VeyFo®

FeVit-Mulgat

Aetocidarom
Iron-Nutrient-Microemulsion

- Providing secure and gentle iron and vitamin provision and protection of the intestinal tract in piglets already within the first hours of life
- Improving rearing performance and weight gain
- Almost complete absorption of iron and vitamins without strain on the liver

Veyx

Formulations for professionals demanding peak performance

D 3

Conception/essential components for the nutritional purpose*

Formulation in the form of a microemulsion (particle size - 90 % ≤ 1.5 µm) containing vitamin A, vitamin D_3, $iron^{3+}$ (as iron dextran), vitamin E, vitamin B_{12}, selenium (as sodium selenite), iodine as well as aroma-oil-emulgate „Aetocidarom" with herbal emulsifier

VeyFo® FeVit-Mulgat has been formulated as a premium feed in the form of a microemulsion and contains carefully selected high-quality components. The product can be fed to piglets as a complementary feed with the particular nutritional purpose

Compensation of insufficient iron availability after birth

according to the "list of intended uses of animal feedingstuffs".

Nutritional physiological role

With regard to the nutritional physiological role and the biological functions of the individual nutrients and micronutrients the following information has been extracted from the technical literature and (amongst others) from the AWT series "Vitamins in Animal Nutrition".

Aetocidarom, through added herbal oils, stabilises and maintains normal digestion in addition to the necessary olfactory and gustatory impact.

Glucose (grape sugar) is a biologically valuable nutrient provider.

Iron is an important mineral. Iron deficiency causes a considerable reduction in the general resistance to disease and leads to growth retardation and rearing losses in piglets but also in calves, lambs, goat kids and foals. In addition, iron deficiency can also be a problem in mature horses.

In order to prevent iron deficiency anaemia in newborn animals, the prompt and early provision of an easily absorbed iron is necessary.
The adequate and early provision of the vitamins A, B_{12}, D_3 and E is equally significant.

*Note: The information given is to be understood as a general survey and is subject to alterations, especially if these do not affect the intended nutritional purpose. The latest version of the labelling of the product/packaging is always valid.

Vitamin A is seen as an epithelial protecting vitamin. Where there is an inadequate supply provided via the food, the consequences will be nutrient absorption disorders, suppressed growth as well as inadequate protection against bacteria and parasites.

Vitamin B_{12} exerts an important influence on the digestion of fat and on the formation of blood.

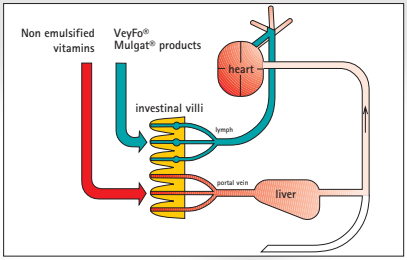
Vitamin D_3 regulates calcium and phosphate metabolism and particularly promotes calcium and phosphate absorption in the intestine. It controls the excretion of calcium and phosphate via the kidneys and the storage of these two minerals in the skeleton. It promotes gonepoiesis, increases the performance of the immune system, inhibits auto-immunisation and controls the transcription of genes.

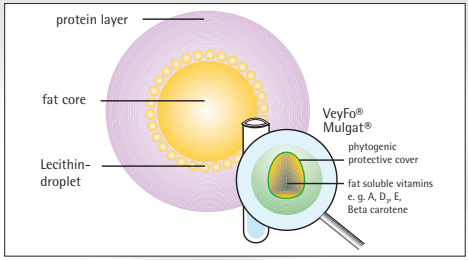
Vitamin E is similarly significant in view of its provision in sufficient quantities. Along with its involvement in the metabolism of carbohydrates and fats, it plays a role in a plethora of significant oxidation processes that also affect the absorption of iron.

The preparation as a microemulsion makes the difference

We based our research into producing efficient forms of presenting the vitamins and nutrients on the natural example of colostrums: milk fat is present in microfine particles and these are protected within protein membranes, thus creating micro-capsules of only a few thousandths of a millimetre in diameter. In this special form the active milk fat nutrients pass over into the blood without any losses.

Through microemulsification (size of droplet less than 1.5 µm) it has been possible to fix the iron dissolved in the aqueous phase successfully to the fat droplet using a natural herbal emulsifier and thus provide microcapsules for corpuscular-lymphatic absorption. This has the consequence of ensuring an immediate and virtually complete absorption of the iron and vitamins within the first hours of life without stress on the liver metabolism.





