

Stakeholders' Meeting of the SMARTER project, November 27th 2019

Participants in Edinburgh

- Ana-Karin Gidlund (FACE Network, SW)
- Beat Bapst, on behalf of Erika Bangerter (Schweizerischer Ziegenzuchtverband, CH)
- Bertrand Bouffartigue (RDF, FR)
- Fernando Freire (Assafe, ES)
- Jean-Paul Dubeuf (IGA International Goat Association, FR))
- Jette Jakobsen (Norwegian association of Sheep and Goat Breeders, NO)
- Jose-Manuel Vidal (Inatega, ES)
- Lourdes Mintegi (Confelac, ES)
- Sandor Kukovics (Sheep Product Council, HU)

Participants on remote by video-conference (Zoom)

- Antoine Stouff (CNBL-FR)
- Erika Bangerter (Schweizerischer Ziegenzuchtverband, CH)
- Kristina Sandor
- Mauro Fioretti (AIA, IT)
- Paul Boettcher, FAO
- Sam Boon (AHDB, UK)
- Shannon Clarke (AgResearch, NZ)
- Wendy Jones (Nat. Sheep Ass., UK)

Opening and introduction: presentation of the platform

The meeting has been opened at 16.30 Paris time.

Jean-Michel Astruc and Cesare Mosconi chaired the meeting and he briefly presented the project, informing of a preliminary meeting with the stakeholders held on 14 November by Zoom. He then introduced the reasons and the role of the stakeholders platform, and the expected actions. A short presentation of the stakeholders was then introduced together with their range of activity for each of them.

JEAN-MICHEL ASTRUC briefly summarised the steps that led to the selection of the present stakeholders, how they have been nominated (two surveys followed by email contacts with each of them). Some of them did not accept the role due to many reasons (insufficient number of staff, lack of funding, lack of specific competences,) and at the end 17 national and 8 trans-national stakeholders have been identified plus the 3 support stakeholders for a total of 28 organisations/companies, both academic, public or from private sector.

NATIONAL STAKEHOLDERS

1. AHDB, Agric. And hort. Dev. Board, UK
 2. AIA, Italian breeders' association, IT
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3. ANICAP, Goat interprofessional national association, FR
4. ASSAFE, SP
5. Assonapa, IT
6. CERTH, Inst. of applied bioscience, GR
7. CNBL, National committee for dairy sheep, FR
8. CONFELAC, SP
9. Emilio Mauri, IT
10. FNO, Nat. Sheep federation, FR
11. Hungarian sheep and goats breeders' association, HU
12. INATEGA, SP
13. Milkplan SA, GR
14. National sheep association, UK
15. Schweizerisches Ziegenzuchtverband, CH
16. Sheep Ireland, IE
17. Sheep product council, HU

TRANS NATIONAL STAKEHOLDERS

1. FABRE-TP
2. FACE Nertwork
3. FAO
4. Global agenda of action in support of sustainable livestock platform
5. IGA; International goat association
6. ILRI
7. Interbull centre
8. SCAR, Standing committee on agricultural research

SUPPORT STAKEHOLDERS

1. AGBU, Animal genetic and breeding unit, AUS
2. AGRESEARCH, NZ
3. ILLUMINA, world-wide company

Jean-Michel Astruc underlined that the list of stakeholders is open for any new submission

The field of action of the stakeholders is wide, including

- breeding organisations
- companies dedicated to services to farmers
- Interprofessional organisations
- Research and technology companies
- Cheese industry
- Companies dedicated to animal feeding and health

Jean-Michel Astruc introduced that the site very soon will contain a specific page dedicated to the stakeholders and also introduced the role of the stakeholders' platform that is responsible for advising about the role and the strategy of the SMARTER's outputs. Its primary role are to maximise the interactions with all the stakeholders since SMARTER is a multi-actor project; having stakeholders so representative of the agricultural interests make the platform the core of the project. The platform has to render innovation and applied solution available to end-users. The expectations from the platform are

- the expression of views and its sharing with the project partners
- facilitate the dissemination
- suggestions on how to manage the project to maximise the impact of the outcomes and facilitate the exploitation of the most promising results

Presentation of the Work Packages

Following these concepts about the stakeholders, the meeting followed with a short presentation of the different WPs as it follows:

1. WP 1 (J.J. Arranz)
2. WP 2 (J. Conington)
3. WP 3 (R. Rupp)
4. WP 4 (B. Servin)
5. WP 5 (A. Legarra)
6. WP 6 (J.-M. Astruc)
7. WP 7 (V. Thénard)

Presentation of the stakeholders

Then, the participating stakeholders (both those participating in remote by video-conference or physically in Edinburgh) have been invited to give a brief presentation of their Organisation/Company and to present their expectations from the SMARTER project.

