

Module 1 – Introduction to learning on the organic farm

Welcome to the online site for Learning Place Bio-Farm! This site aims to help teachers, parents, students, administrators and farmers find inspiration and practical advice for using organic farms as learning arenas. The authors of this online guide are researchers and educators from six different European countries that have worked with schools and kindergartens as well as other educational institutions and public administration to make experience on organic farms available. We hope this guide can help you find possibilities for farm visits and prepare for learning about sustainable food production and environmental solutions for responsible agriculture..



What is the goal of this module?

As an introduction to this guideline, we focus on some general questions that we have encountered in the work with farms and schools/kindergartens. Answers to these questions can be a help in clarifying the motives for farm visits and providing a basis for discussion with colleagues and parents.

After finishing this module I will have learned...

1. how schools and kindergartens can use organic farms as unique learning arenas.
2. why learning on an organic farm leads to a better understanding of sustainability.
3. how farms benefit from student visit.

Unit 1 – Experience the uniqueness of organic farming

What is organic farming?

Organic farming is based on agro-ecological principles. This means that an organic farm is organized to mimic nature's own ecological systems as much as possible. In practice, the animals have more access to the outdoors, to both grazing and free movement, than on a conventional farm. The use of medicines such as antibiotics is greatly reduced. The crops grown on the farm are more diversified, both in the number of plant species grown together in the field, but also in the rotation of different crops year after year. The enhancement of soil fertility is a main concern of the organic farmer who aims at providing a richer soil and better environment for the next generation than what they themselves inherited.

Organic farmers strive to base their production on the resources of their own farm. This means imitating nature's circulatory system: The domestic animals on the farm eat the grass, their manure enriches the soil, the soil (and sun) produces grass forage as well as grains, vegetables and fruits for both animals and people. Organic agriculture eliminates the side effects of industrial pesticides, fungicides, growth hormones, genetically modified organisms and synthetic fertilizers. Organic farms operate on ecological principles that serve to enrich the environment. Research has shown that on organic farms biological diversity increases in the soil, in plant communities, and among insects and birds. The farmer on an organic farm is a conductor of a huge orchestra of living organisms. When the farmer finds the right balance between animals and plant crops for his/her farm, symbiotic harmony and interplay is enhanced.

In order to sell products certified as organic, the farmer must abide by strict rules and provide documentation that he/she has fulfilled the requirements for organic production. Certification agencies are found in all European countries. You can find an organic farm near your school or kindergarten by contacting the certification agency in your country. They might also know if the farms near you are willing to provide opportunities for students to learn on their farms.

Why do students need farm experience on organic farms?

Imagine for a moment how children and youth experience food in our modern society. Food is abundant, ubiquitous; it fills the refrigerator, the cupboards, the shelves at home and in the store. It is everywhere, if you have money to pay for it, but where does it come from? How does it get to the table, to the store?

Food is so essential, indisputably necessary for our daily lives, yet students know little of its origins. Hands-on visits to organic farms can give children and youth experience in where food comes from, how it is grown and how the animals live. This contributes to an understanding of one of the most basic factors in daily life and can give children a vital anchor in their relationship to a complex society.

Farm visits where children can taste products right from the field can also contribute to health. Considerations on health have led to a doubling of the number of school garden projects in American schools from 2006 to 2012. When children and youth have a chance to develop a relationship to the origin of food through active participation, both eating habits and physical fitness are influenced.

Farm visits are local excursions in nature and a welcome change from learning in the classroom. With an appeal to all of the senses and bodily participation, learning makes long lasting impressions, an aspect of visits on organic farms that leads to the next question.

What is unique about organic farms as learning arenas?

The agro-ecological principals of organic farms create an arena where ecology can be taught and learned through direct observation and experience. For example, the carbon cycle, where carbon dioxide is taken up by the plants through photosynthesis, transported through the plant as carbohydrates and exuded into the soil as nourishment for bacteria and fungus, is especially important on organic farms for building soil health. In contrast to conventional farms that buy artificial fertilizer from industry, organic farms use green fertilizer with legumes, humus building through composting, and crop rotation to replenish soils. While artificial fertiliser uses enormous amounts of energy and releases corresponding amounts of CO₂, organic farms bind carbon in the soil through biological processes, thus contributing significantly to the climate challenge. The connection between carbon, soil and climate becomes transparent and comprehensible. A biology teacher's dream!

It is not only the sciences, such as ecology, biology, chemistry, math and physics that can be actualized in the context of an organic farm. Tracing the produce from the farm to the consumer illustrates principles of economics and societal organisation. Alternative marketing through farm shops, community supported projects, cooperatives and subscription on organic farms provides another learning arena. After a day of working on the farm, food prices and the value of food become topics of interest. Food waste is another theme that can be covered by looking at what is sold to wholesalers and what is 'graded out' because of size or shape.

Genetic variation is another important topic on organic farms. GMO crops are not used on organic farms. Use of GMO technology in conventional farming has not only increased the use of weed killers such as Round-up (glyphosate), but also given multinational companies copyrights to seeds. Farmer's rights can be an important topic for further work at school.

Organic farms often have more ecological diversity than conventional farms. For school learners this means a wider spectrum of things to study. Mechanical tasks like lubricating a tractor according to the drawings in the manual, helping to feed the animals, preparing vegetables and fruits for markets, repairing fences, chopping wood, helping to cook a meal over the bonfire, are just a few of the opportunities that learners can engage with when visiting a farm.

How is learning promoted through experience on organic farms?

