

BestFeed

The Berg+Schmidt Newsletter



Berg+Schmidt
Functional Lipids



LodeStar™ CLA. More Milk and Better Fertility

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Enzymes: Bergazym P increases profitability with broilers.

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Lecithin: BergaPur deoiled lecithin for broilers promotes health and boosts the performance of the flock.

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BergaFat is synonymous with fat powder throughout the world. Read all about its production!

Welcome to the latest issue of "BestFeed"!



Dear Reader,

The demands made on food and therefore on feed are increasing all the time. In many kinds of feed ingredients, for example highly-concentrated vegetable fat powders and deoiled lecithin, Berg+Schmidt has carried out successful pioneering work time and again and steadily enhanced the quality of its products. Our premium products like the energy booster BergaFat and the lecithin fraction BergaPur – a metabolism regulator and digestant – are exported to over 60 countries around the globe.

In order to offer our customers products that meet the current trends in feeding we enlarged our portfolio last year through a successful acquisition. Our range is now complemented by the highly effective CLA

products formerly manufactured and sold by the Animal Feed division of the Dutch company Loders Croklaan B.V., part of the Malayan palm oil group IOI. The potential synergisms of this takeover make a great difference to our business. The use of conjugated linoleic acids in the feed sector is very well investigated and protected internationally by patents. The following pages will introduce you to our CLA product "LodeStar™ CLAME-P10" for dairy cows.

But we are also busy developing our existing range. After intensive and usually very expensive trials, our R&D department succeeds again and again in optimizing a product, diversifying it satisfactorily or finding new applications. For example, we now offer a specially developed fat powder for horses: read more about "BergaHorse" on Page 10!

We are continually enlarging our production capacity too, and optimizing our processes.

Malaysia is the land of palm oil. About 43% of the world's total production originates there. That is why we have had our own production plants on the spot for many years – in Banting (Kuala Lumpur) and Pasir Gudang (on the border with Singapore). It is closeness to the raw materials, the careful choice of suitable palm oils

(CPOs) and a close watch on movements of prices and volumes that make us so attractive as partners for feed fats derived from palm oil. Our teams in Asia and Europe are especially proud of that, because it distinguishes us from our competitors. From page 11 of this issue Glenn Riemer, General Manager of our affiliate Berg+Schmidt Asia, will give you an insight into our local production activities.

And this year Berg+Schmidt will again be taking part in the international exhibition "EuroTier", to be held in Hanover from 16 to 19 November. We are very much looking forward to a visit from you on our stand. Nothing is more valuable than an exchange of opinion with customers, sales representatives, scientific staff and manufacturers from all parts of the world.

We wish you interesting reading.

Andreas Reith

Managing Director, Berg+Schmidt (GmbH & Co.) KG

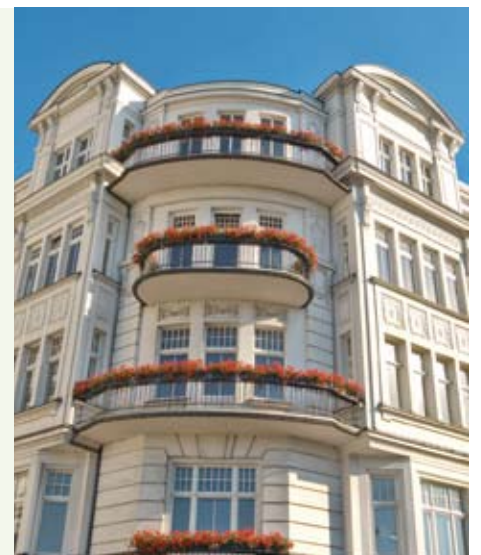
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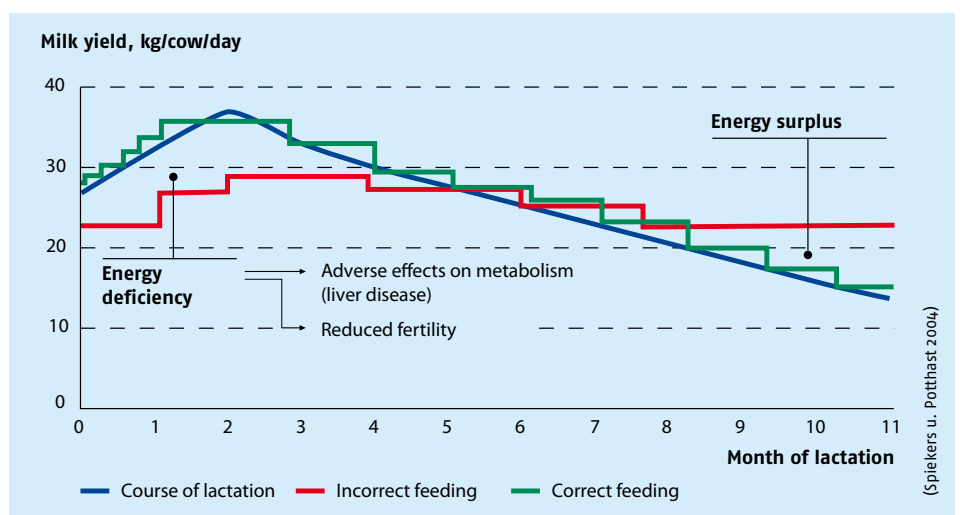


