

Feed-a-Gene



Adapting the feed, the animal and the feeding techniques to improve the efficiency and sustainability of monogastric livestock production systems

Press release

15 October 2015

Feed-a-Gene is a project coordinated by INRA (France) that aims to adapt monogastric livestock production systems (pigs, poultry and rabbits) to improve their overall efficiency and reduce their environmental impact. The project will develop new and alternative feed resources and feed technologies, will identify and select animals better adapted to fluctuating conditions, and will develop feeding techniques for optimizing the potential of the feed and the animal. Feed-a-Gene involves an international consortium of 23 public and private partners from Europe and China. The project is planned to last for five years, and has been allocated a budget of €9 million. It is funded under the EU Framework Programme for Research and Innovation Horizon 2020.

Challenges

The global demand for animal products continues to increase, notably because of strong demographic growth and higher purchasing power. According to FAO, there are currently no viable alternatives to intensive livestock production that can meet this growing demand. Monogastric species (pigs and poultry) are the main sources of animal products. However, competition between food, feed, and fuel and environmental issues (phosphate and nitrate concentration in water) caused by monogastric livestock production must be addressed and new solutions to increase the efficiency and sustainability of livestock production systems must be developed. Feed-a-Gene aims to:

- ▶ Unlock the potential of existing feeds and identifying new and alternative feed sources
- ▶ Use precision livestock production, including precision feeding for better adapting the nutrient supply to animal requirements.
- ▶ Identify new genetic markers and use genetic diversity to breed more efficient and robust animals better adapted to fluctuating environmental conditions, and capable to use feed resources that are not or less in competition with other usages.

Objectives

The objectives of the Feed-a-Gene project include:

- ▶ Develop new and alternative feeds and feed technologies to make better use of local feed resources, green biomass and by-products of the food and biofuel industry.
- ▶ Develop methods for the real-time characterization of the nutritional value of feeds to better use and adapt diets to animal requirements.
- ▶ Develop new traits of feed efficiency and robustness allowing identification of individual variability to select animals more adapted to changes in feed and environmental conditions.
- ▶ Develop biological models of livestock functioning to better understand and predict nutrient and energy utilization of animals along their productive trajectory.

- ▶ Develop new management systems for precision feeding and precision farming combining data and knowledge from the feed, the animal, and the environment using innovative monitoring systems, feeders, and decision support tools.
- ▶ Evaluate the overall sustainability of new management systems developed by the project.
- ▶ Demonstrate the innovative technologies developed by the project in collaboration with partners from the feed industry, breeding companies, equipment manufacturers, and farmers' organisations to promote the practical implementation of project results.
- ▶ Disseminate new technologies that will increase animal production efficiency, whilst maintaining product quality and animal welfare and enhance EU food security.

Feed-a-Gene partners

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| ▶ INRA (France) | ▶ DuPont (Denmark) |
| ▶ Wageningen UR (Netherlands) | ▶ Exafan (Spain) |
| ▶ Newcastle University (United Kingdom) | ▶ Claitec (Spain) |
| ▶ Universitat de Lleida (Spain) | ▶ INCO (Spain) |
| ▶ IRTA (Spain) | ▶ Gran Suino italiano (Italy) |
| ▶ Kaposvár University (Hungary) | ▶ ACTA (France) |
| ▶ Aarhus University (Denmark) | ▶ IFIP (France) |
| ▶ China Agricultural University (China) | ▶ ITAVI (France) |
| ▶ IPG/Topigs (Netherlands) | ▶ Terres Inovia (France) |
| ▶ Cobb (United Kingdom) | ▶ AFZ (France) |
| ▶ Hamlet Protein (Denmark) | ▶ INRA Transfert (France) |
| ▶ Bühler (Switzerland) | |

Website and social media

- ▶ www.feed-a-gene.eu
- ▶ www.facebook.com/feedagene
- ▶ twitter.com/FeedaGene
- ▶ www.linkedin.com/grp/home?gid=8359616

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