

The impact of conventional agriculture on natural environment, including the Baltic Sea

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The environmental impact of agriculture has been changing with time, in parallel to the development of the progress in farming methods, and the land area being utilized for it. It is thought that until the end of the Middle Ages in Central Europe the basic principle prevailed: “the more agriculture, the better for the environment and bio-diversity”. That began to change together with the increasing of farming productivity. In XIX century the main factors stimulating the productivity were initially the spread of papilionaceous plants cultivation (with elevated supply of nitrogen circulating in the farm area), and then the resulting increase of the farm animals’ stock with growing manure production. In XX century the agriculture intensifying factors became both spreading of mineral fertilizers usage, and the introduction of crop protection chemicals. Some other factors appeared in the second half of XX century, such as specialization leading to final division of vegetal and livestock production.

In contemporary Europe the percentage of narrowly specialized farms still increases, with growing number of highly intensified commercial animal farms. Quite often these farms have no farmlands, and they have to purchase all feeding and bedding material and, on the other hand, they have limited options for sensible and safe utilization of the generated manure. As the transportation of large volumes of natural fertilizers is very expensive, they are simply disposed on the possibly nearest fields. In this way, due to economical reasons, very often excessively large doses of fertilizers are being applied, what leads to a real environmental hazard. Surplus of nutrients (including N and P), is washed away to both surface and ground waters. A significant part of that surplus goes through the drainage and ditch system, and then via natural watercourses enters the Baltic Sea.

Also in the plant growing agriculture the progressing specialization and intensification is driven by economical factors. They enforce the simplification of the crop structure and further growth of the production scale. The growing fields area leads to the landscape degradation due to elimination of field boundaries and mid-field plantings. All these factors increase the pressure on the environment, including the level of water eutrophication.

One of potential solutions for the problems described could be the development of sustainable agriculture, and especially ecological farms with appropriate animal stock to keep the feeder/manure balance.