



multi kosmos

INTERNATIONAL EDITION 2018

Amazing

The latest research from all over the world shows with the view through the microscope how important microorganisms are for us humans. Whether skin, intestine or oral cavity - the discovery of the human microbiome opens up completely new horizons for our everyday life and nutrition, for medicine and health. **Page 4**

Magnificently

The Rosarium Baden is Austria's largest rose garden. Around 30,000 rose bushes and about 800 varieties show their flowers. The special feature: All the beautiful roses are cared for with Multikraft technology. Good variety and choice of location, healthy soils and plant strengthening are the basis of natural rose care. **Page 8**

Outstanding

In bioemsan toothpaste, the effect of organic herbs is bundled with Beneficial Microorganisms. It is alkaline, inhibits inflammation, protects the teeth and is ideal for creating a healthy oral flora. Its outstanding features are evidence of scientific tests and experience in dental practice. **Page 24**

Multikraft company headquarter with a new look

We are very pleased that more and more people are convinced of the technology of Beneficial Microorganisms and that we have therefore been able to record increasing orders in recent years. In order to meet increased demand we need more space for the production and storage of our products, which is why the Stumpfhof has been expanded. For seven months Multikraft had to live and work on the construction site. The expansion of the company headquarters was successfully completed in 2018.

The excavators started their work in the summer of 2017. Production, warehouse, logistics hall and office space were enlarged during a seven-month construction phase. A separate garden pavilion for visitors and events has been added.

A highlight of the reconstruction is the garden pavilion, which offers space for around 200 guests at events and lectures. During an Tour on site, professionals from agriculture and horticulture, associations, people interested in Multikraft technology and school groups get an insight into the world of Beneficial Microorganisms and the history of the company. On site, we show how the Multikraft system is used and, in doing so, promote confidence in our products. We are proud to show how we carry out production naturally and biologically.

Sufficient space has also been created for the employees so that work processes can be carried out in a time-saving manner. We have also converted our former 300 m² logistics hall and have installed cloakrooms, showers, lounges and a company kitchen in it.

With the expansion of the Stumpfhof space was created for further growth. The production and filling capacity can be increased from 20,000 to 50,000 litres per day due to the expansion. We have five times more space with order picking than before, and at least four times more space has been created for filling. In logistics, we have three times the capacity of pallet spaces available. This is a huge advantage. In the future, this will enable us to deliver fresh products to our customers in a short time.



2018

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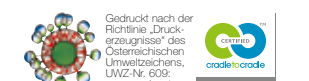
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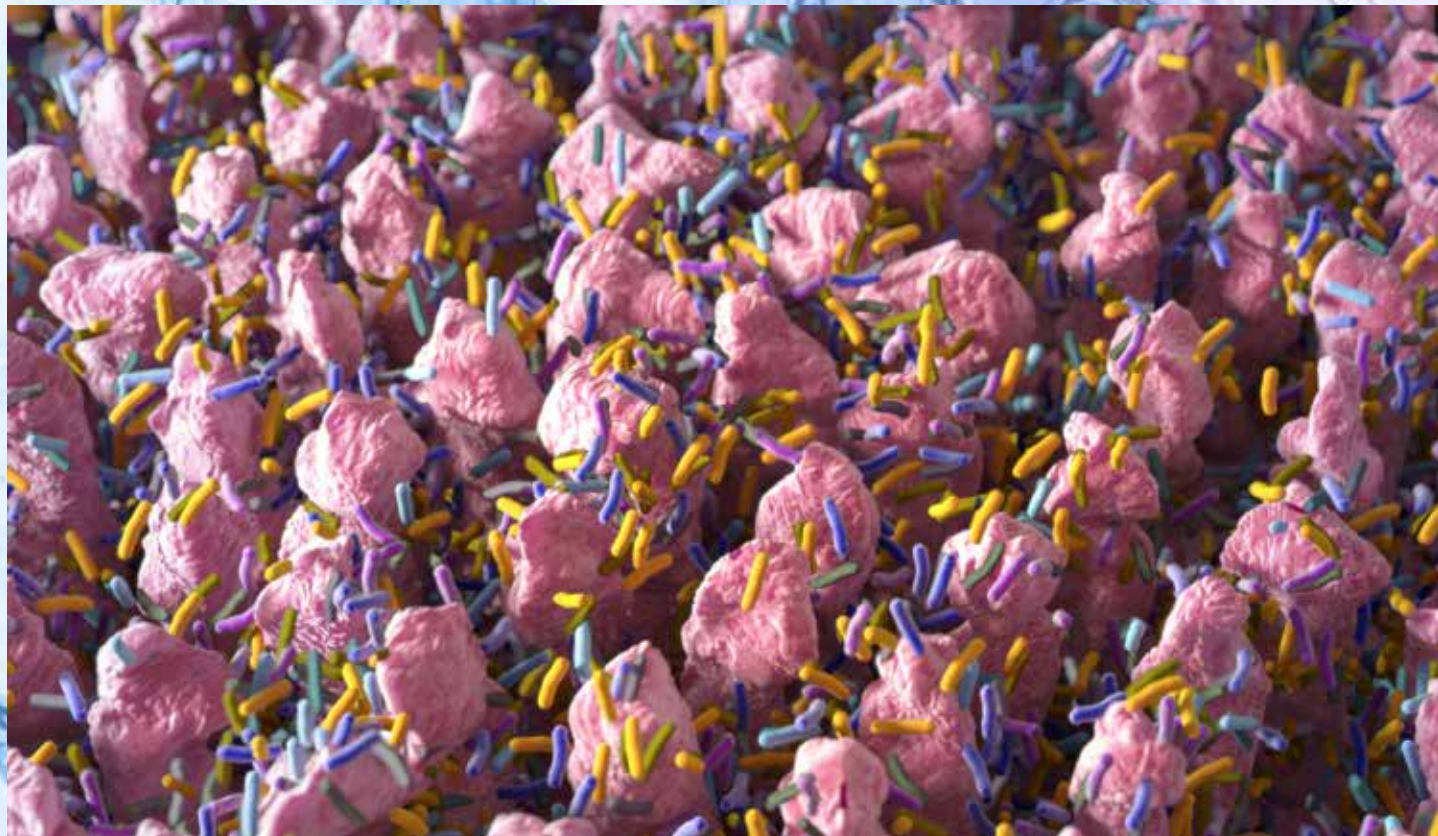


The human microbiome

What our smallest inhabitants, abdominal brain and health have to do with each other

They are invisible to the naked eye and yet they are everywhere. For a long time bacteria were mainly compared with diseases and were fought. This point of view is changing enormously at the moment. Recent research from all over the world shows how important these microorganisms are when looking through microscopes. All animals, plants and humans are colonised by microorganisms. The discovery of the human microbiome opens up completely new horizons. For example, this also includes medicine and the treatment of diseases.

Dr. Erika Rokita gives a review of the current findings of still relatively new studies that can already serve as a model for various areas of life



Microorganism colonisation of the intestinal villi – The majority of microorganisms in humans are found in the intestine.

„90 % of all cells in the body are not of human origin.“

Human beings from the biosciences perspective

On the part of microbiology humans are a changing ecosystem or a biotope incredibly rich in species, on whose inner and outer surfaces thousands of different bacterial species and also viruses, fungi, flagellants, amoebae, mites, arachnids etc. cavort – mainly in peaceful agreement with us humans. A large part of this biological diversity has not yet been scientifically recorded. The number of these microorganisms is gigantic. The ratio of body cells to microorganisms is 1:10. This means that about 90 % of all cells in the body are not of human origin. But humans can only survive together with these billions of microorganisms.

According to the latest findings, all microbes in humans (microbiota) form a community, even a common „super organ“, the so-called microbiome. This microbiome represents the totality of all microbial genes in the human organism. It is linked to our body cells and organ systems and as a kind of superordinate component of human life it has an incredibly large impact on our health.

Coexistence of humans and microorganisms

The secret behind the success of human existence is symbiosis – living together for mutual benefit, a peaceful community between body cells and microorganisms. The various partners benefit from each other through complex, active cooperation and an intensive alliance because trillions of microbes could never settle within us if there were no advantages for them. We use them and they use us. For example, we offer them food, shelter and reproductive opportunities. They, for example, ensure smooth digestion, a healthy skin protection layer, a stable immune system, but also psychological well-being, good memory and much more.

That means most of our lodgers are vital symbionts. Some are commensals, i.e. harmless table mates who neither harm us nor use us. Only a few are parasites or pathogens.

