.

The latter may seem to be an incredible change after so many years of steady year-on-year increases in demand, but those within the feed industry in China point directly to the fall in demand for meat, fish and dairy products, which in turn has brought about a significant drop in total feed production the country has experienced since 2013: At that time output was destined to rise from 189 million tonnes to over 200 million tonnes per annum.

Today, total feed production has fallen to under 180 million tonnes and is projected to fall further before stabilising.

### Performing at above the global average

Regardless of the cutback, China is still producing more than 133.6kg of scientifically formulated compound feed per head of population, which is the world's average

There is no doubt that a country of 1.3 billion people needs more feedmills and the Famsun (Muyang Holdings) company continues to deliver a large number of those mills at affordable prices and with some sophistication that meets the demands being placed upon the local feed industry to match international feed production standards.

It is also worth noting that China is turning from a supply driven economy to one that has a growing internal demand for consumer products, and food proteins cannot be excluded.

"The demand for new mill building is not limited to China alone" says our guide.

"Asia is turning to total turnkey projects as many countries do





"Visiting a mill being commissioned brings all those linked yet individual components to life as one functioning unit and allows the building itself to begin to take on a heart beat and a warmth that is a positive force that you know can only be appreciated by all the farmers, livestock and ultimately people who will improve their income and food intake as a result of a construction of this nature"

not have the engineering experience locally to build the mills needed themselves.

"We are also developing outside Asia. Famsun (Muyang Holdings) has nearly 50 agencies, sales and service stations and spare parts warehouses worldwide and close to its customers and is reaching as far away as Spain and the USA and we have already finished three such mills," he adds.

To achieve its goals, Famsun (Muyang Holdings) has moved away from simply providing worldwide support from its home-base in China.

"In the past we had sales people only outside China, today we have worldwide support from our production bases that provide research and development, servicing and wear housing in several locations."

### The new mill build

We enter the mill through the bagging and dispatch area. Final products are served with two production outlets – all in bags, containing premixes and whole compound rations before





entering the reception area and being guided by Famsun (Muyang Holdings) project manager at the ADM mill.

We are welcome to view all levels of the mill and explore all areas, however due to commercial reasons we are not given permission to report on the production process nor the equipment installed. However, suffice to say this mill measures up to anything we have toured outside China and is operating with most up-to-date computer control systems.

### From top to bottom

We visited the header room where we learnt that a large volume of the raw material to be used in compound feeds would be maize, which is a very abrasive material. A 'white air' systems has been installed with a new design to collect dust.

The top floor also houses all the dust collection equipment. On the same floor we found sifters that all raw materials pass over before going to the grinding bins for pre-grinding.

The energy for the mill is provided by an independent boiler house constructed by Famsun (Muyang Holdings) and is located across the road. It provides energy to other facilities besides the feedmill in this industrial area.

The control room is fitted with both Famsun (Muyang Holdings) and WEM computer control systems which are run by a production manager.

At the time we visited the mill was carrying our fire testing on the hammer mills and all systems were working correctly and to international standards, we were informed by the project

manager. The mill was operating a start-up schedule, of just one eight-hour shift per day.

We also viewed the cooler and an automated steam-heated fat coating unit for coating pellets.

### There can be nothing better than visiting a new feedmill.

Everything is clean and dust free; the equipment is gleaming and in its livery and branded colours.

Visiting a mill being commissioned brings all those linked yet individual components to life as one functioning unit and allows the building itself to begin to take on a heart beat and a warmth that is a positive force that you know can only be appreciated by all the farmers, livestock and ultimately people who will improve their income and food intake as a result of a construction of this nature. The mill was officially opened on November 12, 2015. Our visit came a month later.

Installation of all processing equipment had taken just three months, being lifted into the all-concrete building through an open side that had been left unfinished in order for this to take place, and was only closed after all equipment and internal construction work had been completed.

