## Reflexive interactive design in rabbit husbandry: towards a sustainable sector

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The rabbit meat production sector faces the challenge to become more sustainable. This is a multidimensional and complex challenge and to tackle it one should address concerns on a range of issues, such as animal welfare and health, social acceptation or environmental impact. In 2010, an analysis of the Dutch rabbit sector was performed, in order to reveal the sector's sustainability challenge. This analysis is part of the reflexive interactive design approach that aims to interactively design and realize system innovations in complex and often controversial contexts like animal husbandry, in an effort to circumvent social and technical constraints for sustainable development.

The methodology is transdisciplinary (crossing disciplinary boundaries to create a holistic view) and interactive (tapping from practical knowledge and experience of a broad range of stakeholders). By means of interviews, group sessions, brainstorming, bilateral discussions and a desk study, the sector's sustainability challenge was revealed. The analysis aimed for a dual result: regarding content, leading to a notion of the structural impediments for change and the route forward to overcome these; and regarding process, demonstrating stakeholders' active involvement, social learning and commitment towards the results. This is necessary since research cannot realise change, but stakeholders can.

We found that the practice of housing rabbits in cages is the main obstacle to reach sustainability. Cages are considered unsustainable with regards to animal welfare and social acceptation. They form a structural system characteristic; the entire production system has been optimized around cages (including e.g. feeding regime, medication regime and the animal's genetic make up). Changes which are not compatible with cages are hindered by the system.

Besides this, we distinguished five focal points for the route towards sustainability. These are: (i) work on cage-free housing, taking all sustainability issues into account; (ii) establish a vision for the future, which is shared among stakeholders of the entire production chain; (iii) explicate knowledge and visions on rabbit welfare, both from science and society; (iv) empower initiatives in practice in order to broaden their scope towards integral sustainability; (v) embed new housing systems in value-chains based on animal welfare claims.

When reflecting upon the process, we see that interactivity has been fruitful and social learning has been present: stakeholders learned from each other and they recognized and internalised the findings. Furthermore, several initiatives that work towards an alternative for cages have been identified.

The results are used as the starting point for a design process. Designs function as stepping stones towards system innovation. This approach has been applied in other animal husbandry sectors and proved to function successfully as drivers for change (www.duurzameveehouderij.wur.nl).

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