



Articles in this issue

Composting rapidly degrades DNA from genetically modified plants

Susceptibility of spelt to Ochratoxin A producing fungi

Orchard testing of new, alternative fungicides against apple scab

Spatial variation in the localization of Danish organic farms

Inter-row subsoiling increases marketable yield in potatoes

Impact of new technologies and changes in legislation on the income in organic farming

Control of apple scab by use of the plants own defence mechanisms

Revision of organic rules in EU

Optimizing quality, safety and costs of low input food

Catch crops may improve plant sulphur nutrition

Nature conceptions, management and cross-compliance in organic farming

By **Katrine Højring**, **Lene Hansen** and **Egon Noe**

In the discussion on future agriculture the question of nature and landscape quality plays an increasing roll in relation to the disengagement of the agricultural subsidies and the demand for **cross compliance**. The allocation of subsidies to the agricultural sector is increasingly discussed with the intention of contributing to natural and environmental values. One aspect of this discussion is the problem with estimating the results of the effort made - or in other words - being able to see if you get value for the money invested, and what it is that you get.

It has been part of the principles and objectives in organic farming for many years to promote natural and environmental values in the agricultural production (IFOAM 2002). On this basis the organic farmers should be particularly well equipped to enter into a qualified debate about, how to accomplish expectations concerning nature in connection with the agricultural sector's land use and production planning. They should also be in possession of experiences, which could be of general use in the considerations for nature in the production.

Meanwhile, the objectives for nature have only been subjected to a very limited discussion in organic farming as an institution. They have not been the subjects of a thorough examination or reflections on what type of nature quality organic farming should or could strive for. As a contribution to this debate and clarification, we have investigated how a number of organic farmers as individuals perceive nature quality and integrate it into their production and management. This has given us an idea of their interests in and their premises, firstly, for evaluating nature quality on their own farms, secondly, for contributing to a discussion on the potentials of organic farming to render special contributions to the protection of nature qualities.



Figure 1.

It has been part of the principles and objectives in organic farming for many years to promote natural and environmental values in the agricultural production.

Method

The premise for communicating about nature quality is the development of a common language, so that every one knows what each other talk about and what each other mean. To a large extend the discussion on nature quality

Simulating root growth

Nature conceptions, management and cross-compliance in organic farming

Wind dispersal of genetically modified pollen from oilseed rape and rye fields

Brief news

Front

has been led by biologists with a biological perspective on nature, which means nature expressed in species and biotopes and with a biological reasoning providing the background for the argumentation. A necessary premise for having a dialogue between the biological interests and organic farming has therefore been gaining knowledge on to what extent the biological definitions find resonance in the farmers' notion of nature. A mutual understanding of the problems is a premise for gaining common goals in management. On the basis of open-ended qualitative interviews we have therefore undertaken an analysis of the farmers' ways of experiencing and perceiving nature and the way in which they relate to nature quality through action.

The interviews were carried out on ten farms in January and February of 2004. They were divided with five farms in the area around Herning and five farms in the Randers area (both areas are located in the part of Denmark known as Jutland). The participants were chosen between families on farms, where previous studies had been made on biological nature quality - based on analyses of plant and insect life - and where the families had received the results of these analyses. The farms have been both part time and full time farms, most of them with dairy production, but also a few plant and egg producers are represented. Their size varies from approximately 10 to 400 hectares. On a number of the farms several family members took part in the interview.

The farms were chosen from two study areas, shared by the subprojects under the DARCOF project **Nature Quality in Organic Farming**. On the basis of size and production the farms were selected for the study in order to represent in the furthest way possible a large variation in strategies for production management and production related values (Højring et al. 2004). Therefore the ten farmers are not necessarily representative of organic farming as a whole, but they represent a wide scope regarding the perspectives from which organic farmers perceive nature and the way in which they prioritise nature qualities in their daily practise.

Qualities in Nature

The farmers were asked on the basis of the farm, what they perceived as good nature, and which places, they thought, they could find nature that in their view had positive qualities and therefore was valuable. The phrasing of the questions gave the participants the possibility to define the notion of nature quality in relation to their own experiences, knowledge and values.

