



Welcome!

Your referent: Aurelien Perrier, Sales Manager BioAktiv

Where we are located





- Headquarter
- Production / Office / Warehouse
- Research / Development
- **Project Management**





- In the early 80`s Family Barth was looking for a solution to reduce ammonia- and methane pollution of the environment
- After several years of research the first product for liquid manure was developed
- 1994 foundation of the company BioAktiv GmbH
- 1995 farmers abroad have become aware of BioAktiv, first delivery to Austria
- Development of products for animal feed, drinking water and plants
- 2008 Boris Barth took over the management and since 2017, after the death of the founder, he is the owner of the company
- 2015 Dr. Filip Bertier joined the company as authorized signatory and leads the sales, production and marketing department
- Establishment of the sales team
- More than 35 dealers in Europe and worldwide
- 2020 Dr. Filip Bertier is General Manager
- 2021 renewed extension of the production site Würchwitz

BioAktiv-Team







Traders in over 35 countries around the world

Our Global Partners













BIOAKTIV.cz

Leading Health Care Co., Ltd.

BE SERV CES



PROSTAFFF



AGRAR-HANDEL

Edlinger







BioAktiv Products – Highest Quality





BioAktiv Products





What is **BioAktiv**?



BIOAKTIV PRODUCTS ARE MANUFACTURED IN A BIORESONANCE PROCESS. THIS RESONANCES ARE GENERATED WITHIN THE NATURAL OSCILLATIONS OF THE PRODUCTS WITH OXYGEN.

THE PRODUCTS ARE BASED ON CALCIUM CARBONATE, SODIUM CHLORIDE, MAGNESIUM SULPHATE, MOLLASSES, COMPLEX OF HERBS.

Manufacturing





Raw materials

- Calcium carbonate (CaCO₃)
- Sodium chloride (NaCl)
- Magnesium sulphate (MgSO₄)
- Molasses

Converter

The converter charges special resonances of oxygen as information on the raw materials.



Products

- BioAktiv Professional for Animal Feed
- BioAktiv Professional Salis for Animals
- BioAktiv Professional Plants
- BioAktiv Professional Vita Full Complex

Herbs

Raw materials



AS SUPPORT MATERIALS, WE USE NATURAL, NEUTRAL AND NON-TOXIC MATERIALS WHICH ARE HARMLESS FOR HUMANS AND ANIMALS. ALL MATERIALS HAVE "BIO" QUALITY

The animal organism must be seen as a whole



- The intestine and all other organs are connected with each other in a complex way.
 - > The intestine is the "inner environment" of the body.
- Disturbances of the excretory and immune function of the intestine can therefore lead to symptoms on other organs.
- Conversely, diseases of other organ systems can cause a disturbance of intestinal function.

The intestine has three main tasks



- Digestion and energy supply
 Excretion and detoxification
- 3. Immune defense

Naturopath Hufeland called the gastrointestinal tract `the main battleground where many diseases are decided.



Interventions





Antibiotics and cortisone are sometimes therapeutically necessary and life-saving, but they a side effect in most cases: in addition to the disease-causing germs, they also destroy beneficial bacteria in the intestine.



Gastrointestinal canal



The gastrointestinal canal is populated by an unimaginable number of microorganisms. The totality of all microorganisms is called the **intestinal flora**.

Approximately 80% of the microorganisms in the intestine are still unexplored!!

Bacteria





Bacteria could be very different. There are bacteria which need oxygen (aerobic bacteria), bacteria, for which oxygen is poison (anaerobic Bacteria), and Bacteria, which endure both, oxygen and oxygen deficiency (facultatively anaerobic).

Special bacteria are found in the intestine or in other organs of many creatures and contribute to digestion and other physiological processes.

Escherichia coli (E.coli) and enterococci are the best-known representatives of these group. But also anaerobic bifidobacteria are also part of it.

Homeostasis - The balance is important !

Fuller & Gibson, 1997)





Bacteria





Aerobic bacteria



- z.B. Lactobacilli (aerobic)
 - The lactobacilli or lactic acid bacteria mainly colonize the small intestine. They promote healthy digestion and improve the immune system.