Precise regulation of the energy balance in dairy cows

Ketosis, mastitis, impaired fertility: if the supply of energy to high-performance dairy cows is inadequate, the consequences are disastrous. Adding conjugated linoleic acids to the feed is an effective way of preventing an energy deficiency. In LodeStar™ CLAME-P10, Berg+Schmidt supplies a rumen-stable, highly digestible product that meets the sophisticated demands of feeding for high yields.

High-performance dairy cows, especially, are unable to meet their energy needs after calving with the regular feed ration alone. A freshly lactating cow with a daily milk yield of 50 kg, for example, needs about 200 MJ NEL of energy. If this requirement cannot be met through the feed, the cow compensates for it by drawing on its body fat reserves (see Fig. 1). Weight loss and more or less massive metabolic disorders such as parturient paresis (milk fever) and ketosis may severely reduce the cows' performance in their most important milking period. But mastitis, foot disorders, impaired fertility and a weakened immune system are also direct effects of an energy deficiency in the first third of lactation.

Fig. 1: Influence of feeding on the energy situation of a dairy cow





Feeding CLAs is a wise measure

The risk of an energy deficiency makes enormous demands on feed. Since cows always have a lower feed intake after calving, every effort must be made to increase the energy concentration in the feed to about 7 MJ NEL per kg of the dry weight. Besides giving a high-quality basic diet and feed concentrate it is a wise measure to add conjugated linoleic acids to the ration.

Conjugated linoleic acids – usually CLAs for short – are modified forms of linoleic acid (C 18:2). Linoleic acid is a fatty acid with 18 carbon atoms and two double bonds, which may have a cis or trans configuration. So the CLAs are compounds with the same chemical composition but differences in their geometric structure. They differ from linoleic acid in that only one single

bond separates the double bonds from each other.

The starting substances used in the production of CLAs are vegetable oils. These preparations contain the cis9, trans11 CLA, the trans10, cis12 isomers and about 1 percent other isomers.

Reconciling health and performance

Numerous trials have demonstrated that administering conjugated linoleic acids stabilizes the health of high-performance cows. CLAs act as antioxidants and have a positive effect on fat and glucose metabolism.

The use of CLAs influences milk fat synthesis and the corresponding energy requirement. It relieves the burden on the energy balance and thus has a positive effect on the animal's health.

CLAs help to compensate for energy deficiency; they regulate the energy balance two to three weeks earlier and stabilize the cow's overall metabolism. The use of CLAs also significantly increases the milk yield, with very little change in its protein and lactose content (see Table 1). Table 2 shows the concrete effects of feeding 10g of CLAs daily to high-performance cows.

Numerous trials have demonstrated that administering conjugated linoleic acids stabilizes the health of high-performance cows.

Tab. 1: Biological data in the first 100 days of lactation

	Control group, n=8		CLA group, n=9	
Milk, kg/d	37.5	±3.4	41.6*	±4.5
Fat, %	4.03	±0.42	3.41*	±0.46
Fat, kg	1.51	±0.13	1.40	±0.12
Protein, %	3.28	±0.18	3.17	±0.24
Protein, kg	1.22	±0.06	1.30*	±0.1
Lactose, %	4.77	±0.1	4.71*	±0.03
Lactose, kg	1.72	±0.33	1.90*	±0.32
ECM, kg	37.3	±2.5	37.90	±2.8
Live weight, kg	650	±21	661	±20

* Differences significant, p < 0.05

(M. Pries et al., NorthRhine-Westphalian Chamber of Agriculture, Münster)



Technical know-how for maximum efficacy

With the aid of a special spraying technique and suitable carrier substances, Berg+Schmidt produces LodeStar™ CLAME-P10 as a free-flowing powder, the most efficient way to feed CLAs to dairy cows.