The nutrients are stored naturally within the available cells thus ensuring an iron supply for approximate 10 days after a single treatment.

Comprehensive investigations demonstrate that through the absorption resulting from oral intake and contrary to when injections are used, there is no surplus iron present that can exert a very negative effect on the immune system. This means that VeyFo® FeVit-Mulgat does not cause any suppression of immunity and can be given at the ideal time within the first hours of life without the risk of causing injection site injuries.

With VeyFo® FeVit-Mulgat we have an effective oral iron product at our disposal that has considerable advantages over the conventional iron injection products (amongst others LEMACHER and BOSTEDT 1995, IBEN 1997, ZIMMERMANN 1998). As a result of its high level of tolerance VeyFo® FeVit-Mulgat can be fed during the first day of life, i.e. at the ideal point in time. This early supply of VeyFo® FeVit-Mulgat ensures that there is no gap in the animal's iron supply during the first three days of life, as can be the case with injected iron products.

Orally administered iron does not impair the immune system. Young animals supplied with VeyFo® FeVit-Mulgat are therefore less susceptible to infections than animals that have received an iron injection.
The superiority of VeyFo® FeVit-Mulgat over parenterally injected iron has been proven through research in University Research Centres (The Clinic for Obstetrics, Gynaecology and Andrology of Large and Small Animals of the Justus-Liebig-University of Giessen, Germany and The Farm Animal and Equestrian Clinic of the University of Bern, Switzerland), along with comprehensive studies under practical conditions.

Advantages that convince

- An emulsion similar to the dam's colostrum, hence effecting almost immediate and complete absorption
- Trouble-free oral administration as early as the first hours of life
- Optimum means of covering the animal's iron needs as it is stored within the body cells and thus avoiding iron deficiency anaemia and the resulting debility
- Stable and normal digestion
- No risk of causing injection site injuries and immunosuppressive effects as with the conventional intramuscular administration of iron
- Studies have shown that the absorption of iron and vitamins continues to be ensured even after the colostrum stage.

Scientific investigations demonstrate that all tested immune parameters following oral iron application are much superior to those of the injected iron

The disadvantages of supplying iron by injection relates to its immunosuppressive effects, along with causing a discoloration of the muscles and pain reactions at the site of application. In laboratory animals it has been demonstrated that the elimination of pathogens by macrophages (phagocytic cells) is limited following intramuscular administration of iron. A high mortality rate was noted in test animals or in piglets too, given a parenteral iron injection following infectious diseases, even where there were only low levels of pathogenic organisms.

VeyFo® FeVit-Mulgat in the piglet

According to studies of LEMACHER and BOSTEDT (1994) only about 17 % of the piglets exhibit a normal supply of iron at birth. Iron deficiency anaemia is therefore seen as the essential cause of the particularly high mortality rate evident within the first three days after birth (approx. 50 % of total piglet losses occur in this time interval).

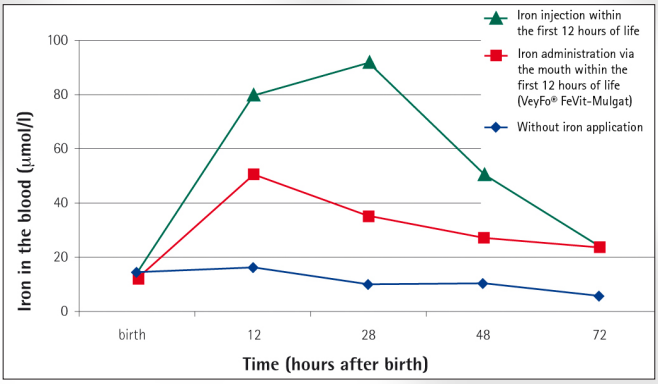


Figure 1: Iron concentration in the blood of piglets during the first 72 hours of life following various methods of iron application (BOSTEDT 2002)

Since no adequate orally applicable iron preparation was available, the parenteral supply, i.e. an application bypassing the gastrointestinal tract, had been the method of choice to avoid iron deficiency anaemia. Using this method, 200 mg of an iron-dextran preparation is injected into the piglets, usually as late as the third day after birth.

