



monitoring the safety of animal feed



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# Introduction to the MARLON project



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MARLON Final Conference, Brussels, 16<sup>th</sup> July 2015

- Conclusions in brief
- Background: expected impacts, contributions
- Structure and activities
- Outcomes of preparatory Work Packages
- Work by recently concluded Work Packages

- No general health impact of GM feed (review)
- Existing monitoring systems in place, yet seldom focused on health impacts of animal feed
- No technical possibility to measure prior exposure to GM feeds while methods are available to measure presence in GM feeds
- Potential to monitor for health impacts from altered mycotoxin levels and nutritionally improved feeds

- Traceability, inspections & controls in place, yet no possibility to know exposure to specific GM feeds
- Epidemiological tool developed, supporting the design of monitoring programs, and feasibility tested (example of dairy cattle)
- IPAFEED database established with literature data on GM feed & animal health

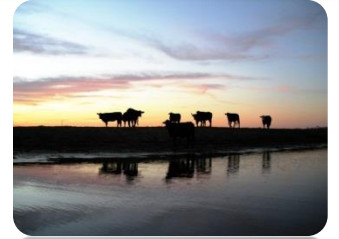
## Video: Dr Leguay (Haut Conseil de Biotechnologie)



## MARLON = Monitoring of Animals for Feed-related Risks in the Long Term

- Funded by the FP7 KBBE program
- Project started in August 2012
- Three-year project
- CSA project (no original research)

- Tool for designing monitoring studies
  - estimating likelihood of identifying health effects
- Database
  - information for monitoring possible health impacts
- Recommendations, training and guidelines.

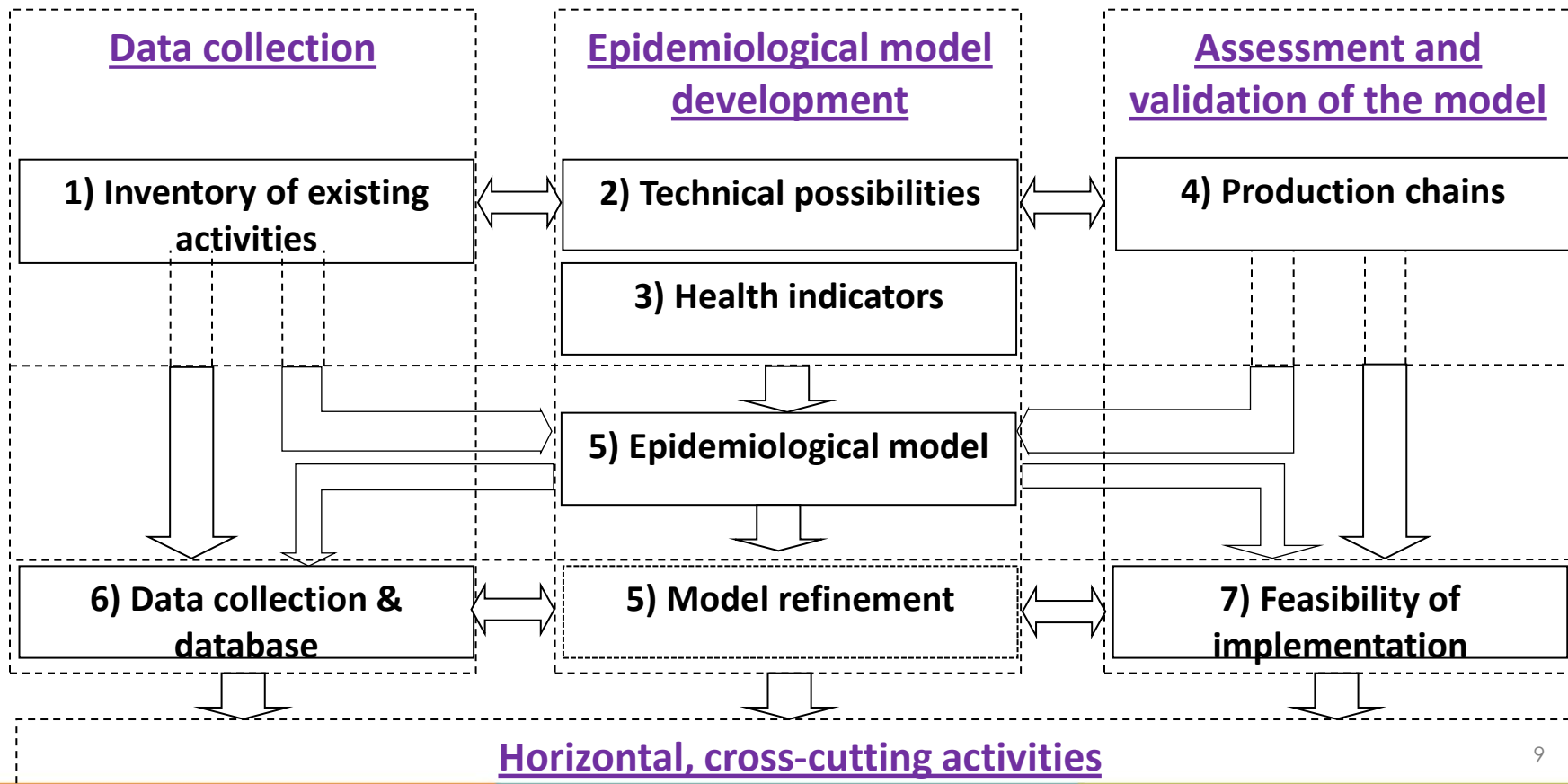


Overall, the **impact** of these **results** is to:

