



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

Introduction to SusCatt Technical Notes and Handbook on Sustainable European Cattle Production

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In SusCatt, we conducted surveys and experiments to improve productivity, environmental impact and consumer's acceptability from a transition to high forage and pasture diets for our cattle. However, the outcome of this research will only be successful in practice, if picked up and implemented on a large scale. Thus, an effective dissemination strategy, providing suitable messages in appropriate formats, is essential for optimum uptake of SusCatt deliverables and innovations by European industries, other stakeholder groups and delivering information to policy makers and consumers. Our findings will only improve the sustainability of European cattle in practice if widely adopted, possibly supported by educated consumers creating a demand for more sustainable dairy and beef products.

As academics we are used to communicating with the scientific community via publications in peer reviewed journals or presentations at conferences. The main objective for work package 5 and our dissemination was to broaden communication beyond academia to reach farmers, others involved in the livestock industry, policy makers, diet related health professionals and consumers. To this end we have prepared the 20 technical notes and information sheets covering a wide range of the tasks from SusCatt, now compiled into this virtual *Handbook*. In the list below, each title will link to the appropriate note on the SusCatt website.

Work Package 2 Beef production

[TASK 2.1 Cross- and purebred steers on pasture](#)
Performance and carcass traits of beef-cross and pure-bred dairy steers on forage and semi-natural pastures



Dairy cow wearing a RumiWatch halter. Photo: Gillian Butler

[TASK 2.1 Eating quality of meat from steers](#)
Eating quality of meat from beef-cross and pure-bred dairy steers reared on forage and semi-natural pastures

[TASK 2.1 Profitability of steers on forage based diet](#)
Profitability of dairy and dairy × beef breed steers in beef production based on forage and semi-natural pastures

[TASK 2.2 Performance and carcass traits of dairy and beef × dairy bulls in forage-based beef production](#)
Using Angus semen on dairy cows gives bull calves with a potential for higher growth, carcass weights and better carcass characteristics regardless of feed intensity

[TASK 2.2 Eating quality of meat from dairy and beef × dairy bulls in forage-based production](#)
A high proportion of Swedish beef comes from dairy cows. Crossing cows with beef breeds increases the value of calves and subsequent carcasses and might impact beef quality

[TASK 2.2 Profitability of dairy and beef × dairy bulls in forage-based beef production](#)

Using beef rather than dairy semen for dairy cows is a good choice for profitability on farms with facilities for indoor, forage-based feeding

[TASK 2.3 Sustainability factors of the Italian beef rearing system](#)

We investigated if more home-grown forages and by-product feeds for intensive beef can maintain good performance, ensure health and welfare and reduce environmental impact

[TASK 2.3 Maize silage for beef cattle: good or bad? Health traits of dualpurpose crossbreeds and pure beef cattle](#)

Most beef in Italy is from specialised farms, importing young beef bulls. Cattle are fed concentrates diets dominated by maize silage and grain. Here we discuss the health impact for two beef breeds

[TASK 2.4 Better nutritional quality in grass-fed milk and meat](#)

[TASK 2.4 Nutritional quality of pasture-fed beef](#)

SusCatt adds to evidence on the superior nutritional quality of products from extensive farming, especially from forage only feeding which could potentially cut deficiencies in long chain omega-3 fatty acids consumption.

Work Package 3 Dairy production

[TASK 3.1 Selecting for Efficiency in Pasture-Based Dairying](#)

Pasture-based dairying relies on conversion of grazing into milk while cows maintain body condition, health and fertility. Individual cows are consistently more efficient and could breed replacements to maintain and improve grazing conversion efficiency

[TASK 3.1 Which cows suit UK low-input or organic dairying?](#)

UK interest in grazing-based dairying has recently increased, yet there is little guidance on breeding priorities, with farms selecting cows to suit their system. Here we describe lessons from 17 such farms

[TASK 3.2 Improving permanent pastures](#)

Permanent pastures can support good production if well managed but are often neglected or misused. This note describes successful pasture renovation without pesticide application, by cross under-sowing with a direct drill fitted with a tine cultivator proved.

[TASK 3.2 Improving milk output from permanent grassland](#)

Pasture establishment and growth were successful initially, leading to higher milk output. However, atypical drought causing poor herbage growth and quality confounded results in year 2 with cow grazing unimproved pasture giving more milk. Further monitoring is needed.

[TASK 3.3 Does it matter how much forage our dairy cows eat?](#)

Farms in Central Norway, feeding more forage to dairy cows, achieved lower yield per cow but higher profitability than farms feeding more concentrates. The Global warming potential of farms was independent of concentrate use.

[TASK 3.4 Sustainability factors of Italian dairy system](#)

If we are to improve the production efficiency and environmental sustainability of Italian animal farming, with full regard to animal health and welfare, we need to identify what strategies and changes are appropriate - system analysis is crucial, especially for the dairy sector

[TASK 3.4 What do our cows eat? - Using technology to authenticate forage-based milk](#)

Declaring feeding regime is not mandatory for dairy products. However, both geography and production intensity influence product quality and consumers should be able to identify sustainable, animal-friendly product lines

[TASK 3.5 Forages to reduce the environmental impact of grazing dairy cows](#)

If managed efficiently, diverse pasture with legumes and herbs outperformed simple swards in milk yield and achieved low methane emissions

Work Package 4 Assessment

[TASK 4.4 Building the market for Grass-fed](#)

Beef and Dairy are hot-topic with negative associations for many consumers. However, not all products are the same and evidence supports many benefits grass-fed, but how can we encourage its production and consumption?

Imprint

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