Goetheanum · Freie Hochschule für Geisteswissenschaft
Sektion für Landwirtschaft
Section for Agriculture
Section d'Agriculture
Seccion de Agricultura

Michaelmas Letter 2025

Dear members of the Circle of Representatives, dear friends

The third international biodynamic research conference has just come to an end. It took place at a historic location: the Royal Agricultural University in England. Among the 185 participants from 28 countries, a somewhat hesitant start – "We here as biodynamic farmers at the Agricultural University, the training ground for the former empire?" Then an increasingly warm and joyful atmosphere, culminating in a confident mood – "We can and want to make a significant contribution to the humanisation of agriculture and food culture!" I would like to take the research conference as an opportunity to develop some fundamental thoughts on research in this Michaelmas letter. How do we understand research and what role does research play in the biodynamic movement and at the School of Spiritual Science, to which the Section for Agriculture belongs?

Newton and the foundation of modern science
Research in the modern sense originated in England – initially in the field of natural science. Sir Isaac Newton (1643–1727) stands for this beginning with all the charisma of his name. He related the purely sensory observations that had already been made by Galileo Galilei (1564–1642) and the subsequent thinking that had already been named by René Descartes (1596–1650) in a strictly causal manner and expressed them in mathematical formulas. This laid the methodological foundations for modern natural science. Newton postulated in particular that gravity is a universal law. With the formula that this gravitational force is determined by the masses of the attracting bodies and decreases with the square of the distance ($F = G \times (m1 \times m2) / r2$), mechanics became the basic discipline of modern natural science. This gave rise to a mechanistic view of nature and thus of the world based on the knowledge of what is dead. More and more sciences were drawn into the spell of this rational explanation: chemistry, biology and then also anthropological, sociological and theological studies. This natural science is very application-oriented. To this day, the applied sciences, e.g. in agronomy and nutritional science, are characterised by this mechanistic and reductionist approach.

Goetheanism and Rudolf Steiner's spiritual science
Johann Wolfgang Goethe (1749–1832) had a deep aversion to this kind of mathematised intellectual logic and its application to nature. Over decades, he systematically developed a radically different kind of scientific approach to nature, under the guise of his artistry, so to speak. It was the young Rudolf Steiner (1861–1925), as editor of Goethe's scientific writings, who first brought this treasure to light. He also methodically described and justified Goetheanism in his editorial commentaries and early books, although Goetheanism is still not fully recognised as a scientific school today. However, anthroposophical natural science – from astronomy and geography to specialised and applied disciplines such as plant breeding and pharmacology – is essentially Goetheanism. Goetheanism is very important for the development of biodynamics.

Rudolf Steiner did not stop at Goethe. He advanced to the next scientific level, which he called spiritual science. By this he means a science of the spirit, that is, of the spiritual world, which, according to his research, he describes as being as diverse and dynamic in its development as natural science is with nature. In doing so, Steiner carries the claim to generate knowledge into a realm that was defined by the philosophers of the Enlightenment, especially Kant (1724–1804), as belonging to the realm of faith. Based on his innate clairvoyance, Steiner embarked on a path through his studies of Goethe and the *Philosophy of Freedom* that enabled him, from around 1901 onwards, to research and present a systematic knowledge of the spiritual side of the world. He described the method he developed for this purpose in detail. It does not shy away from modern thinking; on the contrary, it is about training and developing thinking. It is about progressing from discursive thinking to 'pure thinking' through meditation and concentration. This is followed by enhancing it to living thinking (imagination), then to feeling thinking (inspiration) and volitional thinking (intuition). He then applied this science of the spirit more and more concisely to human beings and showed how spirit, soul and body interpenetrate. Anthroposophy is the world view based on Steiner's spiritual science – in science, art and practice. The "Agriculture Course" of June 1924 is a late fruit of Steiner's work and shows in an exemplary way how natural science, Goetheanism and spiritual science can give a complete picture of reality. In particular, the "Agriculture Course" shows how, through human action, it is possible to cultivate nature, in contrast to the exploitation of nature based on mechanistic science and technology. In biodynamics, we work with the natural basis for food production in such a way that, in addition to the annual yield, there is also an improvement in the basis of production (soil, plants, animals, climate). To my knowledge, this is unique in the modern world.