- Improve assurance of safety and quality;
- Contribute to a harmonized approach towards post-market monitoring;
- Promote a greater insight into the occurrence of health and welfare impacts







<http://www.marlon-project.eu> ; <http://web.spi.pt/marlon/>



The screenshot shows the Marlon website homepage. At the top, there is a navigation menu with links: Home, About Marlon, Events, Reserved Area, Results, Other initiatives, and Contacts. Below the menu is a large banner image of a corn cob with the Marlon logo overlaid. To the right of the logo are social media icons for Facebook and LinkedIn. On the left side of the page, there is a vertical sidebar with a 'Share' button and icons for Facebook, Twitter, LinkedIn, Email, and Print. The main content area is divided into two columns. The left column is titled 'Home' and contains the text: 'Monitoring of Animals for Feed-related Risks in the Long Term'. The right column is titled 'Events' and contains the text: '26 - 28 March 2014', 'Dublin Castle, Ireland', 'SVEPM 2014 - Annual Conference', and 'Society for Veterinary Epidemiology and Preventive Medicine [+]'.

Home About Marlon Events Reserved Area Results Other initiatives Contacts

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**Home**

**Monitoring of Animals for Feed-related Risks in the Long Term**

Marlon project aims to create an inventory of which epidemiological and monitoring initiatives exist, both within and outside the EU, which could provide useful data for the purpose of monitoring for health impacts of animal feeds, in particular those containing GM ingredients, on livestock animals. It will also collate, in a customized manner, information on the factors that have to be considered

**Events**

26 - 28 March 2014

Dublin Castle, Ireland

**SVEPM 2014 - Annual Conference**

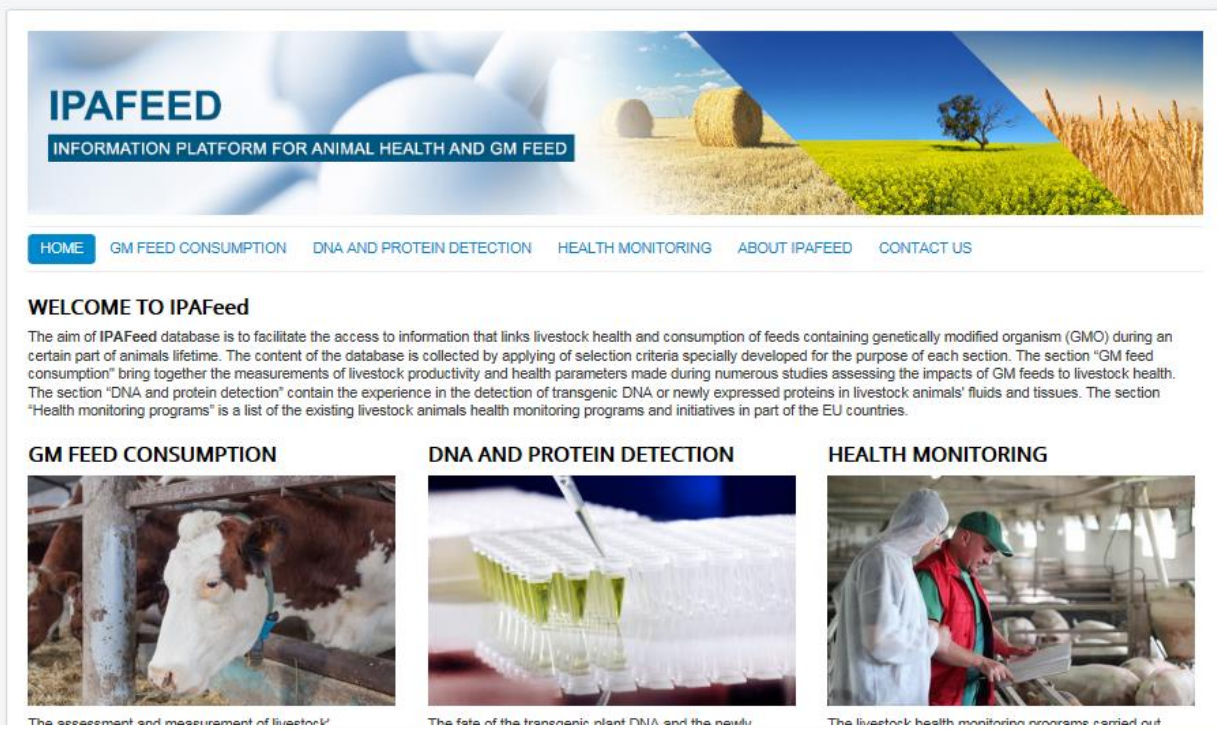
**Society for Veterinary Epidemiology and Preventive Medicine [+]**