This late application time is based on the fact that parenterally applied iron produces considerable side effects in newborn piglets. After an injection of iron, a very strong and sustained elevation of the blood iron concentration ensues. As described above, this imposes a severe burden on the organism.

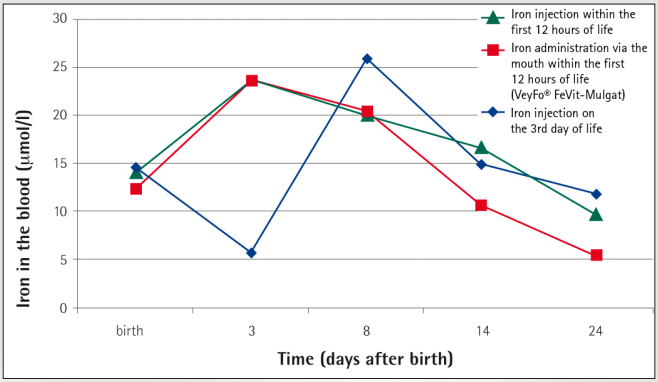
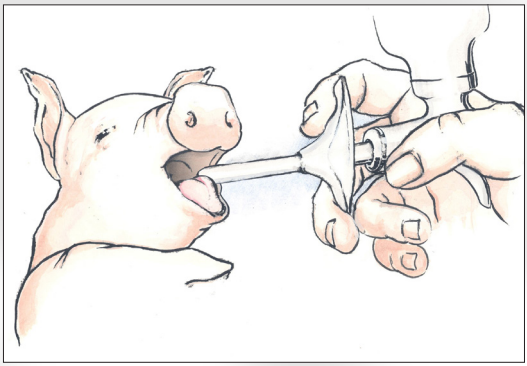


Figure 2: Iron concentration in the blood in piglets during the first 24 days of life following various methods of iron application (BOSTEDT 2002)

Studies proved that absorption of oral iron also proceeds at an optimum level after the twenty-four hour period following birth (ZIMMERMANN 1998). If any additional iron administration should prove to be necessary on day 8 – 12, VeyFo® FeVit-Mulgat can be administered for a second time. The oral provision of iron is also of great advantage at this time, since an iron injection would lead to an attenuation of the immune system even in older piglets.

Recommendations for use and dosage

Although our extensive investigations show that the iron and the vitamins are absorbed effectively even after the colostrum stage, it should be given as soon as possible following the first intake of colostrums. We recommend that this is carried out within the first 24 hours. With the adequate supplementation of iron that meets the animals' needs, the early development of anaemia is reliably prevented in this way.



Oral iron supply:
easily administer at the base of the tongue

Complementary dietetic feed **nutritional purpose:** compensation for insufficient iron availability after birth in piglets and in calves for up to 3 weeks after farrowing/calving				
Species	**Particular requirement during the recommended feeding duration**	**Duration**	**Daily qty./ animal**	**Consumption/animal**
Suckling piglets	After farrowing as early as possible, within 24 hours after the first intake of colostrum	1 day	1 - 1.8 ml	1 - 1.8 ml
Piglets	Repeat feeding possibly on day 10	1 day	2 ml	2 ml

Feeding instructions: Since this product contains a higher content of iron compared to complete feeds without a nutritional purpose it may only be fed at a rate of 0.50 % of the daily ration.

High performance animals require optimised feeding regimes.

We want you to be successful and do our utmost to achieve this target.
All constituents contained in VeyFo® FeVit-Mulgat are well known in animal nutrition. They are also used as nutritional supplements in humans. The quality and processing meet the highest purity criteria thus achieving a long shelf-life as well as a trouble-free application of the same.

Package size

500 ml bottle

Notes

Shake well prior to use.

To be kept out of the reach of children, not to be stored above 20 °C and kept away from light.

In order to achieve a clear seperation from our animal care and veterinary medicinal products we exclusively market and label all our feed specialities that are subject to the Feedstuff Law – as the present one – under the umbrella brand "VeyFo®". These products are no medicinal products and need not to be entered into the stable treatment diary.

The information given in this product brochure conforms to the state of knowledge upon completion. Please read the package leaflet prior to using the product.

Veyx-Pharma is GMP-, QS- and VLOG- certified.

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