13 BIOM, a pilot farm network of organic farms in the Netherlands

F.G. Wijnands
Applied Plant Research, Lelystad, The Netherlands,

Keywords: pilot farms, prototyping

Introduction
Farming systems research into organic farming goes in the Netherlands back to the early eighties when the Development Farming Systems (DFS) project in Nagele was started. This was the national focal point for development and comparison of conventional, integrated and organic farming systems. The work extended over the last 20 years to a national network of experimental farms where 'prototype" systems of organic arable and outdoor horticulture systems are currently being developed. The methodical way to design, test, improve and disseminate region specific, more sustainable farming systems is called prototyping and was elaborated in an EU concerted action (see Vereijken, 1998). It can be characterised as a synthetic research/development effort. It starts off with a profile of demands (objectives) in agronomic, environmental and economic terms for a more sustainable, future-oriented farming and ends with tested, ready for use prototypes, to be disseminated on a large scale (Wijnands, 1998). Recently the work on experimental farms found it's logical progression in a national pilot farm network directed on Innovation and Conversion to Organic Farming (BIOM).

BIOM project
Objective of BIOM project (1998-2002) is to innovate and optimise organic farming in practice and to stimulate and facilitate the conversion to organic farming. BIOM works on four different levels: firstly a limited number of existing organic farms (25) are functioning as innovative pilot farms in close co-operation of farmers, extension service and research. Secondly, around 70 farms are guided in optimisation groups. Thirdly the in conversion interested farmers are technically prepared in 5 day courses. Finally, market- and farm economic perspective studies will contribute to overcome the existing lack of reliable economic information. Organic farms in the Netherlands grow arable crops in combination with vegetables. BIOM farms in grow over 80 different crops.
Based on an analysis of the current shortcomings in the practice of organic farming (BIOM farms) the needed innovation in organic farming is described in the following themes: Quality production (improve and stabilise production quantity and quality), Clean environment (nutrient losses, pesticide use), Attractive landscape and diversified nature (ecological infrastructure), Sustainable management of resources (soil fertility, energy, non renewable resources) and Farm continuity (income, labour input and organisation). These themes are the focal points and red thread in and throughout the project. In accordance with the prototyping methodology, the themes are quantified in a set of parameters with target values. The yearly improvement of the systems is then based on the yearly analysis of the shortfall between actual result and target result in terms of the methods used on the farm. Results are discussed with farmers, both on an individual basis and in their study groups. In this dialogue, we try to connect the more quantitative project approach with the experience of the farmers. Innovation is a difficult process of designing, testing and improving. In BIOM we try to go this road together with the farmers in a step by step approach.
A substantial effort is made in BIOM to communicate the results and experiences to different target groups (conventional farmers, policy and research). By the connection of the research team to the prototyping work on experimental farms, the research challenges are directly translated to and integrated in the research layout. By the close co-operation of research, extension and practice in BIOM, knowledge, expertise and innovations flows more easily between the groups. Moreover, a sharp and clear picture is emerging of the threats and opportunities for organic farming. Opportunities are used and threats counteracted and solved. BIOM therefore constitutes a national framework for a targeted development of organic farming.

References
Wijnands, F.G. 1999. A methodical way of prototyping more sustainable farming systems in interaction with pilot farms. In M. Härdtlein et al. (eds.). "Nachhaltigkeit in der Landwirtschaft". Initiatieven zum Umweltschutz band 15, p. 365-391 (421 pp). Erich Schmidt Verlag, Berlin.
Vereijken P. 1998. 4. Improving and disseminating prototypes. Progress reports of research network on integrated and ecological arable farming systems for EU- and associated countries (concerted action AIR3-CT927705). AB-DLO, Wageningen, 55 pp.