The intestinal microbiome

Microorganisms colonise almost all areas of the body that are in contact with the outside world. These are about 400 m² of skin and mucous membranes. The majority of microorganisms, however, live in the lower small and large intestine. Our intestines are a huge ecosystem of about 100 billion microorganisms. These are 99 % bacteria with a total mass of 1.5 to 2 kilogrammes. This collective works with greater biochemical activity than our liver and that although 30–40 % of these transient bacteria leave the intestine daily. These „departures“ have to be constantly replaced by rapid reproduction – provided we eat a bacteria-friendly diet and do not permanently destroy diversity by taking in antibiotics frivolously.

Among the human intestinal bacteria, about 1,000 species from 5 strains (Bacteroidetes, Firmicutes, Actinobacteria, Proteobacteria and Verrucomicrobia) have been found so far. With the help of new genetic detection methods, however, 36,000 species from 1,800 genera are already suspected. In any case, the colon (1012 per ml liquid) should be much more densely populated than the small intestine (109 per ml). In addition to bacteria, unicellular organisms (flagellates and ciliates) viruses and bacteriophages, fungi (especially yeasts), leeches, mites, and maggot worms, etc. can also be found in the human intestine. Another interesting thing is that the microbiome is different in every human being. Only about 9 % of the intestinal inhabitants occur in all humans. The rest varies according to birth mode and lifestyle (diet, hobbies, environment, friends, stress, medication). This means that the composition of the intestinal microbiome changes again and again over the course of life and tends to decrease significantly in species diversity with age.

The intestine as the centre of well-being

Our intestines were underestimated as organs for a long time. They are in any case far more than just a digestive tube. In fact, they also build up a large part of the immune system and regulate countless metabolic processes. As the central energy source of our body, they influence all other organ and functional systems (e.g. skeleton, muscles, skin, psyche, fertility), immune system, heart function, memory, appetite, etc.).

In order to be able to cope with all the many tasks, the intestines or the body are absolutely dependent on the intestinal microbiota (formerly intestinal flora). But this microbiome as a bacterial organ is more than just the sum of the individual beings. It behaves like a multicellular organism by means of „quorum sensing“, in that it communicates with itself as well as with our body cells via signal messengers and thus enables all these great achievements and ultimately also decides on health and illness.

How the stomach influences our behaviour and feeling - the stomach-brain axis

People nicely say „the belly thinks along“. In fact, there is a huge plexus of nerves in the stomach, the so-called enteric nervous system or „belly brain.“ This second human brain has five times more nerve cells than the spinal cord and at least as many as the brain itself.

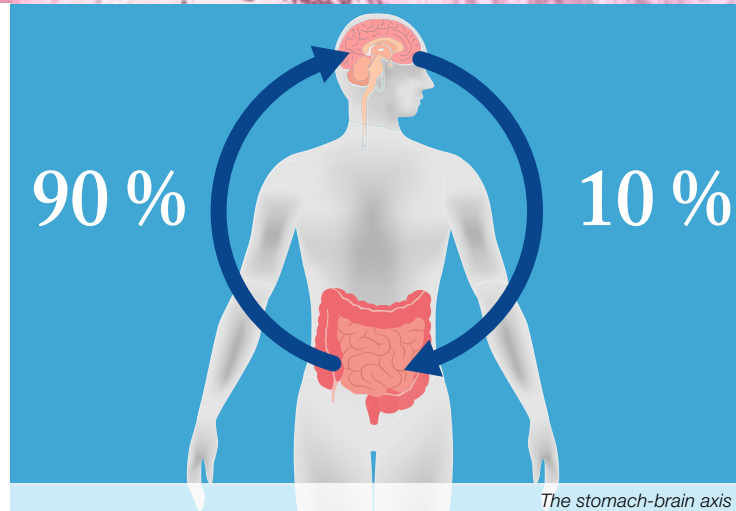
Studies from the field of neurogastroenterology show that there is mutual communication between the gastrointestinal tract and the brain by means of messengers and impulse transmission via the vagus nerve. This is the so-called stomach-brain axis, whereby considerably more information is transported from the intestine to the brain than vice versa (90:10).

The composition of the intestinal microbiome, therefore, influences not only our physical health, but also our thinking, feeling, communicating, learning and behaviour. It is known today that psychological disorders can be caused by influences from the gastrointestinal tract and vice versa that drugs for brain metabolism can lead to intestinal complaints. It is currently being investigated how a good microbial supply can have an effect on this abdominal-brain axis and positively influence diseases such as Alzheimer's disease, MS, dementia, ALS or Parkinson's disease.

Change in intestinal microbiota promotes diseases

Flatulence, irritable bowel syndrome, metabolic disorders such as diabetes or obesity limit our well-being. Even with these symptoms and illnesses more and more studies show that changes in the microbiome such as dysbiosis or mal-colonisation of the intestine are decisive. A disturbance of the coexistence of bacteria and body cells also plays a major role.

Causes are frequent medication (especially antibiotics), but also our lifestyle (stress, too many negative emotions, wrong diet or too much alcohol, etc.). All this and much more often leads to Leaky Gut Syndrome, which - untreated for years - can ultimately lead to more serious diseases such as cancer. A change in the composition of the bacterial flora, for example, leads to inflammation of the intestinal mucosa and thus to the dissolution of tight junctions. The intestine becomes perforated, bacteria and toxins pass through the intestinal wall and enter the body via blood and lymph. These effects lead to an increased risk of intestine-associated diseases. Other systems in the body are also affected, such as the immune system (allergies, autoimmune diseases), the brain (depression, autism, learning and memory weakness, migraines, anxiety and obsessive-compulsive disorders) or the skin (neurodermatitis, eczema, psoriasis).



Microbiome therapy

New research is producing completely new therapeutic approaches and treatment possibilities. Microbial therapy offers the opportunity to cure or at least alleviate diseases that were previously difficult to treat. It is a kind of „probiotic medicine“ that treats the causes and works holistically.

If there is a suspicion of an incorrect colonisation of the intestine, a detailed anamnesis, a physical examination and a laboratory examination of the intestinal flora using stool analysis are necessary. After the diagnosis, the appropriate therapies are carried out. Here EM technology with its various products can make a valuable contribution to the reorganisation of the disturbed environment. Of course, it can't replace a doctor!

How we keep our intestinal microbiome healthy

We have around two kilograms of microorganisms in our stomach. We ourselves can do a lot to make them feel at home and have a positive influence on our health.

We can support our intestinal bacteria by eating healthy and microbiome-friendly food: rich in fibre, balanced, but predominantly vegetal, lots of fermented products, as little sugar and white flour products as possible. If necessary, it is good to take in specific pre- and probiotics, e.g. Manju and Multi Impuls.

It is also important to have a well-balanced, preferably nature-loving way of life. The intestinal bacteria don't like stress at all - therefore we should allow more time for relaxation and slowing down, exercise moderately and let go of negative thinking and behavioural patterns. Of course, all this does not take place overnight: healing is a process and takes time. But it's important to start somewhere.

This always requires self-reflection. We should orientate our lifestyle more towards the cycles of nature, change bad habits and avoid toxic substances. In doing so, we act and live in a self-responsible and respectful manner towards life, the environment and bacteria.

„Our microorganisms are not everything, but without them, all would be nothing!“

This is how Jörg Blech, a German journalist, describes it in his book „Das Leben auf dem Menschen“. How right he is! Without them, there would be no life and no survival.

„Our microorganisms are not everything, but without them, all would be nothing!“

Jörg Blech



Lactic acid bacteria as an important component of the intestinal microbiome.

- **Bernhard Kegel: Herrscher der Welt – wie Mikroben unser Leben bestimmen.** DuMont, Köln 2015, ISBN 978-3-8321-9773-5
- **Sebastian Jutz: Der bewohnte Mensch – Darm, Haut, Psyche; besser leben mit Mikroben.** Heyne, München 2014, ISBN 978-3-453-60307-3
- **Anne Katharina Zschocke: Darmbakterien als Schlüssel zur Gesundheit – Neueste Erkenntnisse aus der Mikrobiomforschung.** Knauer Verlag 2014, ISBN 978-3-426-65753-9



Mag. Dr. Erika Rokita
Herbal pedagogue, kinesiologist and Jin-Shin-Jyutsu practitioner

Effective microorganisms promote and support all LIFE!
Their use restarts the regulatory processes in the most diverse areas of life and thus contributes to the recovery of Mother Earth and all living beings. Their benefit is invaluable for us and nature!