CLAME P-10 and its properties:

- Free-flowing, odourless powder
- Neutral taste; easy to handle
- Contains highly digestible, rumen-stable nutrients
- Convincing cost-to-benefit ratio

CLAME-P10 and its effects:

- Increases the milk quantity and lowers the cell count
- Optimizes feed uptake and feed conversion
- Stabilizes live weight during lactation
- Makes milk production more profitable

CLAs have a positive effect on health:

- Less energy deficiency during lactation (controlled weight loss)
- Earlier correction of the negative energy balance
- Reduced risk of ketosis
- Fewer displaced abomasums
- Reduced incidence of mastitis
- Fewer foot disorders
- Significantly lower cholesterol and haptoglobin levels (elevated in cases of disease)

CLAs also have a positive influence on fertility:

- More successful fertilization and fewer fertility problems
- Easier calving
- Less placental retention



For more information please contact:

Dr. Ibrahim Kadrieh
 Phone: +49 (0) 40 284039-48
 ikadrieh@berg-schmidt.de

Tab. 2: Effects of the use of CLAs on various health parameters in dairy cows (Fürl, 2009)

Clinical Findings		Control Group		CLA Group (10 g per animal/day)	
		Number	%	Number	%
Calving	Easy	15	55.6	17	65.4
	Moderate	12	44.4	8	30.8
	Difficult	-	-	-	-
	Caesarean	-	-	1	3.8
Placental retention		6	22.2	2	7.4
Displaced abomasum		6	22.2	2	7.4
Endometritis		11	40.7	11	10.7
Mastitis		10	37	8	29.6
Foot disorders		9	33.3	3	11
Pregnant (EBH)		12	44.4	16	59.3
Deaths		7	25.9	5	18.5





An effective enzyme mix for sturdy broilers

A study confirms that the use of BergaZym P in broiler fattening optimizes feeding and greatly increases profitability.

High daily weight gains, good feed conversion and a low loss rate: these are the criteria that determine success or failure in broiler fattening. That makes considerable demands on the plant manager: besides production technology enabling maximum comfort for the birds and elaborate hygiene management to prevent disease, nutrition plays a decisive role. Feeding in keeping with the birds' needs and performance is a matter of the energy, protein and fat content of the feed, the ratio of protein to energy and, not least, the quality of the protein.

Enzymes for better availability of nutrients

Since poultry are not readily able to convert some groups of nutrients, for instance certain carbohydrate compounds, the addition of enzymes to the feed is an important topic. Berg+Schmidt has developed the product BergaZym P specially for the Asian feed industry, where an extremely high percentage of maize and soya is used in the feed mixtures. BergaZym P is based on a multi-

enzyme containing 1,4-β-pentosanase as the lead enzyme, with further enzymes such as α-amylase for better starch digestion and a protease to aid the digestion of protein. In two production steps, BergaZym P is microgranulated and coated for greater temperature resistance during pelletizing and better pH stability in the animal's intestinal tract. This ensures that the enzymes required for digestion can take effect in an

optimum concentration where they are needed.

BergaZym P in practical use

In 2009 the efficacy of BergaZym P was verified in a trial conducted with the King Saud University in Riyadh, Saudi Arabia, using maize/soya rations under the conditions usual in the region (see Table 1).

Tab. 1: Composition of the feed rations for broilers (pelletized at 80 °C and administered ad lib)

Parameter	Starter	Grower	Finisher
Day	1-10	11-22	23-42
Maize, %	61	65	67
Soya (48), %	33	28	26
Fat, %	2.5	2.5	3.5
Premix, %	3.5	4.5	4.0
ME Kcal/kg	3.010	3.000	3.180
Crude protein %	21	19	18



BergaZym P in practical use

A total of 800 birds of the breed Cobb 500 were included in the trial; they were divided into groups of equal size on a random basis. The quantity of BergaZym P used in the trial group was 250 g per tonne. An evaluation of the results after 42 days of fattening showed the final weight of the birds in the BergaZym P group to be significantly higher (100 g) and their feed conversion to be significantly better (see Table 2).