A number of farmers expressed, that the experience of good nature and landscape was to a great extent tied to their own land. This is the nature and landscape they relate to and take an interest in. The attention may be extended to areas they have leased, areas they therefore regularly move in and experience. Several of them feel that life as a farmer is closely connected to moving in nature. It is an integrated part of farming to be present in the surrounding landscape and follow the wild life and the course of the seasons and of the years. Some indicate that they experience their property as part of a landscape, and that this context has been the reason why they chose their property. However, only one of the farmers has entered into a partnership where farmers specifically relate to a joint management of the joint landscape. The plot owners in the locale area have established a guild, where they as a community develop the area's nature qualities from a more superior perspective than the individual farm.

The possibility to observe animals in the landscape is seen by all as an important value in nature. Partly, they feel joy over seeing their own production animals outside in the landscape and they see this as one of organic farming's most characteristic quality brands - "*that the animals get to go outside and you can tell that they thrive*".

Secondly, they express joy over the possibility to watch wildlife - foxes, deer

and birds. They perceive nature as rich and see it as a privilege to have access to observe wildlife. A number of the families feed the birds in order to attract them to their house and hence have the opportunity to study them closer.

For a number of the farmers the interest in wildlife is stated in an interest for hunting. In effect, however, there are few active hunters amongst them. Carrying your sporting gun seems rather to function as an alibi for being outdoors, more than an expression of intent to hunt. It appears the desire to study wildlife in many cases overshadow the desire to be able to bring home a pray, when they decide to shoot or not.

The interest in plant life is first and foremost aimed at wooded areas, hedgerows and trees. A few women expressed an interest in gardening. The farmers' interest in herbs is limited to observing weeds in the fields, while the herbal vegetation in the uncultivated areas has no great interest. They were fascinated that the biologists had found so many different plants on their farms, but they did not have any relationship to the plants that were listed on the botanists' lists. Several preferred valleys with open meadows to valleys overgrown in scrubs. However, it was not the quality of the herbal flora - which is the biological argument for their value - that stated the reason for this appreciation with the farmers, but the general scenic impression, the accessibility of the area, and traditions for appearance and maintenance. The meadow is an example of an area where the farmers and the biologists share a conception of valuable nature, but the preconditions for the preferences are different.

In opposition to herbs, trees were attributed a significant positive influence on the experience of the landscape, although there was a certain ambiguity in this sympathy. On one hand trees were perceived as valuable landscape elements. They create variation in the sensoric impressions, they express continuity and they provide an important illustration of the time dimension in the landscape. Providing for trees and wooded areas is a way of stretching ones considerations for the landscape into the future and expressing the connection between man and nature.

On the other hand, trees get in the way of the pleasure of looking at large, adjoining fields - a conflict of values that is expressed very clearly by one of the participants, but also surfaces in the decisions and actions of a number of the farmers. They balance between sympathy for the trees and an attraction to the large fields.

The actual experience of nature is described as a mood, a bodily feeling, where nature's otherness in relation to the beholder is dissolved, so that he or she feels unification or connection with nature. "*You have to be a nature lover to understand*". This feeling is particularly triggered in places that are described as quiet without necessarily being so in the absolute sense, but more as a reflection of the inner and the outer mood.

A Change of Attitudes

One important concept in order to understand the organic farmers' relationship to nature is order. The concept forms a central element in the farmers' understanding of themselves as good craftsmen and managers. In conventional agriculture it is associated with tidy fields, that is, fields without weeds that have a homogenous plant density and plant spacing, and that are clearly demarcated towards that which is controlled by nature.

In organic farming the absence of pesticides means that the cultivated areas change appearance. A larger weed flora appears, and the farmer must change his perception of the criteria from which his craftsmanship can be evaluated (Hansen 2003). The organic farmers hereby take on a changed attitude to the notion of order. They can no longer, to the same extend, measure their skills from the notion of order in the sense of tidiness and

demarcation. More so they measure it in a kind of power balance between nature and themselves, where the farmer is capable of achieving a certain order and decent yields despite the absence of pesticides.