Research at Ruskin Mill

Aonghus Gordon, the founder of Ruskin Mill, gave a talk about the institution one evening during the research conference in the Woolbarn on the Ruskin Mill site. It has grown dynamically from modest beginnings and now operates in 17 locations across England with a total of 1,400 employees working with children and young people who need special educational support. Quite a few of the young people exhibit unusual behaviour and are referred by the youth welfare service. Every Ruskin Mill location has a biodynamic farm. The experience of a meaningful whole – i.e. the agricultural organism – in which one can participate is one of the essential foundations of Ruskin Mill's therapeutic approach. In addition, there is a strong emphasis on craftsmanship, including art and rhythms. The seven life processes and the twelve senses are important foundations of Ruskin Mill. How does Ruskin Mill manage to remain true to its founding principles? How is it possible to keep such a wide-ranging, diverse, large initiative with 1,400 employees at the pulse of life? Aonghus' answer is clear and simple: through research. He says that those who conduct research in their business and cultivate further training in connection with it have a source of practical anthroposophy with presence of mind. How is this implemented in concrete terms at Ruskin Mill?

Most of the research is qualitative social research. This means that the actual process of therapeutic education is the subject of the research. How is it possible to work with a young person for 15 minutes at a time, even though this is not normally possible? How do you decide whether a young person should work with sheep, goats or donkeys? How can the youth welfare authorities be made to understand that the intense experience of security and responsibility that arises when a young animal – such as a lamb – is

held in one's arms is fundamental? How can I assess, accompany and verify a young person's developmental arc over the course of a year? This is how the practice is researched. The aim is to accompany volitional activity, which otherwise simply become routine, with questioning awareness. In this way, I avoid the danger of routine practice and at the same time am not in danger of theorising. This research can be carried out as master's studies at a normal university, because this type of research, in which I do not look at the research subject "objectively" from the outside, but rather investigate a concrete developmental step in progress, is particularly possible in England. The Ruskin Mill summer newsletter stated that 15 master's degrees and one doctorate were awarded this year.

There are also other research activities in the Ruskin Mill universe. For example, there are four research centres where Goetheanism is studied in depth. Researchers are also part of the Ruskin Mill team. Last but not least, Aonghus Gordon is a researcher in that he incorporates ideas from encounters and experiences into his inner work and social work, enabling him to shape the further development of Ruskin Mill from the ground up. He recounted how Manfred Klett gave a lecture at Ruskin Mill over 20 years ago and described biodynamic farms as potential universities of the future. This led Aonghus to embed every educational institution in a biodynamic organism, and it also led to the founding and construction of the Field Centre for Goethean Research.

From an inquiring attitude to research

Since its beginnings, biodynamics has always relied on the inquiring attitude of committed individuals. And so, in every generation, forms and formats have emerged to develop and nurture this inquiring attitude and give it a place, both on farms and in organisations. The "Research Circle of Anthroposophical Farmers" was founded during the "Agriculture Course" in Koberwitz in 1924. The aim was to make the "spiritual scientific principles for the flourishing of agriculture" set out by Rudolf Steiner in his eight lectures observable, practically testable, differentially applicable and more easily understandable through simple field experiments.

Experiments were carried out in many places using simple means: field strips with and without spray preparations, compost with and without compost preparations, sowing close to summer and close to winter, feeding variations, etc. This stream has continued, and I remember that in the early 1990s, as part of the then Producers' Association for Biodynamic Agriculture in Switzerland, there was a specialist research group that received funding and reported regularly in writing and orally. Similar groups existed in many countries. Somewhat different from this was the Goetheanism developed by Section leader Jochen Bockemühl with many young people, which became decisive for many biographies. As a result, many topics have been widely discussed, such as root development, the time structure of plants, plant breeding, medicinal plants, landscape development, etc. Another line of research is cosmic constellations, which became a defining theme in the movement through Maria Thun during the 1980s and 1990s. Through simple comparative experiments, she identified four qualities of cosmic effects on plants, which she summarised in the catchy image of root days, leaf days, flower days and fruit days. Maria Thun and her work inspired many gardeners and farmers to observe the starry sky and plant growth, and to approach their work with a research attitude. However, this example also shows that the opposite is never far away: a firm belief, even a dogmatic conviction, when it comes to cosmic and spiritual influences – especially since, according to Maria Thun, the constellations were sometimes taken more

seriously than the weather. This is also part of our movement. An inquiring mind is the best remedy for dogmatism. We would do well to promote and cultivate this attitude – which is to be distinguished from criticism – in the biodynamic movement.

