

Please leave blank
No.

## Proposal form

Division IV, National Research Programmes (NRP)/Swiss Priority Programmes (SPP)

### Scientific Information (cover sheet)

**Main applicant**

Surname, first name

**Project title (English)**

Tamm, Lucius
Comparative sustainability assessment of the impact of GM plants in Swiss conventional, integrated and organic farming systems

## 1. Summary

The principle of sustainable development has been anchored in the Swiss Federal Constitution since 1999 (Art. 2 and 73) and in the agriculture constitution (Art. 104) since 1996. The potential contribution of genetically modified plants (GM plants) to the sustainability of Swiss agricultural production systems is currently subject to intensive discussions in the public and in the scientific community. It is believed that the impact of novel agricultural technologies such as GM plants on ecological and economic parameters is context-sensitive. Therefore, the impacts of GM plants have to be analyzed in the context of conventional, integrated and low-input farming systems. There are gaps in our knowledge relating to (i) the risks/benefits of GM plants at crop level, (ii) the changes in production systems (e.g. changes in crop rotations, perennial systems) over time due to novel traits of GM plants, and (iii) the economic impact associated with altered farming systems. The aim of the proposed study is therefore to (i) develop scenarios of novel farming systems (conventional, integrated and organic/low input) which include GM plants, and (ii) to conduct a comparative sustainability assessment of traditional and novel farming systems based on ecological and economic parameters. In order to obtain an adequate assessment we will rely on robust methodologies, expert judgment by competence teams and allow for additional input from external sources. The process will be fully transparent and input from external sources will be explicitly welcome and facilitated by a web-based discussion forum. By doing so, we will contribute to a science-based discussion of risks and benefits of GM plants in Switzerland and address questions about the extent to which GM plants are able to contribute to Swiss agricultural and environmental policy goals.