Some of the farmers express a general change in attitude towards nature in recent years. Earlier there was great focus on utilizing and including the entire area in the cultivation. Now the farmers are more likely to plant in uneven corners and let space be used for planting hedgerows. A few of them have also become more aware of historic trails in the landscape. They now see them as values that should be preserved.

One of the participants sees it as a personal change. He has become older, and grown aware of the importance of having small refuges and sanctuaries for humans as well as for the animals. Others point it out as a more general tendency. Times have changed, farmers have become more aware of the importance of small biotopes. They believe that in general more is being done to create nature qualities than before - also among their conventional colleagues.

The perception of the development as a general tendency is consistent with the general observations of the development in the number of small biotopes over the last decades (Brandt et al. 1998). The change of attitudes in the organic farmers may therefore not solely be interpreted as an expression of a particular consciousness of nature amongst the organic farmers. The organic farmers do, however, in general express a more relaxed attitude towards order and toward the demarcation of nature on the cultivated areas.



Figure 2.

The organic farmers feel there has been a change of attitudes. The farmers now pay closer attention to the importance of having refuge places for humans as well as animals.

Actions in Relation to Nature and Landscape

If we look at the actions the farmers perform on their farms in relation to what they perceive as nature, there are three areas of focus. These are the protection of existing landscape elements, the establishment of hedgerows and the establishment of small biotopes.

The most frequent action is planting hedgerows. Most of the dairy and poultry farmers stress the importance of creating a good outdoor environment for their livestock. That means, creating places where the animals can find shade and shelter. As a whole, however, it is the beauty in looking at the trees and the feeling that they ensure a better and more diverse wildlife, which is of importance. Establishing planted shelters thus involves considerations for production, animal welfare, wildlife and aesthetics.

Some farmers have planted smaller areas of wood and established little ponds and water holes, either on their fields or around the farmhouse. Others have not planted or established small biotopes themselves, but have instead bought areas, which already holds such qualities. These initiatives are explained from the point of view of wishing to attract and create nature. Attention is primarily focused on wildlife, birds, plants and trees.

The interests behind the actions vary, but providing for game is mentioned by most. A few are, as mentioned, either interested in hunting themselves or they lease out the hunting-rights on their farm. To serve the hunters' interests they plant and rear game shelters, coverts and shelterbelts. The desire to have recreational spots for the family is also significant. It matters to have places where you can spend time together outdoors, hang out, watch the wildlife, enjoy the tranquillity and simply just be present in nature.

Finally, there is a practise amongst the farmers that is not to the same extent a question of creating new nature as the establishment of shelterbelts and small biotopes is. Rather it is concerned with maintaining and preserving existing values in the cultural landscape. The meadows here form a recurrent element in the considerations. Often, the farmers would like to keep them as meadows, and despite the labour involved in carrying it out in practise, several of the dairy farmers let their cattle graze the meadows to preserve them. The majority of the interviewed persons consider themselves responsible for maintaining nature. One farmer, however, states that he considers it a public task to create the conditions for maintenance of the meadow - in coherence with the ongoing debate on the subsidies for the agricultural sector's management of nature.

The interviews show a variation amongst the farmers in the priority they give to nature and landscape. On some farms it is considered an essential part of the management objective, whereas on others, it is an insignificant aspect of farm management drawing little or almost no interest and attention.

The farmers do not implement the three different elements equally in their landscape management. Some of the interviewed are most concerned with planting hedgerows and creating small biotopes, while others are more preoccupied with preserving existing meadows and commons. The variations in their priorities partly spring from the differences in their objectives, partly from the differences in their perceptions of what valuable nature is and what qualities it should own.

The farmers create and preserve nature out of consideration for themselves, whether they are interested in hunting or in being with their family or in having access to beautiful experiences. They also do it out of consideration for plants as well as wildlife. The consideration for other people that could benefit from the nature qualities on their farm most often enters as a reflection towards future generations or owners. The thoughts of one's farm as a natural attraction for neighbours and tourists only occur to a limited extend in the understanding of the farm's significance.



Figure 3.

Establishing and maintaining shelterbelts is the most typical action amongst the farmers in relation to nature and landscape.

