



France Génétique Elevage management quality system: an example of multi companies system, to serve a community of organizations, based on ISO 9001: 2015 standard

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During the last 15 years, France Génétique Elevage (FGE) has developed a quality management system in compliance with ISO 9001 standard, in process mode, involving more than 180 independent organisations and 6 different professional activities, in the field of cattle genetic improvement. FGE has developed a robust quality system structured with: a quality manager employed by FGE; six pairs of process managers; one quality correspondent in each organisation. Every year, each activity is subjected to a process review. The conclusions of these reviews are compiled for evaluation by FGE management and the synthesis is then presented to the FGE Board. Despite a long-lasting deployment phase with, in the end, a somewhat smaller scope of extension than expected, the resulting scheme has enabled participating organisations to adopt quality measures at a reasonable cost. FGE has thereby been able to develop harmonisation and security of data processing methods to produce accurate breeding values. The system has brought positive results in benchmarking, building trust between partners, and providing incentive for participating organisations' top management. Merging of organisations and management of common subcontractors were therefore greatly facilitated. This system has been officially recognised by the French Ministry in charge of Agriculture and by ICAR (International Committee for Animal Recording) through its Certificate of Quality.

Keywords: genetic improvement, quality, management, ISO 9001, collective.

Estimations on the genetic merit of animals is a fundamental piece of information in the management of populations and in the selection of cattle for reproduction. Elaborating these estimations is a long, complex procedure and requires the interaction of many processes: animal identification, pedigree recording, performance recording, management, verification and sustainability of data, estimation and computation methods as well as the process of making the results available to users.

Summary

Introduction

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At every stage, the accuracy of the data is crucial (Patry, 2011). These processes must therefore be controlled and monitored to guarantee the accuracy of the genetic values for users and clients while at the same time building trust between operators.

In France, each process is deployed by specialised organisations over a specific geographic area. There are over 200 of these, varying greatly in size (from 1 to more than 500 employees), complementary and interdependent, sharing one same data system. This results in a genetic architecture for livestock that is mutual, multibreed and multi-species, powerful yet complex. The "Dispositif Génétique Français" (French livestock genetic scheme-hereafter abbreviated to "DGF") needed to develop its own quality management system (QMS) as it brings together 180 organisations (Journaux et al, 2017).

Organisation of the quality management scheme

The year 2006 saw the creation of the umbrella organisation France Génétique Elevage (FGE) in parallel with the French Ministry of Agriculture retiring from operational management of the DGF. In this context, the industry professionals decided to maintain the collective structure of the DGF and to strengthen its function with a collective QMS in compliance with ISO 9001 standard, at a reasonable cost and with optimal efficiency. In this perspective, FGE decided against certifying its QMS, preferring to acquire, while still referring to the ISO 9001 standard, recognition by the ICAR Certificate of Quality (ICAR, 2017). The architecture of the QMS in FGE was of an "associated organisations" type, where the organisations are not individually certified but agree under contract (with FGE) to apply a package of quality measures. FGE could then implement its collective QMS which is compliant with requirements, efficient and in continuous improvement.

A pilot phase was rolled out over 3 years (2006-2008). This enabled the elaboration of a complete tool package: professional guidelines, a training standard for the role of Quality Correspondent (QC) within each organisation, communication with local management, training and qualification of internal auditors, the internal audit procedure and its frequency, audit monitoring and the self-declaration of compliance procedure, managing the flow of exchanges between FGE and the partner organisations, the QMS review process undertaken by management, with the support of the quality manager (QM) during the initial review of the processes by profession and the initial review of management.

Late 2008, 139 organisations had signed their contract. The deployment of the scheme continued with gradual commitment from the other structures, the introduction of continuous improvement measures and the extension of the field of action.

In addition, from 2010 to 2016, two audits of the system were undertaken in order to guarantee the overall efficiency of the scheme and its compliance with the ISO 9001 standard, as well as to facilitate the acquisition and renewal of the ICAR Certificate of Quality.

In 2017, the QMS covered 6 professions: identification, parentage recording an verification, performance recording in beef and dairy cattle, genetics data system, evaluation and publication of breeding values. It was deployed by 183 different organisations. This translated, for the professionals involved in the QMS, as 5 000 participants: 2 500 operators, 1 200 advisors, 650 administrative staff, 350 engineers or managers.

For 10 years, the FGE quality scheme has proved itself and has become a long-term management tool as well as a tool for progress, thanks to its organisational achievements, real improvement in quality of service, performance improvement within organisations and the recognition within the scheme as well as externally.

The organisational achievements involved the drafting of the professional guidelines, structured by process, which are regularly updated and which form the basis of the individual commitment of all the participating organisations.

The professional processes are reviewed annually and indicators are calculated for each organisation involved.

The annual management review looks at the results of the process reviews and decides on appropriate orientations for the future work of FGE.

This organisation has led to a steady and significant reduction in the number of non-compliances recorded as well as a substantial improvement in performance, measured objectively.

Furthermore, the participation of the organisations and their commitment to the scheme has helped to obtain recognition of their compliance with standards from clients, interested parties (French Ministry of Agriculture) and external bodies such as ICAR.

Finally, these successes were achieved at a very reasonable cost. Investment in the drafting of the professional guidelines was estimated at 792 000 • to be paid off over 10 years, that is 396 • per organisation per year. The average collective running costs is 350 000 • per year, that is, thanks to the pooling of all cross-cutting activities, 1 800 • per organisation per year. An annual average sum of 10 000 • per organisation is added for individual running costs.

