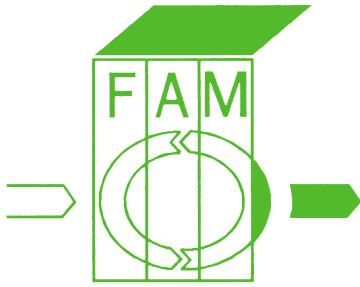


Bavarian research & innovation



Research Network on Agroecosystems

SUSTAINABLE AGRICULTURE – NEW DIRECTIONS



Characterizing maize plants for a site specific fertilizer application

Agriculture has to nourish both, present and future population, conserve cultivated landscapes, protect the rural environment, and accomplish these goals in an economically productive manner. In order to make optimum use of agricultural landscapes, extensive knowledge about the processes underlying productivity, stability and diversity in the system is essential. FAM, the Munich

Research Network on Agroecosystems (Forschungsverbund Agrarökosysteme München) is developing concepts for sustainable land use. Since 1990, research on soil, water, air, plant and animal species, wildlife and the quality of human life in a typical Bavarian landscape north of Munich is carried out by 30 scientific groups in this interdisciplinary approach.

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Sustainable agriculture in a diverse landscape

RESEARCH TOPICS:

Land use:

Remodelling an agricultural landscape under the aspects of erosion, environment and nature protection; using new methods in integrated and ecological agriculture; developing "site specific" production methods (precision farming, e.g. satellite-assisted fertiliser application and yield recording); evaluating agricultural production methods ecologically and economically.

Water and matter balances:

Researching and understanding the fluxes of matter in a landscape; consumption, transport and accumulation of water, nutrients (such as nitrogen) and organic materials with the aid of hydrological methods, soil science and remote sensing techniques.

Biological diversity:

Investigation of the effect of modified agricultural land use on the development of wild plants, soil organisms and animals.

Forecasting models:

Development of models simulating all the processes in an agricultural landscape as realistically as possible, thus permitting forecasts for the development of individual regions.

Assessment systems:

Identifying a small number of crucial indicators to characterize the sustainability of land use systems.

Research partners:

TU Munich - Weihenstephan Scientific Center, Freising
GSF-National Research Center for Environment and Health, Neuherberg



Clover and grass mowing in organic farming



Recording canopy transpiration