



Sektion für Landwirtschaft
Section for Agriculture
Section d'Agriculture
Seccion de Agricultura

Biodynamic introductory course

Report for Heliopolis University and the Section at the Goetheanum

Peter Kunz and Jean-Michel Florin

Peter Kunz (from Sunday 14th to Thursday 18th) and Jean-Michel Florin (from Tuesday 16th to Wednesday 24th of April 2019) gave the second 2-weeks course at the Heliopolis University on the principles of Organic/Biodynamic agriculture which was designed in the Internal Bylaw and Curricula document from 2nd to 12th of December 2018.

Working conditions

The course was continuously supported by Angela Hofmann, director of the SEKEM farm. With the engaged help of the team of farm department leaders the course could mainly take place on the Sekem main farm. Students could stay and sleep on the farm during the first week. During the second week, the students travelled regularly from Heliopolis University to Belbeis with the bus. 2 days (22 and 23th April) took place at the campus of Heliopolis University.

It was a fruitful and interdisciplinary cooperation between international experts, university and farm responsible and local staff. So it would be possible to create a space where a holistic teaching approach became reality and was not too much disturbed by ordinary schedule routines of the University.

Program

The program covered first steps to focus the connections between the plants – the growing conditions, the farm landscape and the farm unity as a fundamental unit for sustainable farming operations worldwide:

- Conditions of soil creation and agricultural care for soil (recap from course 1)
- Changes in soil structure due to active crop rooting and vegetation in the last 5 months
- Qualitative approach of the different spaces in which the farmer are working (sky, soil and landscape)
- Discover landscape of the farm: first introduction to farm landscape design and biodiversity

- Plant development, most important agricultural plant families and options for integration in agricultural production
- Understanding of the biodynamic compost and spray preparations
- Introduction to applied astronomy to farming

| | Sunday | Monday | Tuesday | Wednesday | Thursday |
|-------|--|--|----------------------------------|---|--|
| | 14-4-19 | 15-4-19 | 16-4-19 | 17-4-19 | 18-4-19 |
| Place | Sekem Farm | Sekem farm | Sekem farm | Sekem farm | Sekem farm |
| | | | | | |
| I | Changes in the field crops, soil structure | Recap questions | Presentation | Importance of observation Difference between trees and vegetative plants | Stirring & spraying biodynamic preparation |
| II | | | Exercise quality of space | | |
| | Lunch | | | | |
| III | Changes in cattle feeding | Working groups: Preparation of presentations | Presentation | Presentation | Harvest wheat |
| IV | Compost | | Observation of a plant (drawing) | Landscape map | Recapitulation landscape map |
| | Dinner | | | | |
| V | | | | Astronomy outside | |

| | Saturday | Sunday | Monday | Tuesday | Wednesday |
|-------|------------------------------------|-------------------------------------|---|---|--|
| | 20-4-19 | 21-4-19 | 22-4-19 | 23-4-19 | 24-4-19 |
| Place | Adlaia farm/Sekem school | Sekem farm and school | Heliopolis University | Heliopolis University | Sekem Farm |
| | | | | | |
| I | Visit cereals and medicinal plants | Presentation of group works | The important plants families | Understanding health of plants (fungi, parasites) | Ripening and fruit processes: quality of crops |
| II | Observation: growth of plants | Biodyn compost preparations | The important plants families | Understanding medicinal plants | Observation of cows |
| | Lunch | | | | |
| III | Group work about medicinal plants | Doing biodynamic preparations (CPP) | The plants of the biodynamic preparations | Astronomy Practical exercise | Doing biodynamic spray preparation (501) |
| IV | Preparation of presentations | | The plants of the biodynamic preparations | Astronomy and plant growth | Conclusion: health of farm organism |
| | Dinner | | | | |

Teaching methods

The main goal of the course was to develop the capacity of goetheanistic approach¹ of soil, plant, landscape and farm phenomena of the second semester into relation to agricultural practice. Beside short introductory and descriptive impulses, the students were introduced to the observation. They also had different practical work on the farm connected to compost and biodynamic preparations.

Results were shared and discussed continuously and brought together in deepening rounds. We took care to start on students level, considering their very diverse knowledge and language skills.

