

 **O.54 - The GIS-based tool SYNOPSIS is used to analyse regional environmental risk in fruit growing regions**

Strassemeyer, J., Gutsche, V., Golla, B.

The development of new and innovative strategies of pesticide use in orchards may contribute strongly to an overall reduction of the environmental risk. To quantify the impact of new strategies on the environmental risk and to analyse the risk-behaviour of farmers it is mandatory to assess the risk potential in the context of the landscape. For this purpose it is planned to apply the GIS-based risk assessment tool SYNOPSIS in four selected pomefruit regions in Europe, which differ in respect to the intensity and innovation of pesticide use. The availability of input data for this approach still has to be assured for the selected case study regions. As an example to demonstrate the method and the approach to assess the impact of innovative strategies on landscape level SYNOPSIS has been applied to fruit growing regions in Germany in combination with field based surveys for pesticide use. The risk potential of the strategies commonly used in each of the fruit growing regions is aggregated in spatial dimension and visualized in risk maps. The impact of future strategies will be assessed by replacing common strategies under certain assumptions and recalculating the risk potentials for the regions. In combination with repetitively conducted surveys, the temporal development of the regional risk potentials was analysed.