Facultatively anaerobic bacteria



z.B. Lactic acid bacteria or lactobacillales

These form an order of gram-positive, facultatively anaerobic, but mostly aerotolerant bacteria that degrade carbohydrates to lactic acid (lactic acid fermentation).



Anaerobic bacteria



- f. e. Dichelobacter nodosus (anaerobic)
 - caused as a primary pathogen foot rot
 - the onset of the disease and the degree of severity are: moisture, temperatures over 10°C, inadequate claw care, claw lesions and secondary infections
- f. e. mastitis von E- coli (anaerobic)
 - > typical mastitis, which is triggered by E. coli bacteria, goes therefore with severe general disorders, which can occur even before the symptoms of the udder: sudden onset, high fever (about 40°C, can also rise to over 41°C), inappetence, drying up the milk yield





aerobic bacteria facultative anaerobic bacteria



BioAktiv prebiotics !!



- Probiotics and prebiotics are used in modern animal nutrition to stabilize the intestinal flora in the monogastric or the rumen environment in ruminants.
- In particular, since the ban on antibiotic performance enhancers in the European Union in 2006, the use of prebiotics in animal nutrition has become increasingly important.

BioAktiv prebiotics !!





• BioAktiv is a KIND prebiotica.

Probiotics and prebiotics are currently very difficult or even undetectable. Every physician knows that it does something in the body of the animal. Due to the size of the number of unexplored amounts of bacterial strains and the individual composition of the intestinal flora, it is still not possible to determine this.

Probiotics are additives with existing bacteria.

Prebiotics are additives that specifically stimulate one or more bacterial species in the large intestine and thus positively influence the health of the animal.

BioAktiv Professional Animal Feed Cattle und Salis Cattle

- 2 g / per animal / per day in feed
 - improves the stable climate
 - > strengthening the immune system
 - > reduction of bacteria in the manure and in the canal
 - reduction of cell numbers



B

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What happens in the rumen?



rumen = engine of the cattle

The cattle depends on the fact that cellolytic and starch-degrading bacteria are sufficiently present and fully active.

An indication of a good bacterial activity is, among other things, the proof of a higher fat content in the milk.

The use of BioAktiv promotes these bacteria.



Advantages of lower cell numbers





B

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high cell numbers = weak immune system = impairment of capacity







current report (february 2019) from



Fight mastitis with lactic acid bacteria.



Researchers at the University of Hannover have discovered that the lactic acid bacteria should help against mastitis as well as antibiotics.

BioAktiv promotes lactic acid bacteria (derived from declining cell counts).



Everything has to play a role !!

ΒΙΟΑΚΤΙΝ

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Mortellaro's disease -

Dermatitis digitalis



Triggers are probably Spirochetes treponema





Mortellaro's disease -



Dermatitis digitalis

Spirochetes

- are gram-negative, helical, actively moving bacteria, which are distinguished by a characteristic musculoskeletal system
- differ from other bacteria due to their special structure and way of moving
- have a flexible, elongated body unlike most other bacteria which have an elastic shape predetermined by their cell wall
- as pathogens cause some the so-called Spirochätosen

BioAktiv Professional Animal Feed / Salis Poultry



- Add 200 g per ton animal feed
- In drinking water 1 kg / in 10,000 l water
 - stabilises stall climate
 - improves animal health
 - reduces levels of bacteria in dung and on the floor
 - reduces somatic cells





Application in Chicken Breeding, Netherlands, 2012







B

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Application in Broilers, Netherlands, 2012



Topturn

	control	l					
BIOAKLIV	control						
				days of	Ø sale	daily weight	feed
stable	animals	race	loss	fattening	weight	gains	conversion
1	15.400	Cobb	3.5%	34	1914	56.3	1.596
2	15.400	Cobb	3.6%	35	1927	55.1	1.708
				days of	Ø sale	daily weight	feed
stable	animals	race	loss	days of fattening	Ø sale weight	daily weight gains	feed conversion
stable 3	animals 14.000	race Ross	loss 2.8 %	days of fattening 35/36	Ø sale weight 1967	daily weight gains 55,40	feed conversion 1.632
stable 3 4	animals 14.000 14.000	race Ross Ross	loss 2.8 % 3.2 %	days of fattening 35/36 34/35	Ø sale weight 1967 1850	daily weight gains 55,40 53,57	feed conversion 1.632 1.758