Results

1. English as the course language, is a high challenge and partly a too high barrier for fast adaptation of knowledge. A supplementary training of written reporting seems to be necessary. This could allow the students to train their concentration by describing situations and (inner) relations. So, they will build their own imagination of what happens.
2. The student's level in agricultural knowledge is really at its basic. Even more than in other educational systems, Egyptian agronomy students are usually not at all familiar with farm life and farm practises. The experts have to take this into account when teaching. There is no common agricultural base on which organic practises could be built on. All steps have to be explained!
3. It was possible to reach the students and to interest them for the secrets of the universal power of plants and of the astronomy. The observation exercises helped the students to connect with plants and animals not only intellectually but also with the heart. Majority of them started to connect natural science knowledge and (agri-)cultural experience in one picture. They opened themselves to learn more, to ask questions themselves and to learn how to deduce consequences for a sustainable approach.
4. A big effort is needed to attain these results with personnel from external, but also from internal. It is time and money consuming to arrange such a well prepared and prudent teaching progress. But the result seems to be worth.

Conclusions

1. Several short Arab sessions from time to time could be supportive for the students to repeat the subjects in their own language. We have to make sure that the Arab translation is close to the course content and does not bypass the curricula.
Angela took over this task. The presence of Hasan Aboubakher at 3 days was a big help!

¹ https://en.wikipedia.org/wiki/Goethean_science

2. It seems useful to continue this type of teaching. It starts from observing the facts and one's own authentic experience, leads to experimenting and thus step by step to understanding the interrelationships. Understanding this way starts from the felt-well of the person and thus the students are ready to do something themselves.
3. As a next step, students should independently carry out their own observation exercises and experiments on various objects (soil, plants, landscape, animals, etc.) over several days or weeks, in order to then summarise their findings and report on them.
4. learning by doing can be a key method to integrate the fragmented knowledge into one's own experience.
5. For the next course we should ask ourselves if it wouldn't be enough to have short introductions for the first year (the students need to learn some basics in biology, agronomy, etc) and focus on the second year.
6. We began the train-the-trainer module with 4 persons. This trainer's module could on one hand reduce our input from external and also support the capacity development of biodynamic staff at Sekem. One idea for the future is to build tandem between experienced farmers and young assistants from the university (the farmers have the knowledge and the assistants have the didactic to bring it to the students)
7. To reach an academic (Bsc) level with the students at the end of the third year, knowledge has to be reflected and transformed step by step into science based knowledge. This is mainly a methodical approach to be trained by the trainers (Msc).

Program ideas for the next course

We focused in this second course intensively on the unity of soil, plant and farm in a living agricultural organism. A specific focus was on the medicinal herbs (Sekem grows a lot of med. Herbs) and the biodynamic preparations, specially the plants for the compost preparations. The course took place short before harvesting the cereals, so the growing plants were in their full development phase. The Alexandrian clover in its fullest green, was the representative of the season, but also the blossoming palm-trees which were pollinated by hand.

The next course for the second year (end of November 2019) will be at the new season. The following subjects could be addressed:

- animals, domestication of animals
- the polarity of mineral substances, silica-limestone
- further aspects of astronomy
- crop breeding as a coherent evolutionary process in opposition to natural evolution.

Train the trainers

Saturday 20th of April, we began a session of the new course train the trainers with 4 persons (Angela Hoffman, Dr. Saber, Fatma and Ibrahim). 1 hour each day after the main course.

Saturday: Learning for the whole human being. Head, heart and hand. Which methods are suitable for the different aspects.

Sunday: Learning as a breathing process between perception and conception, inside and outside, big group, small group and alone, etc.). The importance of observation to understand the concrete reality on a farm instead of using « ready recipes ».

No try to convince but to bring a picture so that the students can make their own view.

Monday: the 7 learning processes (from the 7 life processes).

Tuesday: The 4 level of attention (C.O. Scharmer). Listening and speaking. Different qualities.

Pilot project

How to use the experiences done in this course for other courses in other countries.

- The principles can be developed but we cannot use the same curriculum for every place. This is because - much more than medicine - agriculture is linked to the local knowledge, to the local culture and to the level of the students. This is very heterogenic even on a university level.

- Some first principles that we have distilled from this training of trainers:

1. training for head, heart and will. That means to find a good mixture between
 - facts and method but specially learn to think connections, relationships
 - observation exercises and artistical exercises connected to the theme to learn with the heart. For example, drawing gives the possibility to be in empathy with what you are drawing. It also helps to focus the concentration.
 - importance to have a big part of the course on a real farm and do practical work
2. the need to develop a lot of observation skills and learn to find the concepts instead of ready recipes
3. the need of developing a living thinking out of the whole and not in an accumulation of details
4. it could be helpful to make connections with the mythology of a traditional agriculture form the country. For example, connect the use of hornmanure with the sacred scarabaeus or the hornsilica with the god cow Athor, etc. in case of Egypt.



Peter Kunz with the students in the cereals



Dr. Saber in the medicinal herb garden with the students



Students presenting their group work



Angela Hofmann teaching the students to do a cow pat pit preparation