It was further found that the protease contained in BergaZym P had improved the digestibility of the protein by 5.3% and led to an 8% greater proportion of valuable breast meat.

Greater profitability

A profitability calculation was carried out, based on the results of the trials and market conditions in Saudi Arabia (see Table 3). The evaluation is impressive evidence that a 5.9% higher live weight was achieved through the use of BergaZym P. But the calculation also shows that the cost of BergaZym P (2,000 USD for 1,000 t of feed) was more than set off by additional sales proceeds of 30,474 USD. That is equivalent to a yield of 133.46 EUR per 1,000 broilers.

Better for the environment – less risk of infection

It was also found that the addition of BergaZym P had reduced the water content of the birds' excrement by 2 percentage points, from 68 to 66 %. The water consumption of a broiler in the BergaZym group fell by 650 g. The reduced moisture content of the litter restricts the growth of undesirable microor-

Tab. 2: Effects of BergaZym P on various feeding parameters in broiler fattening

Parameter	Control	BergaZym P	Difference (%)
Final weight, g	2,462	2,562	+4.1
Daily weight gain, g	58.6	61.0	
Feed conversion 1	1.939	1.829	-5.7
Consumption/bird, g	4,770	4,687	

Tab. 3: Use of BergaZym P from the point of view of profitability (basis: 1,000 t broiler feed; proceeds: 1 USD/kg live weight; 8 USD/kg BergaZym P; amount used: 250 g/t)

Parameter	Control	BergaZym P
Broilers, n	209,644	213,356
Live weight, kg	516,144	546,618
Difference, kg	-	30,474
Difference, %	-	+5.9
Additional sales, USD	1.939	1.829
Investment in BergaZym P, USD	-	2,000
Additional profit, USD	-	28,474
Additional profit per 1,000 birds, USD	-	133.46

ganisms such as coccidia and thus reduces the risk of infection.

BergaZym P also lowers the viscosity in the intestinal tract, with the result that more water is available to the organism for digestion and the animal therefore needs less extra water.



For more information please contact:

Rolf Winter

Phone: +49 (0) 40 284 039-51

rwinter@berg-schmidt.de

A fast-growing market

Never before has so much chicken meat been produced in Germany: at around 754,000 t the weight of broilers slaughtered increased last year by nearly 6 % as compared to 2008. That means production has almost doubled in the last ten years. At the same time imports increased by nearly 6.8 % to 555,500 t, while exports rose by more than 10% to just under 432,000 t. The annual per capita consumption in Germany was 10.7 kg.

USA, the world champion

As far as the annual per capita consumption of poultry meat is concerned, the USA is the unchallenged world champion: Americans consume over 45 kg of chicken and turkey meat, followed by the Brazilians with 36 kg. In Germany, on the other hand, there still seems to be enough market potential. Only just under 19 kg of poultry meat are consumed there each year, albeit with an upward trend: consumption increased by 300 g compared to 2008.





BergaPur for healthy chickens and successful farmers

Profitable broiler farming: BergaPur in the feed promotes the birds' health and boosts the performance of the flock.

As broilers grow very fast, especially in the first weeks of their lives, they need correspondingly intensive nutrition. An adequate supply of energy and protein, for example, combined with bulk and trace elements is essential if healthy, rapidly growing broilers are to ensure the profitability of the farm. Moreover, the performance criteria relevant to broiler fattening such as daily weight gain, feed conversion, the feeding period

and the mortality rate need to be improved systematically by means of optimized feeding.

This challenge can be met successfully with the aid of BergaPur. BergaPur is a highly concentrated phospholipid complex with a phospholipid content of over 95 percent. Better known as lecithin, phospholipids are essential nutrients and activate the birds' metabolism in a number of ways.

Fresh meat is "in"

The trend towards fresh chicken joints is continuing in Germany. The latest assessment by the Society for Consumer Research (GfK) shows that the demand for fresh joints increased by 7.8 to 58 percent in the first half of 2010, the total amount sold to households being 131,000 tonnes. Purchases of frozen joints fell by twelve percent, to just over 34,000 tonnes, compared to the first half of 2009. Purchases of whole fresh carcasses also increased by 5.4 percent, whereas the demand for frozen chickens fell by 6.6 percent.



