TECHNICAL NOTE

SusCatt - Increasing productivity, resource efficiency and product quality to increase the economic competitiveness of forage and grazing based cattle production systems

Sustainability factors of the Italian beef rearing system

Flaviana Gottardo and Giorgia Riuzzi
Department of Animal Medicine, Production and Health, University of Padova, Legnaro, Italy
E-mail: flaviana.gottardo@unipd.it

About

We investigated if greater use of home-grown forages and by-product feeds for intensive beef can maintain good production and economic performances, ensure animal health and welfare as well as reduce the farms' environmental impact.

Challenge

Beef production is blamed to be environmentally unsustainable because a) much of their diets can be eaten directly by humans and b) for its gas emissions into the atmosphere. If the industry is to improve sustainability, farms need to know what conditions will allow them to reduce their harmful impact without reducing profitability or assess whether subsidies are justified for adopting good farming practices.

The Italian context

Livestock farming, particularly those confined to housing with no grazing area, has been the target of environmental and ethical accusations for years. Although this sector, especially in the Po Valley, has crucial importance, more than 40% of the meat consumed in Italy comes from other countries – is this importation sustainable? In fact, the national beef herd has remained stable over recent years. However, according to a report by Veneto Agricoltura on the Veneto region, the biggest Italian beef producer, from 2007 to 2017, the number of beef farms and of beef cattle dropped by 37.5% and 11.9%, respectively. Meanwhile, the average beef herd size increased from 48 to 68 units. This suggests that recently the Common Agricultural Policy has not increased the beef cattle population but is encouraging the remaining farmers to work more effectively, adopting good practices.

Limousine beef cattle reared on a SusCatt farm. Photo: Dr. Giorgia Riuzzi.

Some data shows intensive farms have been reducing their environmental impact, when managed carefully. In terms of emissions per kilogram of animal protein produced, methane has decreased by more than half since the mid-sixties, thanks to increasing efficiency within the national farming system as a whole. The same considerations can be made for other negative impacts such as acidification and eutrophication.

What we want to demonstrate

The assessment of the beef rearing system should be based on several linked aspects including:

- mitigating effect of crop cultivation to produce feeds;
- reducing chemical fertilizers and recycling nutrients from manures;
- feeding appropriate industrial by-products and home-grown feeds, especially forages.

On this last topic, the diets on 792 farms were evaluated to identify what was being fed. On average, by-product feeds and non-maize forages each provide 20% of the diet dry matter. The main by-products were beet pulp, molasses, distillers' grain and bran, coming from the production of sugar, alcoholic beverages and the milling industry. The Po Valley is characterized by a high level of anthropization, and associated food and drink manufacture. Whilst this might reduce the land available for farming, especially grazing, it does offer an ideal opportunity and supply of by-product feeds.Therefore, changing beef rearing towards a circular economy scenario making good use of home-grown feeds and recycling other industries' wastes will improve the production chain sustainability within the agricultural and farming systems.

Results

SusCatt seeks new knowledge whose application will be helpful to improve farm environmental efficiency, animal welfare and product quality. For these reasons, they perfectly fit within the national research activities and technical assistance initiatives that have been carried out with the aim of enhancing the production chain sustainability.

SusCatt partners visiting an Italian farm involved in the project.

Parthenaise beef cattle reared on a SusCatt farm. Photo: Dr. Giorgia Riuzzi.

Imprint

Citing: Flaviana Gottardo and Giorgia Riuzzi (2020): Sustainability factors of the Italian dairy rearing system. SusCatt Technical Note 2.3.1. Download at https://bit.ly/2GT1OHF

SusCatt was possible by funding from SusAn, an ERA-Net, co-funded under European Union's Horizon 2020 research and innovation programme (www.era-susan.eu) Grant n°696231 and Ministero delle politiche agricole alimentari e forestali (MIPAAF).

Review: Gillian Butler and Håvard Steinshamn

Editor: Håvard Steinshamn

Publishers: Consortium of the SusCatt project, c/Norwegian Institute of Bioeconomy Research, Norway