“Our designers worked with the construction company to build a factory with equipment in place in 10 months,” says the project manager proudly. And we must congratulate him, Famsun (Muyang Holdings), the construction company and ADM for such an uplifting experience. Thank you. ☺



# NEWCOPAN

## REPRODUCING AND UP-SCALING LOCAL TRADITIONS

by Tom Blacker, *Milling and Grain* magazine

**T**he Newcopan mill, located in the quaint Tuscan town of Castelfiorentino just south west of Florence, is a new mill by Golfetto Sangati which was built to produce traditional Tuscan flour.

However, there is much more to what is being produced here than first meets the eye.

The Tognetti family, entrepreneurs in the bakery industry for well over 50 years, are proud to show their new mill,

which was built with the specific aim of processing one of the most typical and ancient cereals of Tuscany, the Verna wheat.

The strategy for this mill derives from the first PIF (Progetto Integrato di Filiera, i.e. Integrated Production Chain Project), developed by Regione Toscana on cereals. The agronomy department of Scuola Superiore Sant'Anna di Pisa and the medicine department of Firenze University cooperated in order to preserve and enhance local varieties of agricultural products by producing farm-to-table food.

The mill processes grains farmed by 60 Tuscan crop farmers and is the first project of its kind in Italy, thus improving the traceability of flour from farm-to-mill, mill-to-bakery and bakery-to-market; guaranteeing the superior quality of the food.

### **Verna grain: health and tradition**

The Verna variety of flour is also said to be a healthy alternative as Tuscan bread. Here below are its main features:

Increased amounts of beneficial nutrients (vitamins of group B as folic acid and vitamin B6 and minerals such as phosphorus, magnesium, selenium)

Increased amounts of antioxidants





(vitamin E, polyphenols, carotenoids)

Minor and different structure of the gluten molecule (lower susceptibility for those sensitive to gluten and/or irritable bowel)

More fiber (useful for the prevention of cardiovascular diseases and cancer)

According to a study performed by the University of Florence in Medicine ‘Scope of the Project: Quantic Research Within the P.I.F’, all of the measures employed at Newcopan result in an improvement of the cardiovascular risk profile which in turn is going to reduce risk parameters such as total cholesterol, ‘bad’ cholesterol LDL, blood sugar and blood viscosity in the human condition.

### **A complete mill in just six months**

Starting from the demolition of two old furnaces, a 20,000 square meter, cutting-edge mill has been erected in just a few months. With a capacity of 100 tonnes/24 hour, the mill is composed of machinery that adds up to the most advanced technology allowing a complete monitoring on the production process, so obtaining high-quality flour.

This technologically advanced mill, also includes a traditional millstone solely dedicated to the production of whole wheat flour.

The production process comprises of a pre-cleaning system for cereal entering the plant, allowing for the elimination of coarse waste before the corn silage; the grain is then cleaned more intensely and conditioned for the grinding process.



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In addition to the traditional machines, the cleaning process includes a separator with air extractor, a stone remover, intensive cleaning brushes and an optical sorter, to guarantee perfect sorting of the good cereal to be sent through to milling.

Automatic conditioning keeps the humidity constant during



grinding, guaranteeing a very good final flour yield. Subsequent milling with the new Synthesis mills, sieving using a GQTG Plansichter and the cleaning by Puriswing purifiers ensures the optimal selection of the ground products.

The entire milling process is fully manageable and controllable through computer or mobile devices so that both performance and complete traceability are guaranteed.

#### Exports and training: key to future growth

To date, Newcopan has enjoyed over 20 years of exports of bakery flour to the UK; an admirer of quality products coming from Tuscany. The Tognetti family is planning to promote the authenticity and quality of Tuscan food in the UK market where buyers are always appreciative of the very finest food products. One of the major attributes that I witnessed when visiting Newcopan is the presence of a very evident focus on establishing sustainable growth.