100%

## Work Packages 1-4 completed:

- Reports published
  - Inventory of initiatives and literature
  - Possibilities for detection & exposure verification
  - Health indicators (4 cases)
  - Production chain characteristics

- “IPAFEED” database ([www.ipafeed.eu](http://www.ipafeed.eu))



The screenshot shows the IPAFEED website homepage. At the top, there is a banner with the text "IPAFEED" and "INFORMATION PLATFORM FOR ANIMAL HEALTH AND GM FEED" over a background image of a farm with hay bales and a field. Below the banner is a navigation menu with links: HOME, GM FEED CONSUMPTION, DNA AND PROTEIN DETECTION, HEALTH MONITORING, ABOUT IPAFEED, and CONTACT US. The main content area starts with a "WELCOME TO IPAFEED" section, followed by a paragraph explaining the database's purpose. Below this are three columns, each with a title and an image: "GM FEED CONSUMPTION" with an image of a cow, "DNA AND PROTEIN DETECTION" with an image of a microplate, and "HEALTH MONITORING" with an image of a person in a lab coat examining a sheep.

## IPAFEED


INFORMATION PLATFORM FOR ANIMAL HEALTH AND GM FEED

[HOME](#) [GM FEED CONSUMPTION](#) [DNA AND PROTEIN DETECTION](#) [HEALTH MONITORING](#) [ABOUT IPAFEED](#) [CONTACT US](#)

### WELCOME TO IPAFEED

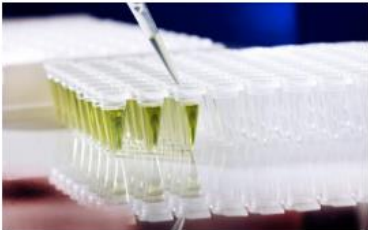
The aim of IPAFEED database is to facilitate the access to information that links livestock health and consumption of feeds containing genetically modified organism (GMO) during a certain part of animals lifetime. The content of the database is collected by applying of selection criteria specially developed for the purpose of each section. The section "GM feed consumption" bring together the measurements of livestock productivity and health parameters made during numerous studies assessing the impacts of GM feeds to livestock health. The section "DNA and protein detection" contain the experience in the detection of transgenic DNA or newly expressed proteins in livestock animals' fluids and tissues. The section "Health monitoring programs" is a list of the existing livestock animals health monitoring programs and initiatives in part of the EU countries.

#### GM FEED CONSUMPTION




The assessment and measurement of livestock

#### DNA AND PROTEIN DETECTION



The fate of the transgenic plant DNA and the newly

#### HEALTH MONITORING



The livestock health monitoring programs carried out

- Three components
  - GM feed consumption
    - Data extracted from feeding study reports
  - DNA detection
    - Data on GM materials in animals consuming GM feed
  - Monitoring initiatives

## Objectives

- To gauge the likelihood of detecting within a population:
  - Changes in production parameters
  - Adverse effects based on known disease states
  - Unknown and unforeseen adverse effects
- Output: likelihood that system will detect “abnormalities” when they truly occur

## Collection of data to use with the model

- Survey among experts (e.g. veterinarians)
  - Case chosen: reproduction data
  - Questionnaire prepared based on proposal by WP5
  - Question e.g.,
    - Normal incidence of cows that are calving and that experience a certain adverse effect
    - Minimum, most likely, maximum, confidence
  - Carried out by partners in 4 countries



**Thanks! Any questions?**

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Stichting Dienst Landbouwkundig Onderzoek

WEBSITE: [www.rikilt.wur.nl/uk](http://www.rikilt.wur.nl/uk)



АгроБиоИнститут (Agrobioinstitute - ABI)

Website: [www.abi.bg/index.php?lang=en/](http://www.abi.bg/index.php?lang=en/)



Freie Universität Berlin (FUB)

Website: [www.fu-berlin.de/en](http://www.fu-berlin.de/en)



Institut National de la Recherche Agronomique (INRA)

Website: [www.international.inra.fr](http://www.international.inra.fr)



Institut de Recerca i Tecnologia Agroalimentaries (IRTA)

Website: [www.irta.cat/en-US](http://www.irta.cat/en-US)



Istituto Superiore di Sanita (ISS)

Website: [www.iss.it/](http://www.iss.it/)



The Royal Veterinary College (RVC)

Website: [www.rvc.ac.uk/](http://www.rvc.ac.uk/)



Sociedade Portuguesa de Inovação (SPI)

Website: [www.spieurope.eu](http://www.spieurope.eu)



Universita degli Studi di Camerino (SVMS)

Website: [www.unicam.it/](http://www.unicam.it/)



Universitat de Girona (UdG)

Website: [www.udg.edu/](http://www.udg.edu/)



Universita degli Studi della Tuscia (UNITUS)

Website: [www.unitus.it](http://www.unitus.it)