Fernando Freire (ASSAFE, Assaf Sheep Breeders)

He presented the origin of the Assaf sheep breed, the logistics of ASSAFE, the characteristics of the breed, its fertility and growing rate, its rusticity and a short history about the arrival of the breed in Spain from Israel in 1977. The relevance of Assaf in the Spanish economy has also been underlined as well as its genetic improvement programme and the selection objectives (mainly higher milk production and higher content of protein and fat; higher quality with lower SCC and a better mammary morphology). They collaborate with multiple bodies for the genetic selection (DNA paternity testing to all sheep in farms and genotyping for scrapie resistance). Annual milk production is constantly improving in the last 25 years

Expectations

- Establish long-terms relations between breeders and research;
- Development of international network for sharing ovine and caprine genetic information;
- Maintain a reference Assaf population useful and efficient;
- Sharing information about Assaf breed and its international implementation programme;
- Incorporation of new genetic traits in breeding programmes such as health traits (Visna maedi resistance), reproductive and nutritional characteristics

Lourdes Mintegi (CONFELAC, National confederation of farmers of Latxa and Carranzana sheep breeds)

The confederation primarily acts in the Spanish Basque country, the Latxa can varies in the colour of the heads and its milk is used to produce DOP cheeses (Idiazabal and Roncal). Lourdes provided

information about the production system of Latxa, its genetic improvement programmes and the service infrastructure used for its breeding.

Expectations

- Better defined information in order to improve the production and competitiveness of the breed to link it with its environment and territory
- Improved new traits for longevity, rusticity and resilience
- Sharing of data from SMARTER to widen the already done work and improve competitiveness

Jose Manuel Vidal (INATEGA)

Basically, INATEGA is an industry for animal nutrition but with multiple interest now in the genetic analysis and biotechnological services through other brands, becoming now a relevant company also in genomics and operating also in the USA to provide services to USDA. The company developed its own chips for SNP analysis, supplying the University of Leon in their analysis. They are also supplying a Chinese company in providing specific set of SNP for specific analysis.

Expectations

- Smart initiatives and ideas for their applications in the genetic improvement programmes

Ana-Karin Gidlund (FACE Network and Goat cheese producer in Northern Sweden)

FACE is a network of around 3,500 members from 6 different countries acting as sheep and goat cheese makers.

Expectations

- Higher milk quality with higher content in protein and fat and a better ratio
- In goats, a better content of the free fatty acids will certainly facilitate the cheese making ability of the goat cheese
- Suggesting that a male progeny with such characteristics may have been identified by the project
- New proposals for having a more suitable milk for cheese making is certainly welcome by FACE. Technological characteristics of the milk should be improved aiming at having a better raw material
- Scrapie resistance should be improved in the progenies
- A question: can countries which are not in the project send data about breeds not included in SMARTER?

Mauro Fioretti (Italian Breeders' association)

He introduced first AIA in Italy and apologised ASSONAPA for not participate in the meeting.

Expectations

- The achievement of Intersheep/Intergoat international genetic evaluation is certainly an element that would be appreciated by AIA. Possibly such achievement can be easier for goats
 - Achievements of useful results economically sustainable for the farmers
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- ASSONAPA (another Italian stakeholder with whom Mauro Fioretti communicated before this meeting) is expecting the sharing of data beneficial for the whole chain

Jean-Paul Dubeuf (IGA)

IGA is involving scientists from the goat world, for the promotion of goat. It organises an international congress every 4 years. Next IGA meeting will be organised in Hungary in 2020 where SMARTER project is invited to present its activity. IGA also proposes to use the official journal "Small Ruminant Research" to present SMARTER results at the end of the project. IGA promotes publication of data and manuscript on goat and informs about the identification of success factors in actions taken. In many countries world-wide, farmers are much more interested in goat meat than goat milk. J.P. Dubeuf underlined the fact that usually producers are more interested by productivity, while researchers and institutional actors focus on agroecological questions.

Expectations

- Identification and operational and efficient innovative techniques to improve the management of goat systems (multidisciplinary systemic approach)
- Joint dialogue between scientists and breeders
- Provide new methods to think breeding
- IGA can facilitate SMARTER in the dissemination for having tight relations with the farmers
- Facilitate the contacts between SMARTER and local farmers
- IGA could help involving new stakeholders in the project coming from countries which are not in the consortium and out of Europe.
- Facilitate the identification of new concepts for defining the concepts of resilience and efficiency

A specific session of SMARTER should be organized in IGA Conference in 2020 which will be held at Eger in Hungary on 14-17 September 2020.

Sandor Kukovics (Sheep and Goats Products' Board)

He briefly presented a video about the IGA 2020 Conference and provided preliminary information about his organisation, its history and its role within Hungary.

Expectations

- New methodologies for increasing goat meat production, its quality and the development of new products. This can be achieved by improving reproduction traits
- Improve: lambing/kidding rate and decrease lamb/kid loss
- New tools for a better meat quality
- Improved feeding systems
- Identification of the key elements of the production systems for an economic sustainability of sheep and goat farming
- Improve the genetic elements for the milk production and its quality and its composition

Paul Boettcher (FAO)

He briefly presented the role of FAO within the UN system, and activities in promoting agriculture and nutrition. He presented the organisation of FAO, arranged in divisions and its activities such

the Global Plan of Action for Animal Genetic Resources, the normative work of FAO and the Projects (field work in developing countries).