A bath of roses

The splendour of flowers without chemistry

The Rosarium Baden is Austria's largest rose garden. What's special about it: It is maintained purely ecologically – unique in its order of magnitude for a long time and now a pioneer throughout Europe. The Multikraft system is an important component of natural rose cultivation.

In Baden near Vienna visitors can stroll through the Doblhoffpark just as emperors, kings and composers once did. For more than five hundred years, gardeners have been cultivating this historic park, where a rose garden was laid out in the 1960s. Around 30,000 rose bushes and about 800 varieties show the splendour of flowers here. The selection ranges from precious roses, small shrub roses, bedding and ground-cover roses to historical shrub and climbing roses. The Baden Rose Days in June attracted numerous visitors again this year. Garden tips on how to cultivate roses and an attractive cultural programme ensure a very special flair every year. For rose lovers, the gates of the Doblhoffpark are also open in autumn and guests can acquire information on robust varieties for their own garden at home.



The city garden's director Dipl.-Ing. Gerhard Weber

Basis for robust roses

„We offer our visitors a show of current varieties and cultured recreation. A healthy workplace for our employees is important to us. We have been working without chemical pesticides, without synthetic fertilisers and without peat for several years now. Healthy varieties and soil are a basic prerequisite for the healthy growth of roses. With the inclusion of supporting measures, the Multikraft system is a fixed component of ecological rose cultivation,“ the city garden's director Dipl.-Ing. Gerhard Weber explains. With the University of Natural Resources and Applied Life Sciences and the company biohelp, the ideal mix of ingredients was discovered to strengthen the roses in such a way that no chemical plant protection measures had to be taken.

„Ecological rose cultivation begins before planting. The better the choice of variety, the better the location and soil, the healthier the roses are, the easier it is to cultivate them,“ Stefan Ferschich, head gardener of the Rosarium Baden emphasises. „The most important thing is healthy soil. Most of the plant's health depends on it.“

The deep-rooted queen of flowers needs loose, permeable soil; it does not like accumulating wetness. It is essential to ensure that there are no barrier layers in the soil and, for example, that there are no layers of loam that do not allow water to drain away. The soil should be permeable and deeply rootable; the location should be bright and sunny. This is the most important basis for ecological rose cultivation.



Stefan Ferschich, head gardener at the Rosarium Baden, spreading the Multikraft products.

Regular revitalisation

„With our mix of measures and resources the Multikraft system is an important building block for the rose in order for it to remain healthy in the long term,“ Gerhard Weber continues. Several measures interact well in plant revitalisation. The roses are given high-quality compost; purely biological, demand-oriented fertilisation and regular leaf treatment are applied. „Depending on weather and situation, we add the components BB Foliar, Terraferf Foliar, MK 5 and FPE (fermented plant extract). We sprinkle the roses with them in such a way that the Beneficial micro-organism mixture runs off over the leaves and into the ground“, Stefan Ferschich describes the procedure at the Rosarium Baden.

Used regularly, Beneficial Microorganisms activate soil life and strengthen roses preventively. They are more resistant to fungal diseases and pests. Beneficial Microorganisms are not to be understood as biological fertilisers. As plant strengthening agents, they promote the uptake of nutrients from the soil and ensure better and healthier growth. „By placing robust varieties in healthy soil at the right location and carrying out regular Multikraft technology treatment, fungal diseases can be very well prevented,“ says Stefan Ferschich, head gardener, who also uses Horsetail Extract Concentrate and Nettle Extract Concentrate from Multikraft to prevent mildew and animal pests this year for the first time.

Photos: Rosarium Baden

Trust and cool-headedness

City garden director Gerhard Weber and head gardener Stefan Ferschich have no worries about animal pests. „In knowing that the biological processes work well, trust and a certain cool-headedness develop. Paired with a close look at how the plants develop and what they need, you can react and always strengthen the plants preventively and regularly,“ says Gerhard Weber.

If, for example, lice spread on the roses in spring, they are first closely observed. And obviously: At the Rosarium Baden good insects are encouraged. „The garden regulates itself by useful insects such as ladybirds, ichneumon wasps or lacewings. We pay attention to balance and flow equilibrium, i.e. we allow for a certain population of lice because useful insects need them as food. Overall, it is the blending of measures that makes this possible. With regular cycles of application, roses can be well taken care of ecologically,“ head gardener Ferschich explains.



Roses for natural gardens

In his new book „Rosen für naturnahe Gärten“, Gerhard Weber explains how you can implement ecological rose cultivation in your garden, in which rose cultivation with Beneficial Microorganisms at the Baden Rosarium with an annual care plan is also presented. ISBN 978-3-8404-7565-8



In the Doblhoffpark, the beauty of the roses invites you to linger.



Varied garden world

Successful right from the start with Multikraft technology

In the midst of flowering plants you can treat yourself to a cosy break in the Gartenwelt Café. The Dauchenbeck Garden World offers a variety of ornamental plants and colourful floristry, decorations for the home, everything to do with barbecuing, an indoor children's playground and the Garden World Café. The likeable family business attaches great importance to modern, near-natural in-house production of ornamental plants and has been using the Multikraft system for over a year now. Right from the start with great success: Around 90 % of the fungicides were saved. All this is appreciated by the employees as well as the many regular customers.

Almost 19 years ago, Monika and Walter Dauchenbeck founded the parent company of the family business in Fürth-Atzenhof near Nuremberg. The new garden world in Stein-Oberweihersbuch near Nuremberg was opened on 01 March 2018. The daughters Mirja and Christina manage the 6,000 square meter garden center.

Gardening roots

Mirja Dauchenbeck tells: „We want to be a floor-standing family business for our customers, with the focus on people. This applies both to our valued employees and to our many regular customers, for whom we are very grateful. We attach great importance to competent, friendly employees who provide authentic and personal advice. We want to inspire our customers. We are happy to give tips and expert advice, so that our customers can make their home a nice place and find a better quality of life. It is important to us that our horticultural roots are perceptible through our own production and through a wide range of high-quality plants.“



Mirja, Monika, Walter and Christina Dauchenbeck proudly present the new Garden Centre

Photos: Gartenwelt Dauchenbeck



High-quality in-house production

The Dauchenbeck family produces a full range of indoor and outdoor plants all year round. The in-house production comprises 13,500 m² of high glass and 1.2 hectares of open land. Ecologically sustainable plant cultivation, peat-reduced soil and intensive use of beneficial insects are a matter of course. The Multikraft system is also an integral part of the near-natural in-house production.

„We were not successful with the use of beneficial insects and did not want to return to purely chemical crop protection. We want to produce naturally, also with regard to the health of the employees during application and subsequent work with the plants. Our master craftsman Mario Witte therefore dealt with the subject of plant strengthening, visited the information day at Multikraft in January 2018 and after consulting Multikraft expert Günther Soukup started off with a starter package of Multikraft components,“ says Mirja Dauchenbeck, describing the introduction of Multikraft technology to the company.

Better root penetration

Master gardener and plant manager Mario Witte and his employees implemented the system in the plant and explained the regular Multikraft system applications: „Before each new occupation of our areas, we spray them including the energy screens and blackouts with BB Soil in a 10 % mixture. We also use BB Soil regularly for watering the young plants after potting. In each irrigation cycle, BB Soil and Terrafer Soil run along with the irrigation water.“ Since then, the plants have been rooting in the pots much better and faster.

A weekly spray with components such as Terrafer Foliar, BB Foliar and MK 5 is carried out to strengthen the plants. The dosage varies according to the current needs of the plants. Coupled with the intensive advice on Multikraft technology application, the origin of the beneficial organisms was also changed.

90 % less fungicides

The company was able to achieve considerable success right from the start, as it saved around 90 % on fungicides in its first year of operation. „We were really pleasantly surprised,“ says Mario Witte, who also sees the Multikraft system as a great help for the entire team.

„In the past, we used to apply crop protection after work and several applications were necessary. Such overtime is now a thing of the past because we can apply the Multikraft technology components during the day. With the

Multikraft system we can, for example, combine MK 5 for the prevention of insect pests and BB Foliar preventively against mildew, thus reducing the output to one operation. Our employees see it positively that they have less work to do in the medium term and less contact with chemistry. That's the very nice thing about the whole story,“ Mario Witte and Mirja Dauchenbeck summarize:

„The combination of plant strengthening and prophylaxis through the Multikraft system, regular monitoring and a sensible use of beneficial insects has almost completely made us do without conventional chemical pesticides and made our business healthier and certainly fit for the future. We want to promote an appropriate, natural and non-toxic cultivation method that provides our employees with better working conditions and provides our customers with robust, flowering and healthy plants.“



Excellent root growth in primroses through regular use of the Multikraft system.



