Field report

My name is Henning Knutzen and I run an organic farm of 110 ha in Hürup in the district of Angeln in north Schleswig-Holstein. There is a considerable variety of different soils in this area which constitutes part of the so-called eastern hillside region. These range from loamy-sandy soils to sandy-loam soils. The average soil quality fluctuates between 35 and 60 index points. The farm has been run according to organic standards for the last six years and has primarily focused on cultivation of fodder cereals for organic pigs. As this market has, however, become increasingly difficult over the last year, at the present time our main focus is increasingly on high-price bread cereals and leguminous crops.

In terms of training, I am a professional farmer and studied Agricultural Sciences in Kiel. Since studying I have become increasingly interested in the subject of soil and humus formation and also had the good fortune to have a number of telephone conversations with the great humus researcher Erhard Hennig shortly before he died, and also the opportunity to read his written work on this topic. This had a profound influence on me and led me to the conclusion that humus formation and aerobic land management represents the fundamental key to our survival.

After recognising this, I started searching for methods and ideas which supported humus formation and tried them out on my farm. I discovered that humus formation with the aim of achieving at least 5% humus is really not easy and requires a lot of patience. As a conventional farmer I continued to work without ploughing, on the basis of shallow soil cultivation, intermediate cropping and the use of compost - but I also applied glyphosate and other herbicides. Knowing what I know today, however, I certainly cannot use these chemicals. Even in the organic farming sector where there is an awareness of its significance for healthy soil, I noticed that many farms did not practise...
consistent humus management. According to Erhard Hennig, our focus should be placed increasingly on aerobic decomposition and putrefaction should be avoided. Almost all diseases develop in anaerobic areas when putrefaction takes place. This is why I have tried to construct slurry ventilation equipment and thus produce aerobic slurry. I attended composting courses in Switzerland and use a compost turner on my farm. I have grappled intensively with the terra preta phenomenon and the use of vegetable carbon. I have also developed strategies to help farms where stocks are affected by chronic botulism diseases. I have conducted experiments with lactic acid preparations and live yeast cultures and also tested equipment to transfer information and oscillations to other media. I have started to run my own seminars and have attempted to pool the different currents of opinion and knowledge. I was also fortunate to be able to welcome Roland Plocher as a guest speaker at one of my seminars. Despite some initial doubts, I subsequently decided to utilise PLOCHER integral-technik on my farm.

Since 2013 I have been trying Plocher in a wide range of different areas and have discovered that firstly, it works, secondly, it is easy to use and thirdly, it is considerably more cost-effective than anything else that I tried previously, using similar technology.

It is almost impossible to produce good compost without a machine for shifting and turning. With PLOCHER compost additives, such equipment is no longer required. This saves time, energy and money. The manure is treated directly on the spot and transforms into top-quality compost without having to be shifted and turned. There is no need for any extra ventilation equipment in the slurry.

I have discovered that it is even possible to transform fermentation residues into liquid humus. After a few weeks the fermentation residues turn a browny-black colour due to the rich humic acid content. Normally fermentation residues are green and sticky because
waxes are also formed in connection with the rotting process. These waxes are not water soluble so they cause soil particles to form clumps and lead to a permanent reduction in soil fertility. Following the application of the Plocher soil activator-set 1-2-3 and PLOCHER plant products, on the contrary, I noticed a significant increase in yields (c. 25%). I have threshed wheat at 42 dt/ha net and broad bean-pea mixed crops at 45 dt/ha (dry products on net surface area). The protein quality was remarkable. In the spring wheat a proportion of up to 28% gluten was ascertained so I was able to sell it for a price which was €4.00/dt higher. Such levels of quality are rarely achieved in Schleswig-Holstein. Personally I had never achieved such qualities previously. In my opinion, the simultaneous application of PLOCHER products and the compost tea that I had made was particularly effective. The PLOCHER products created the right environment and the humus-forming aerobic micro flora can be re-established via the compost tea, both bringing about the effect at a quicker rate. Based on the state of cultivation in spring 2014, I am confident that even more significant increases in the yields can be achieved. In fact it should be quite possible to achieve at least the same yields as in traditional farming.

The soil has become well-aerated and easy to work. When you walk across the field, it's just like walking over a soft blanket. The soil probes can be pushed all the way into the ground without any resistance. There are no signs of compacted plough layers. And the soil is now alive with earthworms. There also seem to be less weeds. There are no thistles at all and also no snails. In spade tests, the soil crumbles finely and has an intense smell of forest soil.

I couldn't detect any signs of crop diseases such as eyespot or fusarium head blight. The principle is perfectly simple - healthy soil produces healthy crops.
In the pig farming sector I got the impression that the animals were calmer and not at all aggressive and yet they were significantly more vital. The animals grew well and received a quality mark of "excellent" from the slaughterhouse.

I think there are a number of ways to obtain a healthy humus-rich soil but PLOCHER Integral-technik makes it considerably easier, is more cost-effective and quicker for managing this important task which confronts our generation. Since getting to know Roland Plocher, I feel certain that my farm can continue to operate successfully as an organic farm, despite the high leasing costs. I am really pleased that this technology exists and am thankful to Roland Plocher for the experience he has gained over the last 30 years and has invested in this system.