Better digestibility

The positive effect of BergaPur on the digestibility of feed has now been demonstrated in numerous trials and confirmed in practice. The addition of 0.2% BergaPur to complete feed for broilers improved the digestibility of crude fat by 6% and that of crude protein, NFE and the organic substance by 2% each. In a field trial at the plant of a broiler integrator with an annual production of 35 million birds, various performance parameters were recorded before and after the administration of BergaPur. The results showed that the use of BergaPur had improved feed conversion, lowered the mortality rate and increased profitability, measured by the European Production Efficiency Factor (see Table 1).

Optimized feed economy

As a result of the above saving and the more specific use of energy from the fat it is possible to achieve a higher production efficiency factor in conjunction with demonstrably better performance.

Enhanced feed quality

BergaPur supplies essential nutrients including natural choline (33 g), natural inositol (37 g), available phosphorus (33 g), potassium (10 g) and essential fatty acids (values per kg of BergaPur).

More hygiene in the henhouse

BergaPur in the feed ensures good digestion and a better water balance in the gut



by lowering the viscosity of the chyme. In this way the microorganisms in the litter and thus the risk of infection are reduced. Moreover, dry litter helps to prevent the occurrence of breast blisters, and this in turn greatly reduces the wastage of meat from the carcasses.

Better carcass quality

Besides increasing the weight of the carcasses, the better digestibility of the crude nutrients also enhances their quality; the proportion of lean breast meat increases and the proportion of abdominal fat is reduced.

Conclusions

The demands on fattening feed for broilers are considerable. With quality raw materials and optimum feed conversion the birds must be fattened up to the desired final weight as quickly as possible without a loss of carcass quality. That means the birds have to be sturdy and that their health must be maintained throughout the fattening period.

The relevant trials and practical experience show that these complex objectives can be achieved through the use of BergaPur in broiler feed. Combined with good management, this creates the basis for profitable broiler production.



For more information please contact:

Dr. Ibrahim Kadrieh
Phone: +49 (0) 40 284039-48
ikadrieh@berg-schmidt.de

Tab. 1: Development of selected performance parameters at the plant of a broiler integrator with an annual production (2009) of approx. 35 million broilers, before and after the use of BergaPur

Period	January to March, without BergaPur	April to December, with BergaPur
FCR ¹	100 %	96 %
Average live weight	100 %	102 %
Average age	100 %	97 %
Mortality	100 %	91 %
EPEF ²	100 %	103.5 %

¹ Feed conversion, ² European Production Efficiency Factor

A power package for a daily supply of energy

Fat is the "number one" source of energy; no feed ration can do without it. BergaHorse Energy Balance based on palm fat ensures the reliable daily supply of energy all horses need.

For the increased demands of sport or for maintaining good condition for breeding: horses need energy – and they need it every day! Fats play the most important role, since they are one of nature's richest sources of energy. But fats and their constituents also play a key role in the maintenance of numerous vital functions such as blood flow, heart and brain activity and the hormone system.

For that reason it is a wise measure to supplement fat through the feed in order to prevent an energy deficiency with serious consequences.

BergaHorse Energy Balance offers horse owners an efficient way of ensuring a daily supply of energy to their animals.

Valuable ingredients

- High quality fatty acids to support important physical functions
- Phospholipids for better digestibility of nutrients
- Vitamin E to protect the body cells against free radicals

Recommended applications

- As a source of energy in sports, both for short-term peak performance and to prevent premature exhaustion when demands are continuous
- As an energy and nutrient depot to keep breeding stallions in good condition and maintain the fertility and satisfactory pregnancy of breeding mares
- As a source of unsaturated fatty acids to ensure top physical condition and a glossy coat
- As a replacement for carbohydrates in cases of insulin deficiency and for regulating abnormal carbohydrate metabolism in equine polysaccharide storage myopathy.



Feeding recommendation

BergaHorse Energy Balance can be administered through the feed concentrate, in daily amounts of up to 1 g per kg of body weight. For an optimum start to feeding we recommend increasing the dose continuously over a period of two to three weeks.



For more information please contact:

Dr. Roland Adelmann
Phone: +49 (0) 40 284039-31
radelmann@berg-schmidt.de

Did you know ...