Best-quality salads and onions

Residue-free without waiting periods

Thanks to Multikraft system „Romana“ salad and many other salad specialities can be harvested without residues.

„I don't give a damn about residues and waiting periods anymore when harvesting.“ Johann Prischink from Fugging in Lower Austria has been working with the Multikraft system since March 2017. The vegetable farmer has been enjoying instant, great success with the Plant Power products because he now has fungal diseases and aphids under control. In 2017, he was already producing 90 % of his salads without chemicals and spring onions were completely spared from mildew.

The family-run company, now in its second generation, stands for regional fresh products and quality. The fresh and crisp salads stretch their heads out of the humus-rich soil towards the open sky. The range extends from lettuce hearts, cabbage and iceberg lettuce to the salad speciality SalaRico. „We produce vegetables 365 days a year that meet the demands of our customers,“ says Johann Prischink, whose company has been supplying one of the major retail chains in Austria for around forty years. The vegetable farm is known as a producer of salads and onions in Lower Austria. Onions have been cultivated by his parents since 1971. Today onions and salads thrive on around 45 hectares and both crops are a success due to receiving regular Multikraft technology treatments right from the start.

Strengthening of soil and plant

For soil treatment, Johann Prischink applies 50 litres of BB Soil and 5 litres of Terrafert Soil per hectare to his wide range of salads and potato fields before planting. Before planting the young lettuce plants, he pervasively pours them in the earth press pots with a mixture of BB Soil, Terrafert Soil (alternatively BB Seed can be used) and EM Ceramic Powder and then places them in the soil. The following leaf treatments in the field are carried out with a mixture of BB Foliar, Terrafert Foliar, MK 5, BB Multical and EM Ceramic Powder. The result: strong plants with beautiful roots. When the first aphids were visible in salads, Johann Prischink added Multikraft's Nettle Extract, and Horsetail Extract Concentrates for leaf treatment. Later he again sprayed the salad plants with both components one more time. As a result, aphids were no longer an issue. „All in all the Multikraft system works straight away.“ The same applies to the spring onion.

Spring onion without mildew

Our usual bulb onion is called spring onion. It is sown in August, hibernates in the field and is harvested in early summer. Onion seeds are fine seeds; the seeds are very small and are sown with a precision seeder after Multikraft technology soil treatment. After sowing, Multikraft technology leaf treatment with the components mentioned above is also carried out as with the salads. Zeobas Ultrafein is added to this mixture. This primary rock flour is used as a plant aid for soil formation and promotes soil life.

It acts as a pH buffer, as a nutrient and water reservoir.

„The leaves of the spring onion are treated three times. We knew these sorts were at risk of mildew. Starting to apply the Multikraft products was immediately a complete success“, vegetable farmer Prischink talks about his extraordinary experiences. „The fact is that by applying the Multikraft system, I don't have any mildew infestation on the spring onion and can thus achieve a really good harvest. This was never the case before.“ Great success achieved by treating leaves with Multikraft products. Johann Prischink was thus able to leave out fungicides completely. With the help of the Multikraft system, he was able to reduce the use of chemical pesticides by more than 90 % within just two years.

As recently as 2016, there were great problems with fungus despite the use of chemical crop protection products. In view of this situation, he thought of trying something different. In the spring of 2017, Johann Prischink got to know the Multikraft technology better at Multikraft's vegetable farming conference. He exchanged ideas with colleagues and decided to move in this direction.

Residue-free harvesting without waiting times

Johann Prischink simply wanted to try out the Multikraft system. Within a short period of time, he was convinced of the results both with salads as well as onions. „On top of that, the great advantage is that I don't have to think about residues and don't have long waiting periods for the harvest. I don't waste a single thought on it anymore.“ A great relief especially in stressful times.

As a proven supplier for one of the largest retail chains in Austria, the quality of harvest and delivery must be right on the one hand and on the other economic profitability must be ensured for the family business. Economically you, therefore, only benefit if you do not have to stick to waiting periods during harvest, and crops can be harvested without leaving any residue. For Johann Prischink, one thing is absolutely clear after only a short time of applying the Multikraft system: „My goal is to do without pesticides and only use them in an emergency. I'll definitely carry on using the Multikraft products. The results are simply excellent.“



Diversity of cultures

Reliably good harvests with Multikraft technology in farming and fruit growing

Heavy rain and floods in the fields. Drought and cold in April and May. Extreme weather conditions also challenged farmers in Romania in 2018. Zoltan and Dana Dragan were nevertheless able to reap very good harvests with their family business in Salonta - also thanks to the targeted use of Multikraft technology in fruit and arable farming.



In Salonta in western Romania near the border with Hungary, Zoltan and Dana Dragan run a 260 hectare organic farm. The farm has a chequered history behind it. It was integrated into a collective farm until 1989 and has been farmed by the Dragan family since 1991. Zoltan Dragan studied agriculture and took over the business in 1997. Today the farm is a model farm and is often visited by students of agriculture.

Zoltan Dragan has been running the farm organically since 2001. At that time this was a more than unusual step in the region. „I wanted to reduce chemical substances in the soil, produce healthy food and finally secure a stable market for our crops and fruit,“ says Zoltan Dragan, who likes to courageously go ahead with new things in agriculture as well.

He has been using Multikraft technology since 2008 and a number of other companies have followed. Over the years the soil quality on his fields has improved considerably and the plants also thank the farmer for it. „The plants are noticeably more resistant to drought and enormous temperature fluctuations. Year after year I’m getting better and better results and I’m also trying to develop the Multikraft technology in our company.“ In 2013, he was able to achieve a 20 % higher yield with his farm than on conventionally cultivated fields.

It is a variety of cultures that the Dragan family cultivates: Winter wheat, spelt, rye, barley, maize, lucerne and sunflowers. The Multikraft system is consistently used for soil and leaf treatments. With very good results, as can also be seen from the sunflowers.



Zoltan and Dana Dragan and Multikraft consultant Georg Gschwendtner present the products from Romania at the opening event in June 2018.

Robust sunflowers

Sunflowers are among the most important oil plants in organic farming. Your demands on the soil are relatively low, the time of sowing is important. Zoltan Dragan sowed 2018 at the beginning of May. Even before the sunflowers are sown, he applies an Multikraft system mixture to the fields: 30 litres of BB Soil to 300 litres of water per hectare.

The first leaf treatment takes place after sowing, when the plant has 6–8 leaves. The second leaf treatment is carried out when the tractor almost can’t be driven any longer into the fields. Zoltan Dragan is pleased: „In addition to the soil treatment, the sunflower reacts very well to the leaf treatments and develops high resistance to pests. Since I’ve been using the Multikraft system, there have been no more fungal infections. As a sweet plant, it especially attracts bees during flowering.“ And so it’s good to work without chemistry.

Even ripening

Dry conditions are especially important during the ripening of sunflowers. Precipitation at this stage favours infection by fungi and can lead to buckling of baskets and stems.

„The Multikraft system leaf treatment promotes an even maturation process. In our area, the first growth phase is very important, where plants are strengthened and develop resistance to drought,“ says Zoltan Dragan, who cultivated around 26 hectares of sunflowers in 2018 and had a harvest of 56.42 tonnes, or 2.17 tonnes per hectare. Considering the weather conditions, he is very satisfied with this result. Farmers who cultivated sunflow-

ers conventionally had on average lower yields.

Multikraft technology has been incorporated into the operations of all Zoltan Dragan cultures. For winter wheat, spelt, barley and rye, BB Soil is also applied, depending on the weather two to three times per crop. After the harvest, the straw compost is sprayed with BB Soil and worked into the arable soils. The Beneficial Microorganisms decompose the crop residues, prevent decay, convert the straw into valuable humus faster and thus improve the soil quality.

Healthy orchard

The same goes for apples, pears and plums. Bosc and Williams pears, the apple varieties Florin and Golden Delicious and the plums Lepotika and Stanley are partly sold as raw materials, partly processed into delicious juices and schnapps on the farm.

In his 4.5-hectare orchard Zoltan Dragan sprays the orchards five times a year. The first treatment takes place before flowering and the last time the fruit trees are sprayed before ripening. At first trees are sprayed with a mixture of BB Foliar, Terrafert Foliar, MK 5, BB Multical, ZeoBas ultra-fine and whey powder. From the time of fruit formation only BB Foliar, MK 5 and whey powder are sprayed on the trees. The fruit trees react very well to these treatments. Since I’ve been working with the Multikraft system I don’t have any serious problems in my orchard,“ says Zoltan Dragan with satisfaction.