Practical Results from feeding BioAktiv Professional Animal Feed Poultry / Salis Poultry in laying hens, 2012



laying hens: 34,560 hens placed

Administered:

Weeks of life 37/38 and 49/50 **BioAktiv G** (200 g/tonne) with feed and, simultaneously, **BioAktiv Salis G** (100 g/tonne) with drinking water.

Weeks of life 39 – 41 and 51 - 56 **BioAktiv G** (200 g/tonne) with feed.





Practical Results from feeding BioAktiv Professional Animal Feed Poultry / Salis Poultry in laying hens, 2012



In the first trial, feed intake rose from 114 to 122 g/d within a few days, followed by better productivity (laying performance in %) and markedly higher egg weights. The body weights of hens rose to a desirable 1,640 g.

Effects of BioAktiv observed by poultry farmers:

-hens are more relaxed -better feed conversion -positive effect on digestion -fewer losses





REPUBLIC OF MACEDONIA UNIVERSITY "Ss. CYRIL AND METHODIUS" IN SKOPJE INSTITUTE OF ANIMAL SCIENCE bul. "Ilinden" br. 92-a, Skopje tel. ++389-02-306 51 20; 306 35 23; fax. ++389-02-306 23 58



РЕПУБЛИКА МАКЕДОНИЈА УНИВЕРЗИТЕТ "Св. КИРИЛ И МЕТОДИЈ" ВО СКОПЈЕ ИНСТИТУТ ЗА СТОЧАРСТВО бул. "Илинден" бр. 92-а, Скопје *тел..* ++389-02-306 51 20; 306 35 23; факс. ++389-02-306 23 58







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<u>Mortality</u>

- 48 %

in the BioAktiv Group





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Egg Production

BioAktiv 85,59 % control 82,14 %





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Broken eggs BioAktiv 1322 control 2114





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<u>Ammonia</u>

BioAktiv 5,37 ppm control 8,63 ppm



BioAktiv Professional Plants





BioAktiv Professional Plants





BioAktiv Professional Plants



- plant strengtheners for ecologically conscious agriculture promotes the multiplication of microorganisms, the soil becomes looser and more absorbent
- root length and root mass improve significantly, resistance and assimilative capacity of plants increase, humus formation is promoted

application rate:

1kg per ha dissolved in 200 – 400l water

Our new products in plant area Fruit – Vegetables - Vino







Mix in BioAktiv









Mix in BioAktiv



Image: Image:





Plants have an immune system also like humans.

In both the power of the immune system depends on the nutrient supply.







Soil is the key resource for the business.



He is not reproducible and must be used with his full potential.

Prepaire the soil





RETURN OF MICROORGANISMS





The presence of the elements (manure // organic or chemical) does not say anything about the recording.







Meaning of the soil network





85 - 90% of the plant nutrients are only available through microorganisms

Sustainable = make life more alive Prof. Hans Peter Dürr Healthy soil lives



1 g of healthy soil

600 million bacteria individuals

15,000 to 20,000 types of bacteria

150 to 300 meters of mushroom biomass

5,000 to 10,000 mushroom species

20,000 protozoa

20-30 beneficial nematodes: predatory, bacterial and fungal-feeding species

200,000 arthropods per square meter



Tasks of microorganisms



The leaf surface is covered by good microorganisms like nerve cords.

A micro-fortress to protect the plant





Tasks of microorganisms



Photography by William Weryin und Richard Sayre, USDA_ARS



The nematode enters the tomato bark when there are no fungus hyphae blocking the path.



High-magnified photo of a root-eating nematode on a healthy tomato root



Protecting against limescale protective fungi



Treepreservationaustralia.com.au

clay - humus - complex



ΒΙΟΑΚΤΙΝ

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Mycorrhizal fungi and rhizosphere











The backbone of all organisms and the entire ecosystem of our earth are microbes.