...that the daily energy exchange of a warm-blooded animal does not increase in proportion to the animal's size? The basal metabolic rate of a small dog weighing 2 kg is 0.7 MJ DE (digestible energy) or 0.35 MJ per kg of live weight, whereas the metabolic rate of a horse weighing 500 kg is 29.3 MJ DE or only 0.059 MJ per kg.

A comparison of energy requirements

The maintenance requirement of an adult human being is somewhere between 2,000 and 3,000 kcal or 8.4 to 12.6 MJ DE (digestible energy). But a horse weighing 450 kg needs up to 60 MJ of DE just to maintain its physical functions! In order to cover a distance of 20 km at a gentle trot the horse would need another 20 MJ of energy.



“The basis for partnership and friendship is trust!”

Berg+Schmidt gained a foothold in Asia as long ago as 1996 with the establishment of Berg+Schmidt Asia, followed by Berg+Schmidt Malaysia. We interviewed Glenn Riemer, who has been working for these two affiliates from the start, on the subject of products, production and partnership.

Glenn, you have been working for Berg+Schmidt since 1996. How did your career start, and what does your everyday work involve now?

Glenn Riemer: My job in Hamburg initially had two focal points. One of my tasks was to establish a quality system in the company, and secondly I was the product manager for castor oil derivatives. In that function I purchased products from India and organized sales and logistics in Europe. In the course of this work it soon became clear to me that the profitability of a producing company has a lot to do with the purchase of raw materials. I also realized the importance of quality assurance on the spot. Because differences in the culture,

educational system, infrastructure and economic situation of the countries concerned result in different notions of quality. That means it's essential to organize the purchase of raw materials locally. We set about doing that in 1996, by establishing our first affiliate in Asia, Berg+Schmidt Pte Ltd, in Singapore. This was followed by the establishment of Berg+Schmidt (Malaysia) Sdn Bhd in 1998.

On 1 June 1998 I switched from our headquarters in Hamburg to Singapore. At first, my main task was to build up a marketing organization for BergaFat in Asia and establish a quality system for our Asian companies. Now I'm largely responsible for the procurement of raw materials and for production, besides various new projects.



Glenn Riemer, General Manager of Berg+Schmidt Asia

Our plant has a total capacity of 60,000 to 65,000 tonnes of BergaFat p.a.



International enterprises operate on very different lines in different parts of the world. How do Berg+Schmidt Malaysia and Berg+Schmidt Asia differ from the German headquarters in respect of their business models?

Glenn Riemer: There are no essential differences between the business models in

Hamburg and Asia. Both enterprises have the same specialization, namely the lipid product group and its applications in animal nutrition. But there are different focal points and responsibilities in the field of fat powders.

How many employees are there altogether in Singapore and Malaysia, and

what values play the most important role in your company?

Glenn Riemer: In Singapore and Malaysia we currently employ a staff of about 80. As far as corporate values are concerned, partnership is doubtless one of the concepts most often mentioned. To my mind, good partnership can be measured simply by the length of time cooperation continues. We are proud to say that nearly all our marketing partners, raw material suppliers and contract manufacturers in Asia have been cooperating with us for over a decade. In this connection I would like to quote the owner of our firm, Volkmar Wywiol: "Business is building friendship". I have experienced the truth of that saying myself, in my years of work in Asia. Most of our business partners are more than just customers or suppliers: they are friends of our enterprise!

Of course our day-to-day business consists mainly of producing and selling. But ultimately it is a case of winning our customers' trust – in the form of product reliability and safety, quality, advice on applications, supply capability, prices, knowledge of the

The different spheres of responsibility

Berg+Schmidt Asia:

- Purchase of raw materials
- Production
- Quality assurance
- Process development
- Exports/logistics
- Sales in Asia

Berg+Schmidt headquarters in Hamburg:

- Product development
- Applications technology (animal nutrition)
- Warehousing/logistics
- Sales in Europe and America



The Technology Centre in Ahrensburg, near Hamburg



Product development with the pilot spray tower

market or the ability to solve problems. To my mind it's trust that forms the basis of long-term partnership and friendship.

Which products are currently in focus in the Asian feed market? Are you noticing any specific trends, and if so: how do you cater for them?

Glenn Riemer: Most feed manufacturers in Asia have to import the raw materials for their feed, for example maize, soy or wheat. These countries are also net importers of vegetable oils and fats. That means the energy content of the feed is an important topic in the region. So the role Berg+Schmidt plays in Asia is obvious: we offer standardized solutions geared to the needs of the different animal species. They include rapidly expanding products like BergaFat HTL-316 for monogastric animals and BergaPlus D for dairy cows.