Results

Beyond the general advantages of implementing a QMS with the aim of continuous improvement and the consideration of clients' expectations, this quality approach means that organisations share a common quality policy and benefit from better defined interrelationships as each organisation makes a commitment to apply the policy and the quality objectives set by the collective management of FGE.

The QMS helps those structures which, due to their size or their internal organisation, would not have taken the initiative of a quality approach on their own. This is only possible thanks to the motivation of the major participants (directors, managers, quality correspondents) as well as to improved communication across all levels.

The QMS of FGE also allows organisations the freedom to implement their own quality management system of ISO 9001 standard while at the same time giving them access to technical indicators and necessary audit elements for the collective steering of the project.

The DGF, organised by profession, is quite specific. However, quality schemes in compliance with ISO 9001 standard are generally quite well known to our international contacts. In this way, thanks to the QMS, FGE has presented the organisation of the DGF in a more accessible way and has helped to assure potential clients of the quality of work carried out in France.

The adjustment from drafting rules in the form of protocols towards an architecture of processes necessitated more clarity and increased responsiveness thanks to a simplified update of the professional guidelines (change from strictly imposing a method

Discussion

to requiring results through monitoring). The guidelines were produced by a writer from the industry and a writer from the Livestock Institute (Institut de l'Élevage), both drawing on a group of industry experts, which guarantees the efficient integration of regulatory developments as well as field requirements. Finally, the centralised method of managing the professional guidelines via intranet greatly assisted in keeping the documentation up-to-date and accessible.

The process reviews gave the organisations access to a comparative analysis of data and results for the management of their activity, as well as the homogenisation of practices and an anticipation of new challenges and opportunities. Clearly stated conclusions and decisions as well as the follow-up of action plans quickly became new and indispensable tools for the managers steering the scheme. At first, the managers of the individual organisations were not heavily involved in the deployment of the QMS but as they gradually saw the advantages in this way of functioning, they took ownership to the point of integrating it as a management tool for their own particular organisation.

The management review, carried out annually, is an important factor in motivating the industry partners to adopt this methodology and to deploy it over their professional sector. It increases understanding of the different professions between the respective industries.

By analysing the results of process reviews and by networking amongst QCs, FGE has created a community of shared practices, supplemented by the contributions of other interested parties. FGE has built trust between the partners of the DGF and reinforced the coherence between the collective management (vision, strategy, policy, objectives) and "production" performance (indicators, results, action plans, improvement).

It is also important to underline the indirect advantages of this scheme. Since its implementation, the QMS has facilitated the merging of organisations: when organisations share the same professional guidelines, merging has been greatly simplified not only for the operators on the ground but also for management.

Certain subcontractors were tracked and evaluated in a coordinated manner by a large number of organisations. This coordinated tracking helped to reformulate mutual requirements and expectations in a much faster and efficient way compared to uncoordinated individual actions.

However, this type of organisation presents certain limits. Due to its deployment over 200 organisations, the QMS required about 5 years to define itself and to be distributed on the ground. The stages of commitment for an organisation up to the first declaration of compliance took on average 3 years in each profession.

The actual organisation of the DGF, divided into activities by type of organisation, does not facilitate the concept of products and clients because the structures involved are clients and suppliers with each other, where each organisation contributes by way of intermediary products. The final product, which is the genetic evaluation, is not the direct product of the organisations on the ground. This caused difficulty in organising efficient customer service for the end client.

In the same way, this multi-professional organisation does not facilitate the systematic and standardised recording of complaints: the causes may be complex to analyse or may be outside the scope of responsibility of the organisation that identified them. This does not take anything away from the efficiency in treating complaints, in fact well managed on a day-to-day basis, but it did prevent the collective system from having the means to carry out a global analysis for the improvement of customer satisfaction.

Finally, it has not been possible to implement the QMS of FGE in all sectors or professions. The reasons are varied. The different families of organisations who committed first were the ones that had regulation requirements or were under pressure internationally. Then followed the groups that were in subcontracting positions with a large number of operators. In contrast, the families that were more autonomous in their activity, with no regulatory constraint to adopt a QMS or that faced major organisational changes, did not take the step to commit. For the small ruminant sectors, the limited number of operators, their smaller size and a more centralised decision-making framework resulted in a lack of commitment to quality management beyond animal identification.

The structure of livestock breeding in France is marked by a strong collective culture which has enabled the substantial pooling of financial and human resources and tools. This has helped to bring French genetics to its current level of international recognition.

The QMS of FGE has been running for 10 years with the aim of improving the management of this organisation and its effectiveness has been proven. It is recognised, on a national level, by the Ministry in charge of Agriculture, and on an international level, where it was fundamental to FGE obtaining the ICAR Certificate of Quality.

After investment since 2003 and deployment since 2008, the QMS has succeeded in the two objectives that were assigned to it: to demonstrate the professionalism and effectiveness of the DGF through its umbrella organisation FGE and all the participants, and to ensure optimal investment and running costs.

The QMS of FGE is a successful example of the declination of the ISO 9001 standard to a large multi-enterprise organisation. The 183 companies involved in the QMS have all gained a large quality capital in the form of knowledge, experience and know-how, which constitutes a precious asset in their restructuring within the framework of the European zootechnical Regulation.

Conclusion

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