This is followed by the conversion of the inquiring attitude into research. In research, a clearly defined question is investigated using a recognised method within an appropriate period of time and is only considered complete once it has been published. This professional research based on academically recognised principles has been used for biodynamic agriculture since the 1970s. This trend has also given rise to research institutes such as the Research Institute in Darmstadt, Germany, the Louis Bolk Institute in Holland and the Research Institute for Organic Agriculture (FiBL) in Switzerland. Since the 1970s, there have also been isolated master's or doctoral theses at state universities. A chair for biodynamics existed in Germany for five years, but it could not be maintained.

International Biodynamic Research Conference (IBDRC)
The third International Biodynamic Research Conference (IBDRC) – following the first in 2018 at the Goetheanum and the second online in 2021 – is primarily a venue for publication. Researchers present final or interim reports on their research. This is the third step in a research process – following the precise formulation of the research question as the first step and the conscientious execution of the research as the second step. Disclosure, announcement and publication to the research community, peers and the general public are essential components of scientific methodology and ethics. It is a social technique of honesty and transparency. It is only through publication that the "scientific community" emerges, which in the best case scenario represents the knowledge pool of society at large. Having an open, transparent, evolving pool of knowledge is a valuable asset for a society. The alternatives would be a monopoly on knowledge, secret societies, oligarchies of belief, etc. Thomas Kuhn (1922–1996) showed that modern science, despite its declared openness and transparency, has once again tended to become a closed system of beliefs. And we also know from our own experience that new ideas such as cosmic influences in agriculture, new practices such as preparations, and new methods such as image-forming methods have not been accepted for decades and still are not.

This made a central question of the IBDRC all the more important: What is accepted as a contribution from research? What criteria are used to decide yes or no in terms of content and method? The criteria were not defined abstractly, but concretely. The focus was on the actual work and the people involved. If a person seriously engages with a question and a method and arrives at presentable results, participation is possible. The individual themselves determines where and how they will move into the future. Freedom must prevail here. The presentation or publication enables the community and society to accept or reject it. Of the 110 applications submitted, 101 were accepted. There was a very open atmosphere during the conference, with everyone willing to listen to each other. Indeed, I would say that the quality of active listening was very high. This created a deliberate tolerance, an open horizon for the future of biodynamics and agriculture made possible among other things by research. And this intellectual fresh air led to an intimate, joyful atmosphere that was noticeable to everyone in the corridors and halls of the Royal Agricultural University.

All studies presented at the research conference will now be collected, edited and published by the end of 2025. Both the newsletter of the Section and the website of the research conference will provide information as soon as the publication is available.

Four thematic blocks in focus
Based on my observations, I would like to highlight four central topics that were reflected in numerous keynotes, talks, workshops and posters.

One major topic was **biodynamic preparations**. I was amazed that there is still so much research being done in this area. At the same time, it is clear that the preparations continue to act as a mysterious key to understanding biodynamics. There were reports, including a meta-study on the effects of the preparations and ongoing work on potentised preparations (see also the study reports on our website).

Modern biome research is currently providing a major boost to our understanding of the effects of the preparations. It is well known that the microbial population in the soil is extremely dense. For several years now, it has been possible to carry out a kind of census in the soil by analysing gene sequences: how dense is the colonisation, which bacteria or fungi are present, how do they interact within the population? This allows clusters of microorganisms to be identified that have, for example, growth-promoting or stress-reducing effects on plants. Soil tests at 23 locations in France and Germany found an increase and activation of potentially growth-promoting microorganisms after the application of biodynamic preparations. The microorganisms found in the soil and assessed as positive are also present in the preparations themselves. The effect of the preparations can thus be understood as an inoculation of the soil and the plants growing in it with beneficial microorganisms (see, for example, the study by Jürgen Fritz and his team). The study of the biome seems to open a window into life itself. It should be noted that sequencing the biome is very complex, the resulting data sets are extremely large and, correspondingly, a large amount of computing power is required for analysis. A great deal of technology is therefore needed to gain an insight into the living world in this way. I think it will be important in the near future to investigate whether the ubiquitous biome can be understood as a material expression of what Rudolf Steiner calls the etheric world.

The question of the **quality of Demeter foods** is as old as the movement itself and continues to fascinate researchers. The study on cucumbers (see the study by Marjolein Doesburg-van Kleffens, Jens-Otto Andersen, Carsten Gründemann and Jürgen Fritz) is very topical. The cucumbers are subjected to an extreme stress test by being sliced, so that their ability to grow back together again can be examined as an expression of the vitality of their cell tissue. The results show that biodynamic cucumbers have more vitality than organic cucumbers and much more than conventional cucumbers. I found the approach of assessing food quality from a comprehensive perspective to be rather new. The One Health and Planetary Health approaches make it increasingly clear that human health is interdependent with the health of animals, plants and soils. A particular type of diet should therefore also be assessed in terms of its overall impact, from cultivation to the plate. Corresponding studies will be extensive and have not yet been carried out, but there are research groups from the agricultural and food sectors with paediatricians and veterinarians where possibilities for studies are being explored. The aim would be to use large cohorts to investigate how biodynamic nutrition affects children in relation to conventional nutrition, both directly

and indirectly through its positive or negative impact on nature, which is, after all, the habitat for these children for the rest of their lives (see the articles on nutrition topics on our website).