This year he will again pursue his joy of trying out new things and expand the variety of crops in his business by growing beans and sweet peas.

Photos: Multikraft, Zoltan Dragan



High comfort for cows and courtyard café

Insight into a modern organic farm

About 1,200 m above sea level outside of Salzburg at the foot of the Hochkönig mountain is the Lainer's Dacheggghof Farm, now over a hundred years old. Dairy farming, tourism, and the production of farm produce have always been important mainstays for the family. In 2017 the organic farm was extended and the stable rebuilt according to the latest standards. The stable now includes a cosy courtyard café called „Die Heimatküche“ (home cooking), an apropos name, given that mother Heidi and daughter Isabella cook and bake the regional delicacies served there. Healthy food from the farm's own products is prepared using traditional recipes: hayflower lemonade, hotpot made from the farm's own beef, butter, cream cheese, bacon, sausages, fresh bread and many kinds of cakes.

Alpine style

Guests can shop in the farm shop and then grab some cake and coffee or a hearty snack in the café featuring a modern alpine style with light wood panelling and chic bistro tables. And like in a film the generous panorama windows offer views of the entire stable.

Guests can watch the calves the young beef cattle and the dairy cows and gain some insight into how the modern cattle and dairy farm operates. For children it is a very special opportunity to learn how food is made. Heidi and Isabella Lainer often have to answer many cow-related questions in the bistro. It's a good thing that's their livelihood.

Photos: Christian Scharthner



The new stable building offers the animals more air, light, and space.

Realistic image

„Our guests get a realistic picture of agriculture,“ says Josef Lainer Jr., who was responsible for the updates to the organic stable. „You can come see in person how people work every day on a farm that has to be profitable and live off what it produces. Consumers need such a realistic picture of all that goes into their food and farmers need to be paid fairly in order to be able to operate well.“

Direct marketing in the farm shop as well as in the home kitchen repeatedly shows that consumers are prepared to pay a fair price for good, healthy, regional food. An important criterion for the continued existence of traditional family farms.

State-of-the-art organic standards

The Lainer family has farmed the Dacheggghof in the small village of Dienten at the foot of the Hochkönig since 1906. Today the dairy farm has about 56 hectares of meadows and 110 hectares of alpine pastures. With around 60 dairy cows and their offspring the organic farm is also a milk producer for Salzburg's premium organic milk.

The new stable building offers the animals more air, light, and space. „We opted to give our cows the highest standard of comfort,“ says Josef Lainer Jr., who has set up the stable for state-of-the-art, organic animal husbandry. This also includes a separate pasture feed for the animals. Work has been made easier with feeding and milking robots. The automated feeding also saves a lot of time. FHE (fermented herbal extract) is now also added to the feed as an initial experiment which is delivering excellent results.

FKE in the feed

„In winter we were having problems with sick calves. When we heard about Multikraft, we wanted to try FHE (Fermented Herbs Extract) right away. We received very good advice from Multikraft consultants Andreas Danningger and Johannes Lenzenweger and have been using FHE (Fermented Herbs Extract) regularly with the liquid dosage for our dairy cows since Easter 2018.“

When introducing FHE (Fermented Herbs Extract) for the first time the recommended dosage is 150 ml per cow per day for the first month. The dose is then cut in half to 75 ml per cow per day. If dairy cows are sick, Josef Lainer Jr. increases the usual dosage for a short time.

For calves it is recommended to add 15 ml per calf and day to the feed in the first month and then cutting it down to 10 ml FHE (Fermented Herbs Extract). „If a calf is sick, we spray FHE (Fermented Herbs Extract) directly into its mouth,“ Lainer continues. For stable hygiene, the straw for the group stall for the calves is sprayed with FHE (Fermented Herbs Extract) using an automated spraying system. „As far as I can tell the application is working quite well. The animals are healthy.“ Many reports from other farms show that FHE (Fermented Herbs Extract) increases feed intake and the animals' appetite for food and stabilises their health condition.

„Everything is still a bit new for us after the major renovation in 2017. At the same time, we can see how well our business is growing with the new stable and the integrated café. We're having a great time of it,“ concludes Lainer, summing up the current developments at the century-old farm with satisfaction.



In the cosy courtyard café the generous panorama windows offer views of the entire stable.



The seed stock of the meadow salsify is one of nature's most ingenious constructions, often copied by humans: parachutes, ready for the flight to great freedom.

Enjoying the freedoms of a garden



from Susanne Schütz and Anne Lorch

Those who cultivate a deep sense of empathy with the natural events in and around the garden will end up taking a biologically-orientated approach to their work there. You are free to choose whether to work for or against the natural system. This will be the greatest and most important of the many small choices you will make. This freedom to act without harming other beings is a choice everyone can and may take.

Are seeds that ripen in nature and set free from the mother plant free to go where they please? After all, plants bring forth their children into the world with some incredibly sophisticated and technically mature mechanisms! The seed is thrown, blown away, transported by animals, bursts forth from fruit, or spirals its way down on special wings, landing in precisely the right direction upon landing. When the necessary conditions for germination and growth are met at the new location, a new story can begin. Nature is naturally prolific and if conditions are favourable, numerous offspring will thrive. So what freedom do we humans have? There's an old proverb that says „Thinking's free...“ and according to Maxim Gorki being free in our thoughts is the greatest thing we can achieve.

Deciding with a clear conscience

There are thousands of small freedoms that we can allow ourselves, provided that no harm is done. One of the many options for each of us is the freedom of choice. It has been given to us and we can use it. But it requires courage, a sense of responsibility, and honesty. Which decisions are taken and what motivation guides us are determined by our inner attitude. When asked what freedom was, a wise man named T. G. Hippel replied: „A good conscience“. It's that simple. This is something different than the kind of conscience dictated by institutions and laws. This conscience is our inherent ethical sensibility.

Nurturing this sensibility and being aware of it in everything we do is one of the important challenges we face today. Anyone who thinks that an individual cannot do much to tackle these tasks in complete freedom will be challenged by this funny quotation from the Dalai Lama: „If you think that you are too small (to make a difference), then try to sleep when there is a mosquito in the room“.

Working with Beneficial Microorganisms does good

What happens to conventionally fed plants when their tissues are bloated with water? They grow well initially and look robust and strong. But after the harvest with long transports and storage they soon begin to droop. The biggest reward from our Beneficial Microorganism approach is the chance to see first-hand how plants experience stable growth with organic food, have firm leaves and stems and thrive even in the face of stress. Many readers of this magazine will have already experienced that Beneficial Microorganisms, like other biological options, are a wonderful tool for restoring near-natural conditions in the artificial, cultivated world of the garden. For Susanne Schütz, the times are over when she kept an eagle's eye out for possible pests and signs of disease as she walked through the garden. Since working with Multikraft technology, she has been able to rely on the antioxidant powers of this versatile microbial mixture. Should extreme conditions nevertheless result in an infestation of bacteria, pests, or fungal diseases, Susanne remarks dryly: „That no longer blows my socks off“. Instead she just adds more Multikraft products until the plant condition restabilises.

The result of these thoughts? Taking even the smallest decisions to help nature, can sometimes feel like we're moving mountains and flatters our consciences.

Photos: Anne Lorch

From Susanne's Wealth of Experience

What did the past season teach us?

The unrelenting drought and heat from spring to autumn were a particular challenge for everyone in Austria and Europe. Summer 2018 raises the concern that extended arid periods will be possible even in temperate Central Europe and that these extremes may be repeated. The plants in our gardens, the crops in the fields, forests and pastures all suffered and caused emergencies everywhere until total collapse and crop failure. Multikraft technology was able to achieve a lot, especially by increasing the drought tolerance of plants.

For Susanne it was logical that during this unusually long dry season the plants were not only thirsty but also hungry. Without moisture, neither can microbes process nutrients nor can plant roots absorb them. The garden was first given a thorough watering to slake its thirst until the topsoil had absorbed and distributed the water well. It was then given a second watering with Multikraft technology solution to feed the plants. The result: Susanne was once again able to finish the last season with success.

01 – At first glance, anything is allowed to grow here that wants to. That is power in the smallest space. But the seemingly boundless freedom is also carefully controlled here by the gardener. As has been demonstrated for centuries in the Inca culture, beans grow best alongside corn and sunflowers. Ground-covering cucumbers and pumpkin keep the soil moist and supplement the food supply with lush fruits. In front, there is enough space for the different types of cabbage. Marigolds, dill and borage further strengthen the immune system in this mixed culture with Multikraft technology.

