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Improving the system of farms in netherlands using multi-objective modeling

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It is widely recognised by scientists, national authorities and farming and environmental organisations that organic farming in general provides significant environmental benefits compared to conventional agriculture. These benefits include a reduction of nutrient and pesticide leaching, lower energy inputs and conservation of soil resources and biodiversity (Organic farming in the European Union 1999). These conclusions have been confirmed by a large number of national studies (e.g. Unwin et al 1995, De Vries et al 1997). Organic farming may also provide animal welfare, social and economic benefits. Organic agriculture should however not be seen as an exclusive method for sustainable farming (FAO 1999). The paper present two case studies that illustrate the method in dairy farming on sandy soil highly intensified flower bulb industry in sensitive areas in the western Netherlands. Trade-off between economic and environmental objectives were assessed in all three cases, as well as virtual farm configuration that best satisfy specified priority settings. In two of the three cases the mutual reinforcement and true integration of modelling and on-farm empirical research appeared difficult, but for obvious reasons. Only in the flower bulb case was the explorative approach utilised to its full potential by involving a broad platform of stakeholders. Second case studies lacked such formalised platforms and their impact remained limited