Expectations

- FAO is in favour of the animal genetic diversity and is also in favour of expanding the scientific knowledge based on sustainable production of small ruminants
- Development of techniques and technologies for low-input production systems
- Support the sustainable use of local breeds
- Development of technology to be adopted also by developing countries
- In general, a higher productivity of the system and farm sustainability but also taking into account the economic and social sustainability

Sam Boon (AHDB)

His organisation has been involved in the UK in the genetic national evaluation in sheep (maternal traits and parasite resistance)

Expectations

- Development of new phenotypes benefiting dairy industry. This would be beneficial particularly for the sheep milk sector
- The development of a system for the international genetic evaluations, similarly to the already developed one in milk and meat cattle
- Development of any tools that can be immediately adopted by sheep farms, considering the cost effectiveness

Wendy Jones (National Sheep Association UK)

The organisation represents the interests of the producers, entirely funded by member subscription, mainly sheep farmers

Expectations

- Innovation and communication of the achievements of SMARTER to farmers
- Role of a scientific approach to the productive systems
- Responsible use of local breeds
- A more efficient productive system
- Ready to collaborate in the dissemination

Antoine Stouff (CNBL)

CNBL is grouping different organisations for the genetic improvement of French dairy sheep. The role of CNBL is putting together the technical organisations involved in the dairy sheep sector, including research, in order to facilitate the link between research, development and field organisations (genetics, advisories, services and training) and keep relations with all the sheep sectors.

Expectations

- Definition of new traits to be considered in the selection for efficiency, resilience, sustainability and healthcare
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- Sharing the different experiences of other countries
- Development of the appropriate innovations for the selection
- Applicability of the outputs of the SMARTER project to farmers

Beat Bapst (Swiss goat breeding organisation, Qualitas AG)

He presents on behalf of Erika Bangerter who also attended on remote.

He firstly described its organisation and the sheep breeds that have an interest of the organisation

Expectations

- Identification of those traits for a good conformation traits and good productivity even in a harsh environment.
- Development of Interbuck for evaluations across countries (International comparable breeding values)
- Development of appropriate tools for an even more tight links from phenotypes to genotypes and vice versa

Rob Banks (AGBU)

He did not attend the meeting but sent a synthetic report of the AGBU activities that are in the scope of SMARTER

- Developing and delivering estimated breeding values for traits relevant to resilience and efficiency:
 - Breeding for flystrike resistance using indicator traits and genomic selection
 - Ewe maternal efficiency – balancing production, resilience and maintenance costs (mature size)
 - Components of ewe reproduction including lamb survival
 - Worm (internal parasite) burden
 - Footrot
 - Overall economic efficiency
- Extension and adoption programs to encourage breeders to measure key traits in their commercial environment and use all the genetic tool better to optimise gains
- Incorporating those traits in multi-trait single step genetic evaluation, and the breeding values into multi-trait breeding objectives and indexes
- Working with industry to grow reference populations
- R&D into how to extend coverage to numerically smaller breeds
- Analyses account for environmental variation via fitting sire x flock interaction term

In summary

As follows is an attempt to synthesize the expectations of the stakeholders. They could be gathered in three topics or clusters:

- Traits to be selected for
 - a higher productivity of the sheep and goat sector, primarily from an efficiency point of view but also environmentally and economically sustainable
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- Improve the genetic elements for the milk and meat production, their quality and composition, both in sheep and goats
- Incorporation of new genetic traits in breeding programmes such as health traits, reproductive traits and feed efficiency, to be achieved by the improvement of new traits for longevity, rusticity and resilience.

Interestingly, many stakeholders express the interest for breeders to improve production traits as a major objective (productivity, milk quality, meat production). Efficiency & resilience traits are also emphasize, but they must be considered in addition to production traits, not in replacement of them. SMARTER is focused on efficiency & resilience trait, but the methods and tools that will be constructed will benefit to all kind of traits and objectives. Therefore, every stakeholders should find answers and hopes from SMARTER results.

- **Benefice from genomics**

- The use of genomics, accomplished to genetic improvement programmes was broadly suggested by many stakeholders as a major outcome of the SMARTER.

As many populations of small ruminants are small, or without a broad impact of performance recording, it seems obvious that genomics may have an impact provided there is advancement on harmonisation and international cooperation. This is a major objective of the project: break the barriers to render genomics an asset for small ruminant populations.

- **Benefice from networking**

- the establishment of long-terms relations between breeders and research making possible the communication of different experiences
- The development of an international network for sharing ovine and caprine genetic information and experiences with different and local breeds. Tightly closed to this expectation is the achievement of an international genetic evaluation system that would benefit the whole sector and improve the efficacy of the genetic improvement programmes (International comparable breeding values)

These points underlines the necessary of horizontal (help countries work tighter by exchanging data and experiencing common achievements) ... and vertical (research x development and innovation toward end-users stakeholders, strengthen the continuum between research and field organizations) networking

Meeting ended at 19.45 Paris time