The partnership with Pisa 'Scuola Superiore Sant'Anna' and Firenze University, teamed with the cooperation of wheat farmers, displays Newcopan's desire to increase its market share going forward so that it will be manufacturing and promoting the benefits of the Tuscan tradition in safe and healthy food products. ☺



# THE AL BASRA FLOUR MILL

**A**ybakar announces the delivery of Al Basra flour mill in Iraq last month. Owned by Kubba group, Al Basra flourmill is one of the most prestigious flour milling companies in Iraq, with the group being in the milling business since the 1960s.

Currently, Al Basra flourmill is the most developed flourmill in Iraq. Equipped with Aybakar's crown jewel CERES II INOX roller mills, the mill exceeds Iraqi and international standards. These stainless steel roller mills are equipped with PLC driven control units, central lubrication system, rolls that can be replaced within 20 minutes and retractable feed rolls.

With a capacity of 250 tons/day, Al Basra flourmill is controlled by state of art PLC system. The mill features a pre-cleaning system of 50 tons/hour and a cleaning system of 15 tons/hour. All the products are weighed and conveyed to storage by pneumatic systems. The packing system includes double weighing bagging machines at a capacity of 20 tons/hour for flour and 15 tons/hour for bran.

### **“Trying to fit the latest equipment was very challenging”**

“The job was very challenging,” says Mrs Filiz Aybakar. “The mill building was made for older technology and trying to fit

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the latest equipment was very challenging. We had to apply many custom made solutions. This is one of our strongest suits: we create tailor made solutions to satisfy the needs of our customer” she said. “The average temperature is over 40 degrees Celsius for more than four months in Basra with a humidity of over 80 percent. We had to take the local conditions into account during our design phase.”

This was not the first time that Kubbe group dealt with Aybakar. The business relationship has been going on over 20 years. The owner of the mill, Mr Kais Hikmet Kubba is very satisfied with his new mill: “ we have been dealing with Aybakar for very long time. Previously, we bought individual machines such as roller mills, sifters and bagging systems from them.”

### **“I now consider myself part of the Aybakar family”**

“Our experience was more than satisfying with reliable machines and good after sales service,” stated Mr Kubba,





adding that, “I can easily say that I now consider myself part of Aybakar family, as they have always been there for us when we needed them.”

Mr Kubba also complimented the cost effectiveness of the project and the efficiency with which Aybakar executed when he added that, “When we gave them a turnkey Project, we were amazed with the solutions that they created for us. While keeping the investment cost low, they were able to adapt the latest technology to my mill.”

“Thanks to my team of experts and Aybakar’s technology; our flour is the most sought after product in the Basra region.” 🌐



# CTH MILLS

A FLOUR MILLING INDUSTRY THAT'S BASED ON FRIENDSHIPS AND PATRIOTISM

**Milling and Grain reports on its visit to the latest new build in Taiwan - CTH Mills - that has the industry talking throughout South East Asia**

**T**aiwan has not always been the graceful, peaceful and plentiful country it is today. There was a time following the Second World War when the country was in a poor state and conditions were tough for a population that had not long annexed itself from the Chinese mainland, and was relying on its own dedication and resources to establish a

new beginning and to feed itself.

“My great grandfather built our original flour mill here in Taipei in 1953 – over 60 years ago. He had been working in Thailand prior to the war and operated a gold shop business in Bangkok’s Chinatown” says Brian Lin Suphananonta, who is in his early-30s and is now operating the family milling business which owns the newest flour mill in Taiwan.

Mr Suphananonta is a fourth generation flour miller at his family-owned Chiao Thai Hsing Enterprise Company where he has worked since 2012. He speaks excellent English and has studied at Boston University, USA, when he gained an undergraduate degree in finance and operation.

He has completed the IAOM Fundamental Milling Course, has attended the OCRIM Milling Training Course and has a KSU/IGP Milling Specialist Credential.