Healthy plants





- 1. are immune to diseases and pests
- 2. produce food as medicine
- 3. increase soil fertility by building up humus

Building of fertile soil



Photosynthesis =

From light, life is made

- Shifting to the roots
- Excretion into the soil
- Microbial digestion





Sustainability



- The soil is alive.
- It provides habitat for countless organisms.
- These organisms are important elements for every plant root.
- When the soil is alive, the grass lives.



How to get healthy soil





- Learning to read the soil
- Examine soil (biomass, nutrients)
- Nutrients are returned to the soil (compost) = humus build-up





- The decomposition of the fine roots produces humic acids that act like a long-term fertilizer.
- THE ROOT OF TODAY IS THE HUMUS OF TOMORROW





 Humus = a kind of water storage where bacteria, microorganisms, protozoa, beetles and earthworms occur more frequently, create passages and cavities, the roots develop better and thus the plant growth can be increased. These creatures bring food into the soil that is stored there or absorbed by the plant.



Compost



- Rotting = oxygen
 Aerobic bacteria process waste with many other species and convert it.
- Putrefaction = oxygen deficiency
 Aerobic bacteria gain the upper hand and there is a decay
 process which attracts snails and ants.





Humus and organic matter / compost

Ακτιν®

BIO

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The nitrogen cycle





BIOAKTIV PROFESSIONAL FOR PLANTS ENSURES THAT THE DECOMPOSITION PROCESS (ANAEROBIC) PROCESS IS SURPRESSED. WITHIN A FEW DAYS, THERE ARE MORE AEROBIC BACTERIA THAT INITIATE THE ROTTING PROCESS AND AERATE AND DRY THE SOIL, MAKING THE NUTRIENTS AVAILABLE.



The nitrogen cycle



AMMONIFICATION Step 1

- Urea by means of urease (an enzyme) and water
 - \succ NH₃ and CO₂
 - \succ CO₂ released to the environment (air) and NH₃ enters the soil
 - > NH_3 plus water becomes NH_4 (ammonium)



The nitrogen cycle



NITRIFICATION Step 2

- Bacteria (aeroben bacteria) convert NH₄ (ammonium) toNO₂ (nitrite)
 - > Bacteria (aerobic bacteria) convert NO_2 to NO_3 (nitrate)

DENITRIFICATION takes place for example:

- If there are too few active bacteria and oxygen levels in the soil are too low, the nitrate is converted to molecular nitrogen and enters the atmosphere (anaerobic bacteria)
- The soil is saturated (too moist, no oxygen source)
- The soil is compacted (tyres from machinery)



So that our plants grow



- Plants need nutrients
- nitrogen, phosphorus, potash, calcium, magnesium and sulfur
- Trace elements Cu, Mn, Zn, B, Mo, Fe
- water
- oxygen
- warmth
- light
- microorganisms
- bacteria
- worms
What is wrong with fertilization



- Many fertilizer salts salinize our soils and lead to weed infestation
- The sick plants call the insect police to clean them up
- The nutrient deficiency comes from the fertilizer there would be enough in the soil but there is no one there to make it available (85-90%)
- There are thousands of tons of nutrients in the soil
- The plants need 64 different nutrients, but we fertilize a maximum of 10-12
- Humus prevents nitrate leaching





- Plants need nitrogen to form protein
- Why do we need chemical nitrogen (Haber-Bosch)?
- Because our soil biology is not running smoothly.
- Soil reserve 3,000-10,000 kg/ha N
- Over these hectares in the air 75,000 tons of atmospheric nitrogen

Make nitrogen available in the soil



- Do not spread nitrate N
- This destroys the Azotobacter
- How can I multiply Azotobacter
- You need oxygen
- Lactic acid bacteria produce vitamin B12 (cobalamin)
- The root tips produce vitamin B 12

Boosting soil fertility



- The perfect hummus care
- Put stable manure, liquid manure and liquid manure in rotte
- Apply compost
- Grow legumes
- Use green manure
- Make sure the fields are always green
- Application of basalt flour (cobalt and trace elements)
- Protection of the root zone
- Gentle tillage turn flat, loosen deeply
- Avoiding too much water soluble fertilizer
- Ensure good soil fermentation (high pore volume)

When biology is allowed to work



- All nutrients are made available to the plant.
- The microorganisms are supplied with the necessary sugar as carbon and this creates humus.
- Due to the weathering, new nutrients are added again how should a nutrient deficiency arise.
- When the microbes provide amino acids and chelates to the plant, we have healthy forage and nutrition.