Studies on **socio-economic topics** were then presented. In practice, the biodynamic and Demeter movement has been innovating for many decades. Some keywords: farming communities, land ownership, cooperation in the value chain, Demeter brand community, CSA, etc. What seems new to me is that these topics are now also being researched. I think this is progress and holds great potential. The question of pricing for agricultural products in particular is an essential issue that cannot be properly addressed, let alone be shaped, using conventional economic terms. If you explore the issue even a little, you realise that a new form of business management is definitely needed for farms. And even from an economic perspective, food systems are still difficult to calculate, although the true cost approach is enabling increasingly accurate estimates. This approach includes ecosystem costs as a minus and ecosystem services as a plus in the calculation, as well as the costs of illness caused by an unhealthy diet as a minus and the health benefits of a healthy diet as a plus.

One topic that was discussed particularly frequently and also presented in contributions was the question of **research methodology**. On the one hand, classical natural science as the basis for agronomy is the solid foundation of knowledge on which we stand, but on the other hand, it is also a kind of impenetrable wall that prevents us from understanding life itself. Scientific biome research in particular shows that the world of living creatures is different from what we previously thought. Everything is constantly connected, in dialogue, in flux. Epigenetics appears to be somewhat more important than genetics. Or in practical terms, fertile soil functions quite differently than chemical nutrient theory suggests. The presentation by Walter Goldstein from the USA was truly breathtaking, showing electron microscope images of swarms of bacteria in and around roots. One gets the impression that the roots and the swarms of bacteria are dancing together. He has grown maize that is fully supplied with nitrogen without nitrogen fertiliser. The maize plants obtain the nitrogen themselves with the help of bacteria. This is a revolutionary discovery in biological and agronomic terms. Then there is the question of whether soul gestures and attitudes also have an effect on plants and animals. There are experiments with eurythmy, for example, which show that a clear effect is visible without any material influence. And then there is the question of how humans as farmers affect the life context of a farm. This is where natural science has a difficult time. But qualitative social research, as described above in the section on Ruskin Mill, was developed precisely for such cases. The point is not to exclude farmers from the study because they are "subjective", but to include them, because without them the farm cannot exist. The objects of study are then, for example, the plants and their growers, the farmers and their herds of cows and their farms, as well as the preparation manufacturers and their preparations. One could, for example, record 15 individual cases in case studies and then examine these 15 case studies in a cross-case analysis to identify patterns of similarities and differences. This would provide further insights for the individual case as well as for the group. It seems to me that these methods are well suited to our agriculture.

Cyrill Rigolot from France has gone furthest in this direction, clearly demonstrating that there are big steps from monodisciplinary research (I examine individual grey parts) to interdisciplinary research (we discover together that all the individual grey parts belong to the phenomenon of the elephant: "It's an elephant!") and then to current transdisciplinary research (we ourselves are the elephant: "We are the

elephant!"). This takes us into an area where research is no longer merely descriptive, but can have a transformative effect. Claus Otto Scharmer's Theory U, well known in our circles, with the Presencing Institute is located here. The investigation leads to change. Cognition is not just passive reflection, but co-creative production. This approach does justice to agriculture with all its ecological, socio-economic and cultural references and can help it move forward. Consequently, Cyrill Rigolot was able to report that an independently run "Institut du vivant et des communs" has been established in France. In a nutshell: the future will be determined by the way we conduct research.