But our objective is not just to market our lipids as sources of energy; we also want to help feed manufacturers optimize conversion of the gross energy of different components of the feed. For instance, the phospholipid concentrate BergaPur and the NSP

enzyme BergaZym have been shown to improve the digestibility of various nutrients. That makes it possible to reduce the cost of feed without a loss of performance.

Why does Berg+Schmidt produce BergaFat powder in Malaysia, and how long has it been doing so?

Glenn Riemer: With an annual volume of about 17 million tonnes, Malaysia is the world's second-largest producer of palm oil after Indonesia. We have been producing BergaFat at a plant of our own since 1996. It is the only production plant specializing in fat powders for animal nutrition, so it's the only one that can meet the special needs of the feed industry. That includes direct control of the availability and quality of the raw materials and also of the production costs. Malaysia has the following advantages over Indonesia as a location:

- Better infrastructure for logistics and exports;
- More transparent trade in palm oil in respect of prices and also of production, export and storage volumes;
- Palm oil can be purchased for deliveries in

the longer term;

- Malaysia's palm oil industry is well organized by various organizations such as PO-RAM (Palm Oil Refiner Association Malaysia), MPOB (Malaysia Palm Oil Board) and RSPO (Round Table on Sustainable Palm Oil);
- Low foreign exchange risk, since palm oil trading can also be conducted in USD within Malaysia;
- The location of our plant in Banting, in the midst of the palm oil plantations. We export much of our production, so the nearby seaport of Klang is an advantage.

How many tonnes of palm oil are processed at your plant each year?

Glenn Riemer: The raw material for our products is refined palm oil. There are eight big refineries within a radius of about 100 km, and from these we can always order fresh raw material. We process about 100,000 tonnes of palm oil a year at our plant in Banting. Altogether a staff of about 50 work round the clock, seven days a week. The plant is only closed for two days at the Chinese New Year.



The basis of our overall business success is specialization.

Can you describe the production process for BergaFat?

Glenn Riemer: At our plant the RBD palm oil is first crystallized and fractionated. That enables us to adjust it to the required fatty acid composition, iodine number and melting point of the fat. This process is carried out by purely physical means, by regulating the temperature and pressure; no chemical additives are needed.

Special blending tanks and homogenizers make it possible to work further ingredients and additives into the fat. In the case of BergaFat HTL-306 and HPL-106, for example, we add phospholipids to the palm oil fraction as emulsifiers in order to improve the digestibility of the fat powder.

Then the crude liquid product is sprayed into the cold spraying tower at high pressure. In this process each individual, finely sprayed fat droplet crystallizes as a result of the carefully adjusted interaction of the air current, falling distance and temperature. The liquid fat is transformed into a high-quality powder. The particle size of the powder can be adjusted by changing the pressure and the size of the nozzles. From the spray tower the powder is packed in 25

kg sacks or 625 kg Big Bags.

Our plant can process both triglycerides (e.g. BergaFat T-300) and fatty acids (e.g. BergaFat F-100).

What is the annual capacity of the spraying plant?

Glenn Riemer: Our plant has a capacity of about 60,000 to 65,000 tonnes of BergaFat per year. The demand for BergaFat is growing all the time, so we are currently increasing our capacity by about 6,000 tonnes a year.

How does Berg+Schmidt control the quality of the goods entering and leaving the factory?

Glenn Riemer: The raw materials arriving are analyzed in our own laboratory before they enter the production process. Certain other parameters are checked and documented after each step in production. Our laboratory is equipped for analysis of the parameters FFA, PV, M&I, AV, FAC, Lovibond colour, IV, MP, AI, phosphorus and protein. Berg+Schmidt (Malaysia) is certified according to ISO 9001:2008 and GMP+.

How many countries is BergaFat exported to?

Glenn Riemer: Berg+Schmidt exports BergaFat to over 50 countries around the globe. More and more countries are joining them all the time, and in some others we have been able to increase our market share. Our success is doubtless due in part to the reasons I have already given, for instance our concentration on the use of lipids in animal nutrition and production at the place of origin of the raw materials. But another reason is that we are pioneers in the field of rumen-protected fats and lecithinized fat powders. BergaFat is synonymous with fat powder worldwide. Our strength lies in continuous enhancement of our products and the development of new generations of BergaFat. It does make us rather proud that the industry regards us as the market leader. That is also reflected in the fact that our competitors copy our products – or at least try to.

