

Green Assets of Equines

Subjects: Zoology

Contributor: Agata Rzekęć

Equines have a peculiar place in our society. From livestock to sport, through to landscape managers and leisure partners, equines show a wide range of little-known environmental advantages and assets. Today's wake-up calls about the environment are progressively putting pressure on stakeholders of the agricultural sector, including the equine industry. This study focusses on the main environmental consequences of equine use and possession in Europe based on scientific and technical sources under the lens of five leading sectors where equines show unique impacts as green assets. Now, more than ever before, it is important to highlight the role of equines as a green alternative in political debates and management practices to give them the place equines deserve in the ecological transition of agriculture.

Keywords: horse ; environment ; green assets ; land use ; equine grazing ; domestic biodiversity ; equine and equestrian tourism ; equine work ; multifunctional review ; equines

1. Introduction

Despite the decline of equine populations in the middle of the 20th century ^{[1][2]}, the European horse industry is growing again thanks to economic alternatives found in the diversification of the uses of equines (sports, racing, leisure, etc.). Equines have many environmental advantages, but the fragmentation of the sector and the lack of synthetic knowledge about their environmental impacts do not enable the promotion of these assets and their effective inclusion in management practices and European policies.

2. Five Equine Green Assets : Synthesis of the Literature Review

To highlight the equine environmental impacts, a literature review was carried out to cover the main European stakes. This work led to the identification of five "green assets", fields where equines show unique environmental advantages compared to other agricultural productions. These green assets are linked to the nature of equines (grazing and domestic biodiversity), to their geographical distribution (land use), and to their use by human beings (tourism and work).

2.1. How does the Inherent Nature of Equines Impact the Environment?

- Equine grazing: Equine grazing incidence is unique because of this animal's morphology and its physiology specificities, especially regarding ruminants (the main herbivores raised on grasslands)^[3]. In particular, equine grazing is done on different patches made of lawns and high grasses ^[4]. Consequently, the structure of the grassland is heterogeneous, creating a variety of ecological niches used by several species (birds - ducks and spoonbills - were found on lawns, a place where insects are easier to find, and little mammals were found in high grasses, a place where they can hide more easily) ^[5]. But, when pasture use is mismanaged, there appears a risk of overgrazing on lawns. This is why mixed grazing (cattle-equines) is an interesting alternative to improve the quality of grasslands and to counter shrub invasion^[6].
- Domestic biodiversity: Human and environmental selection has led to a rich diversity of equine breeds all over the world. Some of these breeds are currently endangered and their conservation is an important issue, which could be introduced in European policies. Local breeds may present a better adaptation to local climatic conditions and their presence in sensitive areas could be beneficial to the conservation of these zones ^{[7][8][9]}.

2.2. How does the Spatial Repartition of Equines Impact Land Use?

- Land use: Equines are present in various areas, especially where other livestock is presently absent. This land use is directly linked to the place of equines in society; as livestock, it is possible to find equines in farms and large areas, but as family pets, equines can be encountered near houses, sometimes on small plots of lands that are not usable for agriculture ^[10]. They can also be present in rural areas, where pastures are included in a landscape mosaic, which is

beneficial for biodiversity. Moreover, farmers can experience benefits from the presence of equines on their land, such as selling equine feed, letting the equines graze on unproductive pastures, or receiving manure.

2.3. Animal Uses Serving Environmental Issues

- Tourism: Equines can be used as a means of transport but also as travel companions to discover wild countries and landscapes. Equestrian tourism is also an illustration of soft roaming. A comparison between hiking, cycling, and horse riding shows that the impacts on the environment were the same between these means of transport but they differed in the degree of impact (e.g., soil compaction and erosion, loss of organic matter biomass, and biodiversity losses) ^[11]. The two most severe impacts of equestrian tourism are: (1) nitrification of rivers and soils because of the overconcentration of phosphorus in poor soils, and (2) zoochory through fur and manure, which raises the risk of invasive plants being spread in protected areas. On the other hand, this spread may be beneficial for the flora diversity of poor soils.
- Equine work: Equines are also used in tourism, cities, and agriculture as a source of energy, whereas other livestock are not, at least in Europe. Equines consume fodder, which is considered a renewable source of energy because it does not involve fossil energy in the narrowest sense ^[12]. The animals must be fed all year, whereas machines can be used occasionally and refuelled infrequently. Despite this disadvantage, equine work allows farmers to attain better feed and energy autonomy^[13], to highlight a traditional vision, to be appreciated by urban inhabitants, and to maintain a diversified gene pool through the use of local equine breeds^[14]. Finally, equine work is considered by some authors as a form of sustainable agriculture.

Today, when searching for sustainable solutions to modern environmental issues, the use of equines is a neglected green alternative. Better knowledge and use of equine green assets could partly respond to more ecological agricultural needs and contribute to the development of this animal industry, which has a place in regional development and in Europe's sustainable transition.

3. How to Better Use Equine Green Assets : Proposition of Some Practical Recommendations

3.1. For Equine Keepers

Raising awareness and improving management practices could improve equine environmental impacts, highlight their green assets, and better use these assets in everyday practice. It is already possible to propose some examples of practical recommendations to equine owners, as for example:

- In order to avoid the overconcentration of manure in suburban areas, equine owners may build reliable partnerships with local farmers, who can use manure as fertilizer. Manure can also be recycled and rapidly composted to improve soils in city parks. Another solution is to transport manure to methanation firms for energy production .
- Equine grazing has interesting characteristics in pastures and shows complementarities with other herbivores, such as cattle. Thus, associating these animals could be a first step toward improving pasture quality and maintenance.