Concepts of Nature

The organic farmers' descriptions of good experiences in nature, of their attitudes towards, and actions in relation to nature, show a number of different ways of using the concept of nature, that each on their own

express different ideas of what qualities of nature are, and what is worth protecting. The concept is used in the sense of:

- landscape,
- a force or a form of energy,
- the wild, and untamed,
- the original, or
- a type of area.

To a great extent the notions of nature and landscape work as synonyms for each other in the descriptions of what qualities they value outside. When they speak of experiencing nature, they talk of the experience of the image, the scenery that forms the landscape. They talk of hills, lakes, fields, meadows, and forest as an entity. Nature as a synonym for landscape expresses the complexity of shapes, elements and series of events, that form 'the outdoors', and which to the observer come together in an experience of wholeness. In this context nature forms an aesthetic category, it is tied to the sensuous experience.

The experience of nature as a force or a form of energy is an extension of the aesthetic experience of nature as a scenic whole. The force of nature is present in the landscape and expresses itself through life and growth.

In the sense of wild and untamed the nature concept is used to describe what is only to a limited extent subjected to human regulation - that which appears first and foremost to be defined by nature's own laws. To some the wild and untamed has a special value. They find that nature should be allowed to mind its own business and be protected from humans. To others nature is a challenge and a task for humans, who have the responsibility to manage nature and make it look well regulated, bear fruit and be profitable. It is in this perception - of nature as wild and untamed - that order as a goal for management becomes apparent. As mentioned, ordering, controlling and organising nature constitutes a very strong component in the traditional self-conception of the farmers as good managers of nature. Several of the interviewed farmers are therefore clearly aware to what extent they by converting to organic farming have broken away from this convention of good craftsmanship.



Figure 4.

Nature as wild and untamed is by some of the farmers perceived as a quality that needs to be left alone and protected from humans. Others perceive it as a challenge and task for humans, who have the responsibility for the management of nature.

It is merely on one of the farms that the owners point out the fact that original nature is of a special quality to them. They refer to the botanists' conception that the meadow, which forms a significant part of their property, in a botanic sense, is developing in the direction of a common. For the owners a common is connected to the landscapes of the Bronze Age and thereby to landscapes, which are more natural.

To the majority of the interviewed farmers nature as something original and unspoiled is not part of the idea of nature. Rather, they perceive it as a particular area, which is distinguished from the cultivated by the vegetation being allowed to spread on its own premises, the water finding its own ways,

and wildlife having peace to deploy. That the idea of originality is not part of their nature concept is demonstrated by the fact that they consider nature something, which can be substituted. Removing one nature area by cultivating it is no problem from the point of view of preserving nature as long as you replace the removed area with another one. Typically they remove small biotopes that are situated inconveniently for cultivation, and replace them with hedgerows along the field edges.

The idea of being able to replace a piece of nature with another is in radical opposition to the biological perception of nature quality, which emphasises originality, imperturbability, wildness and authenticity as expressions of nature quality (Tybirk and Ejrnæs 2001). From a biological criteria good nature is not replaceable, since a large number of qualities that can only be built up over a long period of time will hereby disappear. A few of the farmers have, through their own observations, become aware of the fact that what they get is very different from what they destroyed. However, this understanding is more often related to cultural heritage qualities such as monuments of the past rather than towards biological qualities. The substitution strategy is commonly accepted as a legitimate way of managing nature, the amount of nature - in the sense of uncultivated areas - is kept constant at all times. The precondition for this idea to be acceptable is that nature is seen as a type of area where there are trees and bushes and where wildlife and plants are allowed to live a life of their own, until you need to restructure your land use.



Figure 5.

The idea that you can sustain nature by replacing one nature area with another one has negative consequences for the rare species. They disappear with the old areas and cannot establish themselves in the new ones.

Discussion

As mentioned in the beginning, the premise for communication and dialogue about nature quality is the development of a common language. Therefore, it has been an important aim of the interviews to investigate, if the biological definitions of nature quality and the definitions of the organic farmers agree. This is not absolutely the case. The study shows that the farmers' perceptions of qualities in nature do not clearly correspond with the biologists' ideas of nature quality. The differences in perception hold both opportunities and conflicts.

