

## Breeders and Scientists towards the *Maraîchine* breed

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**Abstract:** *This contribution is based on the analysis of over 10 years of collaboration between scientists and breeders for the development of an endangered cattle breed called the Maraîchine. We propose a theoretical contribution to the understanding of the social learning process and developed an empirical approach based on case study monograph. The challenge is to co-construct a new livestock farming system. A platform where breeders and scientists co-operate is needed to build new ways of knowing a cattle breed. We show how scientists try to facilitate collective action. Scientists and breeders must accept the uncertainty of building together the issue at stake rather than finding solutions to a predefined problem.*

**Keywords:** *social learning, collective action, co-production of knowledge, Maraîchine breed*

The endangered cattle breed called the Maraîchine originates from the Atlantic marshlands of Western France. It became neglected as marshlands were put under intensive crop and livestock production. Nowadays changes in agricultural policies and environmentalist pressure have put an end to further draining and grassland conversion to cropland; public action focuses on water management and protecting meadows. In this context, the challenge of marshlands breeders is to develop grassland use while improving incomes. A group of researchers have assumed that the Maraîchine breed can lead to livestock production innovations in this direction. They involved themselves in the collective action of the so-called “Maraîchine Breed Association”. To breed Maraîchine cattle using marshlands meadows, a new livestock farming system needs to be invented, and this requires new forms of partnership among researchers and breeders.

### The research perspective and methodology

#### Practicing “intervention-research” to understand social learning process

The case represents an attempt of doing “intervention research” (Hatchuel, 2000), that is to say not to produce knowledge *for* action but to produce knowledge *in* action. The idea is to produce knowledge *with* the farmers and other stakeholders, and not to ask them the kind of knowledge they need for action. Therefore a reflexive analysis, conducted by social scientists, explored the specific role and position of scientists in a social learning process, beyond their sole expertise. We define social learning as an iterative process of knowledge co-production among stakeholders involved in social interactions. Knowledge, or ways of knowing, is understood as collective or individual points of view on entities constitutive of the world. The collective process of learning and knowledge production between breeders and researchers is analysed from an interdisciplinary perspective: researchers in both sociology and animal sciences participate. We aim to address the central question: how can/do researchers facilitate collective action? (under which conditions? what are their difficulties?)

#### Analysis of controversies

The long term process of producing a livestock farming system involves a wide range of interdependencies among natural, technical and social phenomena and gives rise to controversies among stakeholders. The social learning process analysis is based on the characterisation of series of controversies, as controversies represent specific moments in a collective action when opposing interests are at stake as well as people’s identities, their knowledge and the definition of the issue itself (Callon et al., 2001).

## A pragmatic approach

Every owner of Maraîchine cattle is a member of the Maraîchine Association. Bio-scientists from INRA have been members of the association since 1994; social scientists joined the programme from 2001 to 2004 (during a European research programme, SLIM). Therefore the Maraîchine breed association constitutes a platform for key stakeholders to interact. Our approach is pragmatic: the association's activity is monitored using ethnographic methods (through direct observations and interviews). From a historical perspective, various documents produced by the Maraîchine association were analysed (reports, pictures, scientific documents, promotion leaflets etc.).

## Co-operation between breeders and researchers and social learning

Three main controversies were identified as structuring the social and technical organisation of the Maraîchine collective action: (1) Producing a breed standard, (2) Allowing a more collective organisation that helps breeders to express their opinion, and (3) Discussing Maraîchine herd management.

In the first one (1) what was at stake was defining what the Maraîchine breed is. It ended with the public recognition of the breed in 1999 based on a Maraîchine breed standard produced together by breeders and researchers. Scientists did not have the expertise to define it on their own. They gathered the breeders' diverging views in order to co-produce a collective definition of the breed. This co-production represents a successful milestone in the co-operation process and gave the opportunity to go a step further in the collective action.

Since the Maraîchine has been acknowledged as a breed, the breeders' plans have diversified: they sometimes clash and are not always compatible with the defined standard. The founder of the association, an expert of the Maraîchine population, was the only one to manage the population and his choices were controversial. Gradually he had to accept to train an INRA technician to share his knowledge. The researchers have therefore enabled a more open discussion to take place concerning the population management (2).

At the same time, researchers conducted experiments and technical surveys about herd management while initiating a debate with the breeders (3). Breeders were not ready to speak out and discuss about their practices: they preferred talking about how to market Maraîchine beef. Today the situation is changing as they are developing direct sale from the farm: by discussing with purchasers, they realise how important the use of grassland in herd management is for consumers. They now want to discuss these breeding practices among breeders and also with experimental research.

## Conclusions

These controversies involve difficulties for those in charge of the programme animation, in particular for the researchers. There are also times of disagreement between researchers and breeders or part of the breeders' group, among breeders themselves or between researchers and the chairman of the Maraîchine association.

In identifying controversies and their dynamics we show that researchers facilitate collective action in several ways:

- They produce new ways of knowing by collating the breeders' and experts' scattered knowledge about the breed (1)
- They highlight the objects at stake and allow controversies to be expressed (2)
- They turn a monopolistic situation into a situation where knowledge is shared (2)
- They follow the breeders' idea to organise a network for direct farm sale (3) and do not oblige breeders to work with them on herd management

In such an "intervention research" situation scientists and breeders must accept the uncertainty of building together the issues at stake rather than finding solutions to a predefined problem. Therefore the process of collective action and co-production of new ways of knowing is a very long term process.

What kind of scientific output can come out of intervention research? Does this kind of partnership lead to more relevant actions for breeders?

Further analysis will address the following questions: what are the specific contributions of social sciences and bio-scientists in such a platform? How do they interact? And how does this partnership lead to different kinds of research output?

## References

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