In his role as ‘Assistant to the Chairman’, he oversees the day-to-day operation of the new mill, which is in the Yangmei District of Taoyuan on the outskirts of Taipei. He is supported by Plant Manager Cheng, who has worked in the family business for more than 50 years and is the second-longest serving employee. Alongside Mr Cheng is Leon Huang, who joined the company at the start of the new build in 2011, and is extremely knowledgeable about the new operating systems within the mill.

The government had asked skilled men “to do something in Taiwan for the food industry,” he adds.

“After the war the Taiwan government asked businessmen who

had gone abroad to invest in Taiwan and a lot of patriotic people like my great grandfather came back. He built one of the first flour mills in Taiwan.”

Today, the family business ‘tops-and-tails’ the flour milling industry in Taiwan; having built the earliest mill in the country and now the newest mill.

The family business is known locally as CTH Mills and is processing over 1000 tonnes of wheat per day for the Taiwanese market.

The original mills is located in downtown Taipei and accounts for 30 percent of total production while the new CTH Mill, at Taoyuan, makes up the remaining 70 percent.

The new mill was built and equipped by Ocrim and is attracting attention not only from within the country but also from throughout South East Asia as visiting flour millers come from as far afield as Indonesia and the Philippines can testify.

Whilst the old mill was destined to close in 2016 it still continues to process wheat at 300 tonnes per day today, while the new mill processes 760 tonnes per day from its two production lines.

“This is the most technologically-advanced flour mill in the region,” says Mr Suphananonta. “It is fully computerised and highly automated.”

## Friendships in flour milling

What strikes the visitor as unusual is that the CTH Mill not only stands right beside the company’s main competitor in the marketplace, but it has a high-level conveyor link which joins the two companies’ production facilities.

“We are very friendly with our neighbor,” says Mr Suphananonta proudly.

It’s the LH Mill and is the country’s number one flour production unit in terms of volume. The location and linkage is all about Taiwanese businesses helping each other, which reflects the spirit of communal effort that has allowed the country to





survive independently in the South China Sea.

“There’s personal friendships involved and a synergy between production units of the two mills. We share the future and on occasion when wheat supplies demand it we can readily supply each other. We also offer each other technical support,” he adds.

Taiwan has a population of some 23 million inhabitants supported by just 20 flour mills of varying capacities and qualities. In the past the country had built 30-40 mills but many were not efficient and have closed.

“Today’s consumers are looking for higher quality foodstuffs

and safety compliance. Older mills cannot achieve what new mills can in these terms, he adds.

“We see these older mills being phased out over time. There is also over-capacity in our marketplace and a lot of the smaller mills are running at just 10-20 percent.

“We try to deliver quality and a value-added services to win over customers, but this is difficult in a marketplace where personal relationships are important.”

Many mills have been family-operated for two or three generations like ours and have loyal customers. They are not



losing money and have enough production to sustain themselves, but over the next five to 10 years we will see the next generation unable to take over their families' operations and there will be a better opportunity for prosperity among the new facilities being built," he explains.

In the future the milling industry will have to be able to meet increasing regulation requirements, he points out.

"We have had our share of scandals around food safety and oil production caused by people cutting corners.

"With stricter regulations and consumers becoming more sensitive to what they are putting on their tables, we will need people in our industry who are dedicated to safety and quality."

### Equipped for the future

CTH Mills has the first optical colour sorters to be installed in Taiwan and all incoming wheat passes through them. Both are 20-tonne-per-hour capacity machines.

Without the colour sorters one of the problems had been toxin contamination, where damaged and discoloured grains and cereals were finding their way into the production system. The new Ocrim equipment takes care of this aspect of quality control.

The mill also has automated moisture monitoring, which controls tempering and provides consistent tempering percentages. The flour milling process also sees little bran taken out on the paddles and the loss-in-weight weighers means that

each batch is accurately measured and is significantly better than traditional mechanical systems.

In addition, the mill has more modern purifiers. An advancement, says Mr Suphananonta is that there is now an extra set to do detailed particle separation from the outer layer of the grain.