Perhaps more important than what can be learned at the farm, is how learning can be facilitated at the farm. If we as adults reflect on an important learning experience, we often see a situation where we were eager to do something we had observed, probably with a certain person we looked up to. A spark of interest, a connection was ignited, we were

initiated into how something could be done and we got a chance to try it ourselves. Often, this type of learning can become a passion. As children, we found sources and learned all we could because we wanted to know more. This is quite different than the traditional school learning. Of course, the farmer must show and explain, but the opportunity for hands-on learning should be emphasised. Motivated by the tasks in which they can participate, the learning process gets a pang start.

Tasks such as feeding the animals, taking in a harvest from the field or garden, cooking food from the products on the farm are often immediately meaningful. When students experience that they can contribute to a necessary task, this strengthens the learner's feeling of mastery and capability. From our experience, if the tasks are meaningful and the learner can contribute, then the urge to learn and exceed also benefits the more theoretical work in the classroom.

Teachers are often amazed at how the students write and tell about their experiences after the farm visits. Where many pupils have difficulties finding something to write about in language assignments, the concrete events at the farm inspire them and give them a wealth of things they want to convey to others.

Unit 2 – Farmer vs student experience

How can farms benefit from student visits?

As farms have generally grown larger in the Western world, the distance between farms as the source of food and the customers who need it grows larger. Today many people have very poor knowledge of what goes on at a farm. The work it took to produce the food on our tables is not easy to grasp. It is not difficult to understand that the only criteria for food becomes what it costs in the store. Without knowledge of what fresh produce is before it has undergone a factory process, it is also easy to choose ready-made or half finished products that have little resemblance to what was harvested on the farm and that have a considerably lower nutritional value compared with the fresh product. As USA's best known food journalist Michel Pollan writes: Don't eat products that your grandparents wouldn't recognize as food.

The farmers themselves are often alone in the daily tasks, lacking the colleagues with whom they can share and reflect on the work at the farm. Many have told that the work with schools and kindergartens has given them the chance to rediscover the value of the farm and of what they do as farmers when they experience it through the eyes of the learners. The children also tell about the farm when they have been there and help to re-embed the farm as a resource in the local community.

Which age groups can benefit from farm experience on organic farms?

All age groups can return from farm visits with a harvest of fruitful experiences. Communication between the farmer and the teacher/caretaker is of utmost importance. The farmer knows best what the farm can offer. Often the farmer has a type of year's calendar that illustrates what is going on at the farm throughout the year. Maybe it is possible to witness the birth of animals or participate when many hands are needed to take in the crops. The teacher can tell what the main learning topics are concerned with to make the bridge to the classroom. The tasks must be appropriate for the age and capabilities of the children. For kindergartens, it can be enough to rake some leaves or throw some apples to the pigs. They need an arena where they can alternate between play and simple tasks. For older children and youth it is important that the tasks are real, not set up as an illustration and torn down afterwards. It requires a lot of the farmer and other helpers on the farm to find the right tasks, prepare the tasks and lead the learners underway.

Unit 3 – Unique contribution of organic farms

Can organic farms contribute to integration of refugee children?

On farms where the farmers open their farm and become engaged in working with children and youngsters, refugee children can also find an opportunity to rediscover some familiar elements from their mother country and perhaps demonstrate their skills and knowledge. One farmer told how to small boys among a class waved him over as they were brushing the cows. "Are they cows from Pakistan?", they asked. He thought a moment about his rare breed of Norwegian cows with white hides and said, "Yes they are." A girl from Somalia discovered familiar plants in the farm garden and used the plants to make food for her new classmates. An adult refugee from Syria who himself was given the opportunity to work on a farm as a part of language training soon took his children with him and sang as he worked.

The work tasks on the farm provide an opportunity to be seen in another way, to make contact inspite of language barriers, but also to achieve language skills. Just as the practical work inspires youngsters to write and tell about what they have done on the farm in their mother tongue, the refugee children also want to communicate in the language of the country they have come to. Learning words through sensory experience and achieving visible results is an important stimulus for language training.

Some of the young refugees, especially those who come alone without their families, have never been to school. Not only the language, but the whole idea of learning sitting still on a school bench, is foreign for them. There are examples of projects with farm work where the chance to contribute in a meaningful and visible way serves as a bridge to a new country and a new way of life.

What is the unique contribution of learning on organic farms to vital questions of global concern?

Since the 1960s when Rachel Carson published her concern for the environment in the book “Silent Spring”, the idea of human beings as a destructive force in nature has become almost an axiom. We have learned, and as teachers, taught, about pollution in the air, in the rivers and oceans and arrived at the global climate crisis around the turn of the century. At the same time, it is widely documented that children and youth spend much less time in nature. George Monbiot, an English writer and columnist for The Guardian, calls this the second environmental crisis. We protect what we hold dear. How can children get access to a caring relationship to nature?

Organic farms offer a unique chance to have near and significant contact with nature. We need positive experiences of human care in nature such as these farms can offer. Human beings are certainly responsible for many natural disasters, but mankind has also created the cultivated and varied landscapes, the fruitful gardens filled with cultivated plants, the swaying fields of grain as well as our livestock and animal companions. Let children get to know and appreciate the positive potential for partnership with nature in organic farming. Connection to these farms can give comfort, joy, and hope for the future. It can contribute to reviving faith in the future. Martin Luther is quoted as saying, “if I knew the world would perish tomorrow, I would still plant an apple tree today”. The opportunity to contribute on an organic farm offers a unique chance to experience the joy of working with nature, on nature’s premises. Is this not the foundation for education for sustainability?

This guide is comprised of six modules. In the next module, Part 2, you may read about **how to prepare visits to organic farms**. Examples of **types of activities** and **tasks that promote learning** are in Part 3. Part 4 takes up the **integration of refugee youth** through farm visits and Part 5 deals with **promoting farm visits**. The last module, Part 6, airs experience and ideas around **financing the visits** to the farm.