Why is hummus so important



- 1% humus stores 400,000 liters of water
- 3% humus can absorb up to 120 liters of rain per hour
- 1% humus can store 2,500 kg of nitrogen
- 1% humus stores 70 t of Co2
- The future of agriculture lies in humus
- Humus prevents nitrate leaching

Humus Components



- Harvest residues, manure, liquid manure and compost are only slightly involved in permanent humus formation;
 Important to put the soil in a rotting process
 Rotte always has to do with oxygen
- Humus consists of 70% microorganisms and fungi, therefore says you also live humus
- The mycorrhiza brings about 35 t/ha of organic matter into the soil in one year

Soil Microorganisms





Earthworm comes from "lively worm"





What is the earthworm doing?



- Digestion of nutrients
- In the intestinal tract, the ingested soil undergoes a transformation. After several earthworm excrement studies, an enrichment of nutrients compared to the soil was found.
- 5x more nitrate
- 7x more phosphorus
- 11x more potassium
- 2x more magnesium
- 2x more calcium

Where does BioAktiv start?



- BioAktiv promotes aerobic bacteria, fungi and healthy plants
- BioAktiv promotes the rotting of the soil and its detoxification
- BioAktiv helps the farmer to get by with less fertilizer and chemicals
- BioAktiv brings the soil back into balance
- BioAktiv promotes the availability of nutrients and their subsequent supply
- BioAktiv gets your biology going





Quality can be measured







Brix values by Reams



Product	poor	average	good	excellent
carrots	4	6	12	18
salad	4	6	8	10
onions	4	6	8	10
cabbage	б	8	10	12
grapes	8	12	16	20
potatoes	3	5	7	8
apples	б	10	14	18
tomatoes	4	6	8	12
blueberries	8	12	14	18



Quality can be measured

BIOAKTIV

Our Stenon Farmlab



Field Trials Australia





Derrel Farms Grantham, Queensland

Latitude -27.58 South Longitude 152.31 East Altitude 119.38 Meters/391.68 Feet

Farm Owner - Derek Schultz Contract Client - Rugby Farm Pty Ltd Trial Supervisor - Dr Svetlana Ukolova Harvest date - 26th January 2018

BioAktiv Plant & Soil Trial 2 - Sweet Corn (December 2017 - March 2018)



Photo1. Aerial view of Derrel Farm, Grantham, Queensland.

Field Trials Australia





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AG Pölzig Germany / Application On Rape





Germany – Farm of Sven Krienitz / Field Trial Barley



crop: winter barley variety: KWS Tenor area: 5 ha planting date: 25. 09. 2015 treatments: autumn 1 kg/ha at the 3-leaf stage;

spring 0,5 kg/ha





New: Vita Full Complex



- Suitable for all crops
- More vital plants
- > preventive
- Acts directly on the leaf
- Less prone to disease
- Quality harvest
- Can be combined with other sprays
- No additional effort

New: Vita Full Complex



Practical trial with potatoes

Farmer: Hermann Backhaus, 28857 Syke

- It was noticeable that the plants in the Miss Malina variety were more vital or stronger and greener than in the control after the application of the treated area.
- In addition, less Colorado beetle infestation could be seen on the treated area.

Practical trial with winter wheat

Farmer: Armin Walther, 09474 Walthersdorf

• On the area treated with BioAktiv Professional Vita Full Complex, no diseases caused by fusaria could be seen. An infestation would result in the devaluation of the quality grain to feed grain.



QUESTIONS?

BIOAKTIV[®] **PROFESSIONAL FARMING**