02 – Leeks, the classic winter vegetable, clean up fungi and bacteria that plague us in the digestive tract. We should also be using the green leafy parts in our diets. They are important because they contain the greatest amount of healing ingredients.

03 – Kohlrabi provides even more healthy substances. Susanne keeps hers in the ground until late winter. Among other things kohlrabi stimulates cell metabolism, promotes the formation of blood cells, and strengthens the heart. Kohlrabi helps to reduce stress and improves your mood in low-light winters.

04 – Preparing seed portions for germination with Multikraft technology: Immediately after purchase, sprinkle some EM Ceramic Powder into the paper outer packaging and pour the seed from the small seed protection sleeve into the powder. The regenerating resonance vibration of Beneficial Microorganism is transmitted to the seed and awakens its readiness to germinate. The result: the grains grow a few days faster after sowing and remain healthy.

05 – When the dandelion blossoms, it's time for the potato beetle. Thirsty and starving plants are weakened and are the perfect food for its insatiable larvae. In the garden, though, beetles won't find conditions that would entice her to lay her eggs there.



Permaculture or Inca cultivation? It's an illusion that everything is allowed to grow that wants to. The gardener's hand is hardly noticeable.



Leeks: waiting to enrich your winter eating with many healthy nutrients.



In their informative book „Fruit and Vegetables as Medicine“, Oberbell and Lentz describe the power of kohlrabi.



Prepare seed for germination immediately after harvest or in a seed bag with EM Ceramic Powder.



Wherever immune-strengthening forces are lacking, the potato beetle will clear up any weakened plants.



Life doesn't stop at the front door

Microbiome household

No human – even Robinson Crusoe on his island – has ever been alone. Many living things are closer to us than we realise: we are inhabited! Human beings like to call themselves „the pride of creation“, but in fact, we are walking ecosystems. Mites, amoebae, flagellants and billions of microorganisms use humans as habitats, food sources and means of transport. The human ecosystem consists of about 1,000 arachnids, amoebae, fungi, a hundred billion bacteria and ten billion body cells. For every single human body cell, there are ten micro-organisms: We are a minority in our bodies.

Anyone who immediately thinks of pathogens forgets that microbiology fulfils vital functions. Adults' approx. 2 m² large skin surface is home to up to one million bacteria per cm², which protect the skin from external influences. The microbiological population of the mucous membranes in our digestive tract (approx. 400 m² surface area) is responsible for the division and uptake of food as well as for the stimulation of our immune system. This multiplicity and variety of our „companions“ ensure that we are balanced, i.e. healthy. The microbiome – all the microorganisms of a living being – is the focus of current medical research.

Household living space

The own four walls in which the „human ecosystem“ lives offer an interesting habitat for other living things. Co-inhabitants who accompany us in our household until today started settling very quickly as far back as the first cave-people. Although houses have only been built for about 20,000 years – a very short period in terms of geological history – it quickly became necessary to adapt to these special, almost extreme habitats.

According to one estimate, the surface area of all flats worldwide is approximately 640,000 km². This corresponds approximately to the area of France. Only in recent years has science begun to take a closer look at the „household“ ecosystem and for the first time to investigate it more intensively. In a study, for example, 50 houses and households in the US state of North Carolina were examined for their insect colonisation. More than 10,000 insects from about 750 different species were collected in living areas, cellars and attics.

The household living space is characterised by extreme conditions, which are hardly found in nature: few to no plants, drought and low food resources. Vacuum cleaners, cleaning agents, but also pesticides increase the evolutionary pressure. Under these conditions, only very well adapted species such as pholcid spiders, house dust mites or silverfish can survive in the long term. Bedbugs, which in the middle of the last century were considered almost extinct due to the use of DDT and other insecticides in the industrial nations, became resistant within a few decades and are now on the rise again.

Microbiology at home

Above all, microorganisms also populate our homes. As part of the „Home Microbiome Project“ study, seven families and their households with 18 persons, three dogs and one cat were sampled daily over a period of three weeks, and approximately 22,000 species of microorganisms were detected. Microbiological „hotspots“ are not – as was often rumoured in the past – toilet seats, but door handles, light switches and above all mobile phones and PC keyboards. Moist cleaning cloths and sponges provide ideal conditions for microbiological growth.

Whoever tries to create sterile conditions with aggressive detergents or disinfectants starts a competition that cannot be won. Disinfection not only destroys pathogenic germs, but also the remaining microbiology. However, re-population occurs immediately and microorganisms adapt very quickly to conditions that are hostile to them, sometimes leading to the development of resistance. This phenomenon can be observed in hospitals, among other places and is referred to as infectious hospitalism.



Mag. Robert Rotter,
ecologist/limnologist

As a long-time Beneficial Microorganism user, lecturer and Multikraft consultant, he follows the motto: „Ecological thinking and acting can be wonderfully supported by Multikraft technology“.

Healthy microbiome

Findings from microbial research show that the diversity of the microorganisms in the human ecosystem and its household can be regarded as a source of health. At work, at home or partly in leisure activities: We spend up to 90 % of our lifetime in closed rooms, the microbiological settlement of which in turn influences us. A healthy microbiome in the household is, therefore, important for us and this is how we can boost it: Letting air in on a regular basis leads to a reduction of humidity in rooms and prevents the development of mould. It also allows a variety of good bacteria to enter buildings.

Probiotic cleaning agents such as eMC[®] Cleaners offer many advantages as a natural alternative to chemical cleaning agents. The microorganisms contained in probiotic cleaners ensure deep pore cleanliness and simultaneously colonise the cleaned surfaces with regenerative microbiology. Indoor plants also contribute a lot to a positive microclimate. This was proven by a recent BioTechMed-Graz study on „Chlorophytum comosum“. There is microbiology on this Chlorophytum comosum – also known as spider plant – which has a clearly positive influence on the microbial habitat in rooms.

As part of the biosphere, people should be aware that we cannot lock out life – neither in households nor in many other areas. Trusting that life develops only in cooperation we should make every effort to promote life and the associated diversity in the interests of our health and quality of life.



Photos: Shutterstock, Multikraft

Treasures of nature in a new appearance



In Conversation: Katharina Krebs



Selected herbal extracts and Beneficial Microorganisms interact to form the bioemsan organic cosmetics line. For each individual product, the composition is carefully considered by experts in herbal medicine. Bioemsan products are purely biological and completely free of synthetic additives.

We have supplemented some products of the bioemsan organic cosmetics line and newly developed an intensive care cream. These bioemsan products will be available from 2019 with improved recipes in a new look. Product Manager Mag. Katharina Krebs gives an insight into the cosmetic treasures and reveals beauty tips for spring.

Both inner and outer values play an important role in organic cosmetics. The bioemsan natural cosmetics line has proven itself since 2003. What motivated you to redesign some of your products?
We stand for certified organic cosmetics from Austria and are constantly working on improvements. Our customers have given us a lot of positive feedback on our bioemsan organic cosmetics line. This motivated me to supplement the range and to further improve the already high-quality recipes. We have thus adapted our cosmetic products to current needs and supplemented them with the latest biological raw materials.

Herbal extracts from organic cultivation and Beneficial Microorganisms are essential components of the probiotic bioemsan products. What do you pay particular attention to during production?

We pay particular attention to good biological sources for all ingredients and to domestic production. Regionality is important to us and we have, for example, partially replaced jojoba oil with regional oils such as linseed oil or sunflower oil. When we source raw materials from other countries for our recipes, we support social projects. With shea butter, for example, we are supporting a women's project in Burkina Faso.

The ups and downs of care products is also a fine, pleasant fragrance. What do you attach great importance to with the scent mixtures?

The fragrance is always an individual impression. We develop a rounded mixture of essential oils for a product. With the bioemsan balsam cream, we have opted for a fragrance of chamomile and lime blossom. It is important to make sure that the oils are suitable for the face or the scalp good. The nice thing about our products is that they are very well tolerated due to the combination of natural ingredients with Beneficial Microorganisms. With 15 years of experience in organic cosmetics, I can also confirm that Beneficial Microorganisms also have a positive influence on the shelf life of bioemsan products.

Let's take a look at the exterior. Packaging is a complex topic in natural cosmetics. It should be produced as resource-conserving as possible and recyclable, as well as break-proof and easy to transport. She should also lie well in the hands and please the eye with her beauty. Quite a number of demands at once that need to be considered.