Rudolf Steiner's anthroposophy and the School of Spiritual Science

The insight that the future will be determined by the way we conduct research was already a guiding principle for Rudolf Steiner. He believed that if we only believe in the spiritual world and do not have cognition of it, dogmas of faith will form that are not conducive to free individuals or liberal societies. Therefore a knowledge-based approach to the spiritual world is necessary, and so he demanded and developed spiritual science. Since the door to the spiritual world had been open to him since childhood, his own experience, his path of self-education in this field, was the most important source. However, he also had to take into account what already existed in the field of spiritual knowledge. He found an open door in theosophical circles from 1901 onwards, and so he became involved there, only to break away from this group again in 1912 – and theosophy became anthroposophy. Very early on, he met the scientific requirement for transparency of method by publicising the training path in writing and by word of mouth. His book on the subject is entitled *Knowledge of the Higher Worlds. How is it Achieved?*. It essentially illustrates exercises for thinking, feeling and willing, so that these basic soul functions can be transformed in such a way that they are detached from reference to self and can attune themselves to reference to the world. In this way, they become organs of knowledge of the higher worlds. Access to the spiritual world is to be attained step by step. Steiner distinguishes between imagination as access to the spirit working in life (etheric world), inspiration as access to the world of revealed spirituality (astral world) and intuition as access to the world of beings (world of hierarchies). In contrast to other, especially older Eastern paths of initiation, Steiner emphasises that the modern path to the higher worlds does not work by dampening thinking, but by strengthening it. Self-aware consciousness if the I is also retained in all situations.

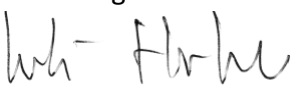
The core principles of the "Agriculture Course", such as the agricultural individuality, and its very practical details, such as the composition of the preparations, are based on Rudolf Steiner's spiritual scientific research. This shows us what an immensely productive researcher he was. He was not only a methodologist and teacher of research into life, the soul and the spirit, but also an extremely active practising researcher. The "Agriculture Course" also shows that Steiner always combined spiritual scientific research with a comprehensive phenomenology of the senses and a profound knowledge of conventional science. As a small example, let us briefly consider the topic of "seeds". Steiner's training book includes the "seed meditation". The aim is to use meditative concentration to gain clairvoyance into the etheric life connected with a seed through the physical and phenomenological study of a seed (by comparing it with a dead grain of sand). What here is methodological training becomes the basis for a renewal of seed breeding in the practical field, where dealing with seeds is part of professional business. First, this requires simple practical knowledge, such as information on germination capacity or the analysis of seed-borne fungal diseases. Secondly, it requires close observation and assessment of the

phenomenological characteristics of seeds, for example in wheat or maize. And thirdly, it requires the imaginative power of the breeder and also the farmer to create the cognitive connection between the seed, germination, vegetative development and then generative development, at the end of which the seed is once again present. Steiner, a master of his field, goes even further and describes in his "Agriculture Course" how a directly effective relationship with the cosmos occurs during seed formation and germination in the soil. This establishes a connection between the practice of the "seed meditation" and the practical handling of seeds and in seed breeding, as well as the description of "seed chaos" in the "Agriculture Course", with the statement that earthly chaos provides the conditions for cosmic influences to take effect.

Steiner knew that he was exposing himself to the danger of being understood and revered as a guru. During his lifetime, he often emphasised that it was not good to believe him, but that one should examine his ideas for oneself. He wanted his listeners, the anthroposophists, to actively receive and work through the spiritual scientific findings he shared with them. He also knew that he had to establish something for the time after his earthly life so that anthroposophy could continue to develop in a living way. For both reasons, he had been trying to found a school for this science of the spirit since 1911. At the Christmas Conference in 1923/24, the establishment of the school became a reality. The Anthroposophical Society was re-founded as its human and social foundation. The core task of this free association of people is to support the School of Spiritual Science at its centre. It also has the task of enabling the Goetheanum in Dornach as a building and visible expression of the society and the school. Both projects were successful. The second Goetheanum was built after Steiner's death, opened in 1928, survived the difficult 20th century and remains a place of living anthroposophy to this day. It is the seat of the Section for Agriculture and hosts the annual "Agriculture Conference" with up to 1,000 participants from 50 countries. The School of Spiritual Science is also still engaged in living work 100 years after its foundation. On the one hand, there is a worldwide network of groups working with the class lessons with great faithfulness and also with approaches to renewal. On the other hand, there are the 12 sections, each of which attempts to bring anthroposophy, practice and science into sustainable, interactive development for its specific field.

With the third international biodynamic research conference, the Section for Agriculture, together with its event partners – the Research Ring, the Biodynamic Federation Demeter International and the Biodynamic Association UK – has performed its task of research in the field of agricultural and nutritional science, including the perspective of spiritual science. As co-organisers, we are delighted that the IBDRC went so well and hope that it will also bring us all spiritual joy, because it will thereby refresh and rejuvenate the biodynamic impulse and have an impact on the global biodynamic movement beyond the IBDRC.

Warm regards



Ueli Hurter on behalf of the section leadership