Can you tell our readers what plans Berg+Schmidt Asia and Berg+Schmidt Malaysia have for the future? What targets have you set yourselves?

Glenn Riemer: Our overall business success is the result of specialization. We produce tailor-made ingredients, and that makes us a competent partner for the feed industry worldwide. We regard calcium soaps as BergaFat's main competitors in the cattle sector. We have set ourselves the target of replacing 50,000 tonnes of calcium soap in the market with BergaFat in the next five years. With that in mind we are currently developing new raw material variants and process technologies. I don't want to reveal any more details, as you can imagine.

Berg+Schmidt is a member of the Stern-Wywiol Gruppe. What are the advantages of belonging to this group of companies?

Glenn Riemer: First of all, the structure of the group. The individual companies have a high degree of specialization in specific products and applications and can operate independently under the umbrella of the Stern-Wywiol Gruppe. That permits short and fast decision routes. Another advantage

is the joint Technology Centre in Ahrensburg that combines the research and development activities of the individual firms. For example, we can exchange information with SternEnzym in the enzyme sector and make use of Sternchemie's competence in phospholipids.

You have a responsible job, Glenn, and one that involves a lot of hard work. What do you do to relax and top up your energy reserves?

Glenn Riemer: I normally answer questions about "topping up energy reserves" by talking about our "BergaFat". But seriously: I enjoy my work and feel very much at home in my sphere of responsibility. But if I do feel a need to relax I like to do it out of doors – in one of Singapore's many national parks, or at a swimming pool or golf course.



Interested in geography?

Malaysia, with its capital Kuala Lumpur, is situated in the South China Sea with Thailand as its northern neighbour. The peninsula has an area of nearly 330,000 km² (Germany: 357,000 km²) and a population of about 23 million. Over half of the people are Sunni Muslims. Malaysia is the world's second largest palm oil producer; it also exports rubber (about one-sixth of world production), pepper, cocoa and pineapples.

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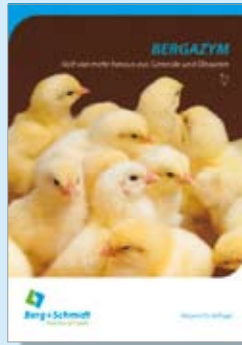
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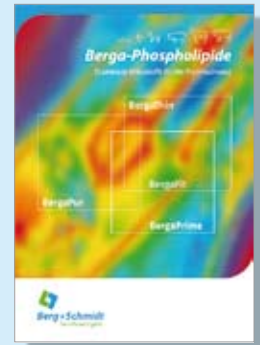
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POLAND

Berg+Schmidt Polska Sp. z o.o.
ul. Potworowskiego 3/1
60-212 Poznan, Poland

Phone: +48 (0) 61/865 28 67
Fax: +48 (0) 61/864 21 15
info@berg-schmidt.pl
www.berg-schmidt.pl

SINGAPORE

Berg+Schmidt Asia Pte. Ltd.
No. 1 International Business Park
The Synergy # 09-04
Singapore 609 917

Phone: +65/676 679 55
Fax: +65/676 950 66
info@berg-schmidt.com.sg
www.berg-schmidt.de

MALAYSIA

Berg+Schmidt Malaysia Sdn. Bhd.
No. 65, Persiaran Selangor
Sect. 15, 40200 Shah Alam
Selangor Darul Ehsan, Malaysia

Phone: +60 (0) 3/551 354 60
Fax: +60 (0) 3/551 354 62
info@berg-schmidt.com.my
www.berg-schmidt.de

INDIA

Berg+Schmidt India Pvt. Ltd.
The Synergy, 2nd floor
Survey No. 47/42, Plot No. 70/21
Law College Road Pune 411004, India

Phone: +91 (0) 20/25 45 63 70/1/2
Fax: +91 (0) 20/25 44 98 27
info@berg-schmidt.co.in
www.berg-schmidt.de

Berg+Schmidt (GmbH & Co.) KG

An der Alster 81 · 20099 Hamburg · Phone: +49 (0) 40/284 039-0 · Fax: +49 (0) 40/284 039-33 · info@berg-schmidt.de · www.berg-schmidt.de

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