Yes, you could say so. Our packaging meets all these requirements. They protect the natural ingredients, are ecologically compatible and visually appealing. The bioemsan concept is well thought out and implemented from the content to the outer shell.



With the new tubes no difference can be seen from the outside. However, they consist of 70 % bioplastics. What is the benefit?

The new tubes have remained the same in appearance and still fulfil the same functions. They guarantee the same shelf life for shampoos and shower gels. What's new is that they are made from recycled raw materials. We thus act even more ecologically than before while maintaining the same functionality.

For creams Multikraft opted for glass jars with wood screw tops. So what makes it special?

The wooden twist lock of our glass jars is made of local ash wood and naturally glazed. This gives this packaging a special touch. The wood bears the FSC seal (Forest Stewardship Council). So it comes from sustainable forestry operations.

When designing packaging, the focus is always on making it as practical as possible. Practicability is one of the highest principles and must be combined with functionality and attractive appearance. Glass jars in the shower are impractical. For face or body creams, on the other hand, it is pleasant to use a handy glass jar.

With the successful bioemsan toothpastes, the range has been extended to include another toothpaste that is also suitable and vegan for children. What was important to you during the development of the new bioemsan Plus toothpaste?

The bioemsan toothpaste Plus was again developed in cooperation with Dr. med. dent. Gerhard Schneider. This time it has an even higher alkaline PH value to better help with parodontosis and gum problems. The new bioemsan toothpaste Plus is also ideal for children and babies and is a tasty highlight. It has a delicate taste of lemon and is slightly sweet due to the xylith, which also has an anti-cariogenic effect. My daughter would love to eat that toothpaste.

Photos: Multikraft

You have done a lot to supplement the products of the bioemsan organic cosmetics line and to design their packaging in a useful and beautiful haptic quality. Is there also a completely new product?

The intensive care cream from bioemsan is a new product in the bioemsan organic cosmetics line. Its main ingredients are shea butter and coconut oil of the highest quality. This makes the intensive care cream the ideal care for sensitive skin, dry skin areas and generally a very good care if the skin is heavily stressed. A great all-rounder for face and body!

Wild rose face oil, the extract of rose buds and other high-quality ingredients make bioemsan rose face oil from the glass dispenser a flattering skin care product. What is the best way to use facial oil?

The bioemsan wild rose face oil works wonderfully as a facial oil and also as a care oil for dry and sensitive areas. The wild rose is known for its special ingredients and it supports all the skin regeneration. From earlier times it is known that the wild rose oil works strongly regenerating. For example, it does dry, scaly skin very good. wild rose oil also promotes collagen production in the connective tissue. This preserves the skin's ability to retain moisture. The bioemsan wild rose face oil works excellently after cleansing the skin.



Soon the spring will be here with its first feelers. What cosmetic tip do you have for pleasantly mild spring days?

In spring it is important to purify and revitalize our skin after the winter months. I recommend good baths with salt or peeling. Our bioemsan shower and bath salts are suitable for this because salt always has a very cleansing effect on the organism. One should always take a salt peeling or salt bath after a strenuous working day in order to leave all the stress behind.

In spring it is especially important to do a face peeling again and again and to clean the skin well. Our bioemsan green tea peeling can also be used as a mask for longer on the skin. It has a strong antioxidant effect due to Matcha green tea powder, EM Ceramic Powder and Manju. It makes the skin smooth and evenly beautiful. Ideal to leave old winter ballast behind and start spring fresh and happy!



Healthy mouth

Clinical study proves natural prophylaxis with bioemsan

100.000.000.000.

That is the number of bacteria that live in our oral cavity. A hundred billion. An unimaginable number, actually. There are many different types of bacteria that colonise the gums, teeth and tongue. It is important that this coexistence of the bacteria – the microbiome – is balanced, because this is the only way to protect the immune system against inflammations and diseases. bioemsan toothpaste serves as a natural prophylaxis. It can inhibit gingival bleeding and plaque formation, according to a study by the Institute of Bacteriology and Mycology and the Polyclinic for Dental Care and Periodontology, both at the University of Leipzig

For a long time bacteria were preceded by their reputation as pathogens. The latest scientific findings show that a balanced microbial balance is of the utmost importance for our health. This applies not only to our intestines or our skin, but also to our teeth and gums. Put simply: Good bacteria protect. However, if harmful bacteria predominate, various diseases develop.

In the mouth, for example, dental plaque, which consists of complex layers. If tooth surfaces are not kept free of plaque, plaque can lead to caries, paradontitis and gingivitis. Gingivitis is a mostly bacterial inflammation of the gums.

The right care and prophylaxis are therefore essential to prevent plaque, inflammation and bleeding of the gums. bioemsan toothpaste consists of high-quality biological herbs and Beneficial Microorganisms. In terms of prophylaxis, it achieves positive effects, all on a natural basis without chemical additives.

Clinical study

So far toothpastes with chemically active ingredients have been extensively studied but however, there is no extensive study material on herbal toothpastes as yet. In connection with his dissertation at the Institute for Bacteriology and Mycology at the University of Leipzig and the Polyclinic for Dental Care and Periodontology at the University of Leipzig, Alexander Geidel compared a herbal toothpaste with chemically active toothpastes with regard to their effectiveness in plaque and gingivitis control. The study was initiated by Dr Monika Krüger, Professor Emeritus and Director of the Institute of Bacteriology and Mycology, in collaboration with university professor Dr Dr. h.c. H. Jentsch. Following her suggestion, the bioemsan toothpaste from Multikraft was examined more closely as a herbal toothpaste.

In the clinical study, volunteers were selected from the patient base of a dental practice and randomly assigned to one of the toothpaste groups: a triclosan and a fluoride-containing toothpaste and a herbal-based toothpaste - bioemsan from Multikraft. Triclosan is used in toothpastes because of its antimicrobial effect, fluoride to protect against tooth decay. According to the specifications, the test persons applied the respective toothpaste during the 24-week test phase on a regular basis.

„The results indicate that there are real alternatives to conventional chemically active toothpastes.“

Alexander Geidel,
author of the dissertation and dentist in Leipzig

Better values

Alexander Geidel was interested, among other things, in how certain values in the mouth change with regular use of the respective toothpastes. „The Approximal Plaque Index (API) measures oral hygiene. Like the Oral Hygiene Index (OHI), it describes the percentage of plaque per tooth. The Sulcus Bleeding Index (SBI) indicates the amount of bleeding points after careful probing of the gums. The SBI and also the Index Bleeding on Probing (BOP) are related to the inflammation of the gums. The lower the values of API and OHI (also of SBI and BOP), the healthier the gums“, the dentist practising in Leipzig explains.

- The SBI value improved significantly in all groups after 12 weeks (P=0.001 to 0.033).
- The BOP value was significantly lower throughout the study (p=0.001 to 0.036).
- At the end of the study, significantly lower API and OHI values were recorded for bioemsan toothpaste compared with fluoride toothpaste (p=0.001 to 0.049).

In the study, the results for the effectiveness of the herbal toothpaste were better than those of the reference toothpastes. With regard to the variables OHI, API and BOP, the results of herbal toothpaste after six weeks were significantly better than those of fluoride toothpaste and slightly better than those of triclosan toothpaste. „I think the significantly better values are based on the composition of the bioemsan toothpaste,“ says Alexander Geidel.

Effective without chemical additives

In his dissertation, he concluded that bioemsan herbal toothpaste is just as effective in reducing plaque and gingivitis as conventional or fluoride-containing toothpastes. It has been proven that bioemsan toothpaste can inhibit the formation of bleeding gums and plaque and reduce anaerobic bacteria in saliva.

The results, therefore, indicate that bioemsan toothpaste is a suitable alternative to chemically active toothpastes. Dentist Alexander Geidel explains, „The toothpaste containing triclosan and fluoride used in the study is one of the best-examined toothpastes. In comparison, we have shown that bioemsan herbal toothpaste inhibits gum bleeding and plaque better. This means that people can trust bioemsan toothpaste and even favour it to toothpastes containing triclosan and fluoride.“



The bioemsan toothpaste

- is effective in reducing plaque and gingivitis.
- has been shown to inhibit plaque formation and gum bleeding and reduce anaerobic bacteria in saliva.
- leads to better API, OHI, SBI and BOP values when used regularly. The smaller they are, the healthier the gums.