The mill itself is positively pressurised to pharmaceutical standards, so it is set up to keep outside air and foreign particles from entering the building. This is in addition to a central vacuum systems that operates through one combined system for the entire mill.

Separate from the mill itself are the brand-new stone grinding mills and this is where the mill is looking to expand its production in future.

"Overall flour standards in the country are high compared to less developed countries in the region.

"We hope to be a pioneer of healthy flour products, with products produced from spelts milled from ancient wheat varieties.

"However, at present we are more of a standard white flour mill but we would like to produce products in the Japanese style, for example, in future," explains Mr Suphananonta.

Gluten-free, while not yet an issue in Asia is making an impact and one Mr Suphananonta does not favour.

"We should be supporting studies based on sound science rather than just responding to initiatives being undertaken by special interest groups.

"There is a trend for people to believe what they read in magazines and books. This is not a health issue but a fitness issue. People interviewed keep hearing gluten is bad for us. Scientifically, unless you have celiac disease, it's not bad for you and therefore not eating gluten is simply a personal choice, which is fine but should not be seen as a choice warranted due to imaginary health concerns."

### Silos to resist earthquakes

The flour mill is supported by a brand new, all-concrete, 20,000-tonne capacity bank of silos that are arranged in a grid of 28 individual units with 18 1000 tonnes bins plus 10 'star' bins of 600 tonnes.

The entire mill is built like a fortress at a cost of US\$100 million including equipment, says Mr Suphananonta.

"We are in an earthquake region on the Pacific rim and therefore the foundations of the mill and silos have been built to withstand a significant earthquake."

Milling in a hot and humid country also focuses the production staff on addressing mould and condensation challenges.

Mr Suphananonta says mould is always an issue and all areas of the mill have to be cleaned regularly in an attempt to combat the problem and control the moisture levels in the final product.

"We use grade one wheat with a 'falling number' above 350 so that our raw materials remain in good condition."

Wheat storage is limited to a duration of just one month with shipments coming in by trucks every operational day. The company's quality assurance laboratory also carries out random wheat sampling for trucks coming into the mill.

"We have a full bakery laboratory and we test everything that is workable in our flour."

### Full transparency with customers

The whole mill is controlled by just three operational staff per shift, excluding those on the bagging lines and in warehousing. The mill runs a two-shift schedule.

All flour passes through a quality control and assessment



process where specifications are recorded in terms of their: batch number, manufacturing date, best before date, moisture and protein levels, product fineness, bacterial count, bake test, overall performance test on a pass or fail basis, pesticide residues status and toxins.

Each batch is signed off by the quality assurance supervisor before receiving a final stamp of approval from the company's technical team.

“These specifications are standard. What really concerns us are the bacterial counts and USDA pesticide and toxin residue reports which are directly of concern to bakeries and consumers.”

The company offers its customers the ability to track the products they buy through a website that contains all the certification details by batch number; including each product's GMO status. A QR code sticker on its 1kg product packaging instantly links buyers to the relevant batch information online.

“Through this type of transparency customers can see everything we have recorded for each batch produced and wheat used – except sensitive information such as prices of course.

“Our commitment to our customers is to provide a safe, high-quality product. And of course we all know that we should get what we pay for.

“Our statistics show that two out of 10 visitors to our website are buyers. Young people are trying to use the service and bread makers also have cell phones and are looking at the batch information we provide on the website. This gives the consumer increased confidence in what we are providing for them and their families.”

### **Security not overlooked**

Security and sanitary standards are also important in maintaining quality standards.



“We need to know who comes into the mill and who goes in and out of all our production areas. Each door is key-card operated. And there are over 300 cameras monitoring the factory and its production processes.

Finally, Mr Suphananonta talks about the need to maintain cleanliness in the flour mill at all times.

“We have a dedicated team of cleaners that keeps the whole mill clean.” And cleanliness is the company watchword not only throughout the factory and its surroundings, but more importantly in the products it produces. ☺