In the biological understanding, where nature quality is expressed in species and biotopes, a distinction is made between two types of nature. On one hand there are the rare and threatened biological species and types of biotopes that are especially tied to older landscape elements. On the other hand there are the common species with potential and possibilities to establish themselves swiftly in new places (Tybirk and Fredshavn 2004). The tendency to establish new landscape elements in the agricultural land contributes to the spreading of the common species, because more and larger uncultivated areas appear. The strategy is, however, of limited value to the rare plants and animals requiring special environments and conditions to thrive. They often belong to old nature areas with a long continuity, and will have little opportunity to establish themselves on areas, which have only lately been taken out of cultivation. Therefore, the farmers' perception of

serving nature by replacing old nature areas with new ones may have negative consequences for uncommon species. Possibly, the substitution strategy can be seen as an expression of the fact that the farmers' interests in nature, only to a very limited degree, are directed towards species and biotopes. The qualities they seem to focus on are of a more universal kind such as moods, sensory impressions and the general aesthetic and the recreational potential. This implies that the farmers' conceptions of valuable nature provide meaning and reason to actions, which are very problematic seen from the biologist point of view of valuable nature.

However, a base for a shared understanding is to be found in the farmers' and the biologists' recognition of continuity. To a wide extent the farmers perceive themselves as being responsible for maintaining and continuing landscape qualities through their cultivation and management strategies. They see it as their duty to protect and preserve past and future nature qualities for the future generations. At the same time, the biologists see continuity as an important precondition for keeping specific biological values. Recognition of such a common starting point - although the focus of attention is different - can be the basis for a shared dialogue and a shared understanding of what to protect and how.

Expectations of Nature Quality in Organic Farming

It is worth noting that none of the interviewed farmers by themselves draw a connection between an organic farming practise and a specific nature awareness. Likewise, they do not express any special expectations concerning the appearance of the organically farmed landscape. Although the farmers are interested in nature the changes in practise seems to be an expression of a general change of attitudes rather than an awareness of the fact that they as organic farmers commit themselves to taking on a specific responsibility towards nature.

If consideration for nature is to be part of organic agriculture's practice, and thus an argument in the discussion about cross compliance, the topic will have to be subjected to a more conscious reflection and debate inside the institution. Also the individual organic farmers have to raise their concern for nature questions in the decision-making processes on their farms.

Subsequently, it is necessary that the organic farmers have access to understanding and relating to what other people mean, when they talk about nature quality if they want to contribute to nature with values that are meaningful to others than themselves. That means that all parties in the dialogue - both the internal and the external - must realise what kind of nature qualities they think of, if they are to enter into a qualified discussion about, which management initiatives could lead to the desirable goals, and which could not.

References

- Brandt J., E. Holmes, A. Bramsnæs, M. Wind and M. Østergaard (1998): VLBs landskabsdatabase: landskabsdata, scenarioteknik og visualisering. Arbejdsrapport nr. 10. Center for landskabsforskning. RUC (in Danish).
- Hansen, L (2003): Først med hjernen - så med hjertet. Et antropologisk speciale om konventionelle landmænds erfaringer med omlægning til økologisk jordbrug. Specialerækken no. 288. Institut for Antropologi (in Danish).
- Højring K., E. Noe, A. G. Busck og E. H. Erichsen (2004): Landbrugslandet - mellem sansning og forvaltning. Syddansk Universitets Forlag. In Press (in Danish).
- IFOAM (2002): IFOAM Basic Standards for Organic Production and

Processing.

Tybirk, K. & Ejrnæs R. (2001): Økologisk jordbrugs bidrag til naturbevarelse. In K. Tybirk & H. F. Alrøe (eds.) Naturkvalitet i økologisk jordbrug. FØJO-rapport 9. Forskningscenter for Økologisk Jordbrug (in Danish).

Tybirk, K. & Fredshavn J. (2004): Aspects of Interdisciplinary Research on Nature Quality in Organic Farming Systems. In Farming and Rural System Research and Extension. Proceedings of the 6th European IFSA Symposium.

The illustrations in this article stem from the farms that participated in the project.

[About DARCOFenews](#) | [Archives](#) | [DARCOF](#) | [Front](#)