Quintessenz Publishing,
Oral Health Prev Dent. 2017;15(5):407-413. doi: 10.3290/j.ohpda.38975.
“Control of Plaque and Gingivitis by an Herbal Toothpaste - A Randomised Controlled Study.”
Geidel A, Krüger M, Schrödl W, Jentsch H.

Manju in action for a healthy gut



Naturally beneficial

If we have cramps and our gut is rumbling unhappily, we don't feel good. Healthy intestines are vital for our sense of well-being. They regulate digestion and are responsible for the immune defence. There needs to be a balanced bacterial environment in the intestinal flora so that the gut can do all its tasks well. A recent study by TPR, the Tropical Plant Resources Institute in Japan, shows how the dietary supplement Manju positively influences our intestinal microbiome.

Health ingredient PAC reduces putrefaction products in intestine which leads to an improvement of intestinal environment.

The intestine is responsible for immune defense, digestion and absorption. However, in modern society, there are many causes which lead to the deterioration of intestinal environment, such as irregular eating habits, lack of exercise, stress or others.

Moreover the proportion of bad bacteria in the intestine increases when people come to their middle age or older, which will worsen the intestinal environment.

The intestinal condition can be determined by observing its metabolic products. If the intestinal environment is bad, putrefactive products that cause body odor, fecal odor or skin problems will increase. Following causes lead to the deterioration of intestinal environment: Irregular eating habits, stress, anxiety or aging.

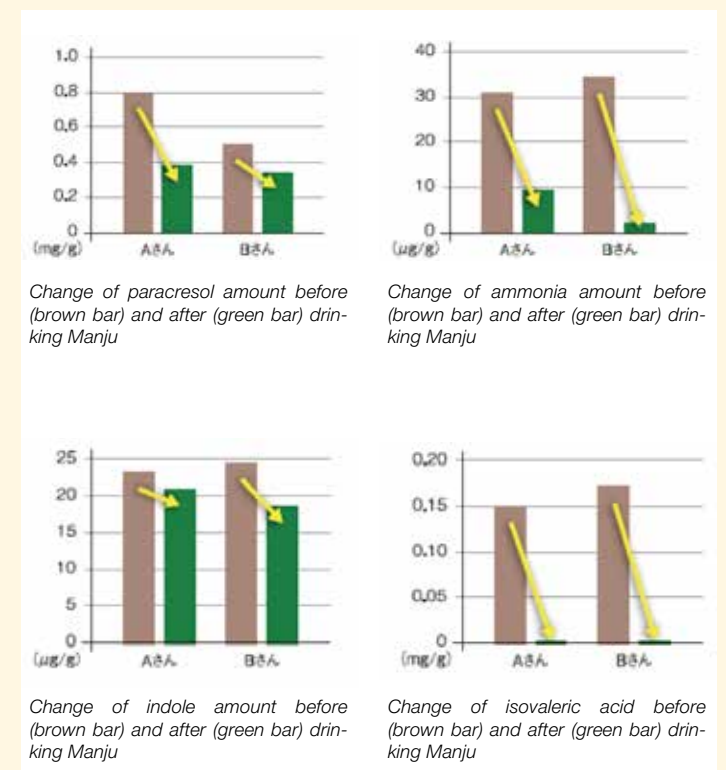
In this study we examined the amount of paracresol, which is a putrefaction product and also the amount of ammonia, indole and isovaleric acid, which are also putrefaction products in feces, to observe what kind of changes are visible before and after drinking Manju.

Experiment method

We let two men drink 30 ml Manju each day for 90 days and examined the amount of paracresol, ammonia, indole, isovaleric acid in their feces to observe the change of these putrefactive products.

Experiment result.

As a result of comparing before and after drinking Manju, the amounts of paracresol, ammonia, indole, isovaleric acid were all reduced. It can be inferred that the intestinal environment is improved by drinking Manju, which contains all the healthy ingredients and the putrefactive products decreased. By improving and adjusting the intestinal environment we can expect an effect of enhancing bowel movement and immunity.



It has been confirmed that by drinking the health ingredient PAC, the intestinal environment and immune function were improved.

The improvement of intestinal environment is a key to enhance immunity. Immune cells fight against and eliminate viruses, bacteria, pathogenic bacteria and chemical substances as they enter the human body. It is said that about 60 % of immune cells are in the intestine. Immunity can be enhanced by adjusting the intestinal environment and activating immune cells. We did a research on the influence of the healthy ingredient PAC contained in Manju on the intestinal environment.

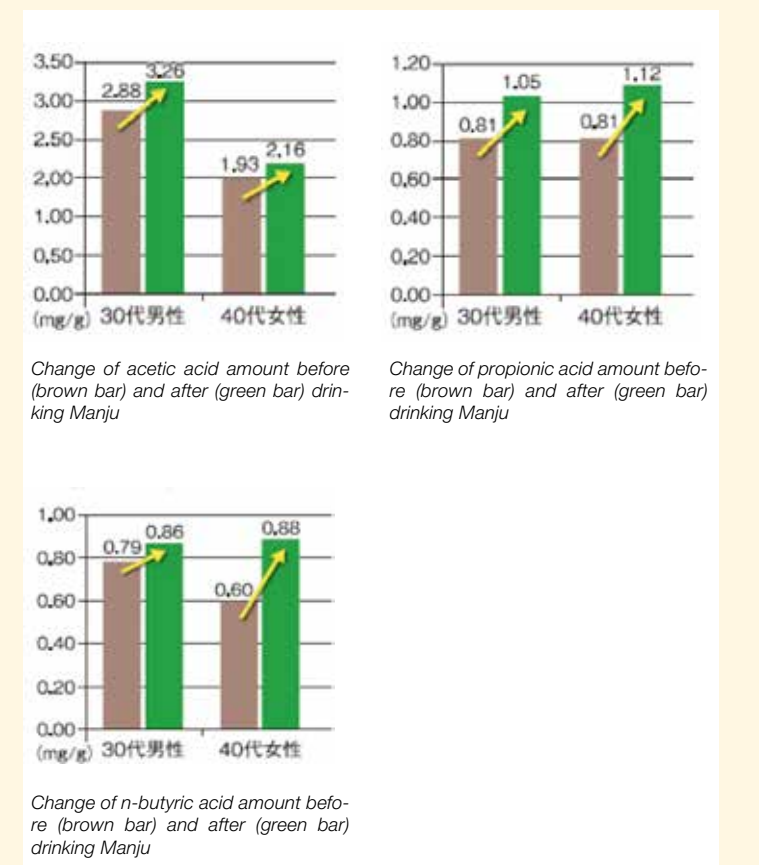
The organic acids which represent colon health have an increasing trend in the experiment.

Organic acids are an important indicator of intestinal environment evaluated together with intestinal flora. It is known to have an effect of improving quality of fecal and bowel movement.

We let a man in his 30s and a woman in her 40s drink 30 ml Manju each

day for 90 days and examined the change of the organic acids amounts in their feces. As a result of comparing before and after drinking Manju, organic acids (acetic acid, propionic acid, n-butyric acid) tended to increase as shown in the figures below. Acetic acid and propionic acid act as energy sources for the body, they also have the effect of promoting the absorption of calcium at the same time. Propionic acid has also been reported to control the synthesis of cholesterol in the liver. In addition, n-butyric acid is an essential nutrient for colonic mucosal cells. The shortage of n-butyric acid will lead to dysfunction of the colon. From the result of this experiment, we can expect the improvement of intestinal environment.

Following charts show the results of the study carried out with a man in his 30s and a woman in her 40s:



The full study can be found at www.multikraft.com
Source: TPR 2018



eMC®

CLEANER

Probiotic • Ecological • Compatible with foodstuffs



ADVANTAGES



Probiotisch

eMC® cleaners promote positive bacteria, which provide natural protection for our skin and our living environment. Pathogens have no way to survive because the Multikraft Microorganisms dominate their micro-climate.



„Compatible with foodstuffs“

Compared with conventional cleaners, eMC® cleaners offer significant advantages in controlling microbiological contamination and are especially advantageous when used in food preparation settings.*

**Excerpt from a report prepared by Professor Dr Werner Pfannhauser*



Health

The natural ingredients and positive microorganisms make the products particularly risk-free and gentle on the skin, working against irritation and skin allergies.



Ecologically friendly & saves water, too

eMC® cleaners are the natural alternative to chemical cleaning agents. They also continue to do their magic in pipes long after application and conserve water use.



Qualität

eMC® cleaners are manufactured in a multi-stage quality process at the company's location in Pichl, Austria.



„All round clean“
Pack

eMC® Cleaner
5-Pack

Your Multikraft partner