3.2. For Institutional and Political Stakeholders

Equines are often forgotten in political debates as they are seen as both livestock and pets. Moreover, there is a lack of practical information and courses on equine green assets that are usable by stakeholders. Promoting environmental assets of the horse industry could help integrate equines into political debates and help develop research on this topic. Hence, it is possible to propose some practical recommendations to institutional and political stakeholders, as for example:

- In regions where grasslands or rangelands are important, local development policies could include aids in favor of the equine industry, for example, subsidies for cattle farmers to also hold equines, or for the creation of numerous platforms to help horse owners meet farmers for feed purchases, pasture grazing, or the use of manure ^[15].
- When discussing new sustainable projects concerning ecological farming or public service missions in cities, equines could be included in the list of suggested alternatives based on the assets presented in this paper if all economic, social, and welfare conditions are fulfilled.

4. Conclusions

The equine industry is constantly evolving according to changes in society. One of the next steps is linked to the growing environmental awareness. This issue concerns citizens but also the political spheres, thereby putting pressure on the stakeholders of all economic sectors, including the equine industry. Indeed, in most European countries, environmental issues are not yet considered to be important enough by stakeholders in the equine industry. However, through their green assets, equines can have an active role in ecological transition and debates, both alone and as a complement to other economic productions and services. In the future, it could be interesting to support knowledge exchange in order to progress equine research, thus making this industry more visible and understandable, and to include equines in political debates about the environment and raise awareness about equine uses to avoid radical actions from animal activists. Creating and publishing all kinds of communication media, such as articles, photos, videos, websites, and podcasts, could be a way to reach a larger audience and make equine owners adapt their management practices to better use equine green assets.

From European organizations to society, everyone should be aware of the potential place of equines during the ecological and agronomic transition toward a greener future.

References

1. R. Evans; Introduction to the new equine economy in the 21st century. *Cattle husbandry in Eastern Europe and China* **2015**, 136, 11-18, [10.3920/978-90-8686-824-7_intro](#).
2. Häggblom, M.; Rantamäki-Lahtinen, L.; Vihinen, H. Equine sector comparison between the Netherlands, Sweden and Finland; Equine Life; MTT Agrifood Research Finland: Finland, 2008;
3. M. Jouven; C. Vial; G. Fleurance; Horses and rangelands: perspectives in Europe based on a French case study. *Grass and Forage Science* **2015**, 71, 178-194, [10.1111/gfs.12204](#).
4. Sara Ringmark; Anna Skarin; Anna Jansson; Impact of Year-Round Grazing by Horses on Pasture Nutrient Dynamics and the Correlation with Pasture Nutrient Content and Fecal Nutrient Composition.. *Animals* **2019**, 9, 500, [10.3390/ani9080500](#).
5. Fleurance, G. Impact du pâturage équin sur la diversité biologique des prairies [Impacts of equine grazing on biological diversity of pastures]. Sommet de l'Elevage, Clermont-Ferrand, FRA, 2008-10-02-2008-10-04 2008.
6. Carlos López López; Rafael Celaya; Luis Miguel M. Ferreira; Urcesino García; Miguel António M. Rodrigues; Koldo Osoro; Comparative foraging behaviour and performance between cattle and horses grazing in heathlands with different proportions of improved pasture area. *Journal of Applied Animal Research* **2019**, 47, 377-385, [10.1080/09712119.2019.1649679](#).
7. Pablo Garrido; Anders Mårell; Erik Öckinger; Anna Skarin; Anna Jansson; Carl-Gustaf Thulin; Experimental rewilding enhances grassland functional composition and pollinator habitat use. *Journal of Applied Ecology* **2019**, 56, 946-955, [10.1111/1365-2664.13338](#).
8. M.D. Fraser; C.R. Stanley; M.J. Hegarty; Recognising the potential role of native ponies in conservation management. *Biological Conservation* **2019**, 235, 112-118, [10.1016/j.biocon.2019.04.014](#).
9. López-Bao, J.V.; Sazatornil, V.; Llana, L.; Rodríguez, A. Indirect Effects on Heathland Conservation and Wolf Persistence of Contradictory Policies that Threaten Traditional Free-Ranging Horse Husbandry: Threats to traditional horse husbandry. *Conservation Letters* 2013, 6, 448–455.
10. Vial, C. Le développement des activités équestres dans les campagnes françaises : enjeux et conséquences pour les territoires ruraux et périurbains [Development of equine activities in French countryside: issues and consequences for rural and suburban areas]. In Proceedings of the Colloque de Cerisy : Les chevaux de l'imaginaire universel aux enjeux prospectifs pour les territoires; Presses Universitaires de Caen: Cerisy-la-Salle, France, 2014; p. 368 p.
11. Catherine Marina Pickering; Wendy Hill; David Newsome; Yu-Fai Leung; Comparing hiking, mountain biking and horse riding impacts on vegetation and soils in Australia and the United States of America. *Journal of Environmental Management* **2010**, 91, 551-562, [10.1016/j.jenvman.2009.09.025](#).
12. Gantner, R.; Baban, M.; Glavas, H.; Ivanovic, M.; Schlechter, P.; Sumanovac, L.; Zimmer, D. Indices Of Sustainability Of Horse Traction In Agriculture. *Economy of eastern Croatia yesterday, today, tomorrow* 2014, 3, 616–626.
13. Reynaud, E.; von Niederhäusern, R.; Ackermann, C. Le cheval de travail en Suisse, enquête 2017 [Working horse in Switzerland, survey 2017]. *Agroscope Transfer* 2018, 51.

14. Arlindo Almeida; Joao Rodrigues; Animal Traction: New Opportunities and New Challenges. *Farm Machinery and Processes Management in Sustainable Agriculture, IX International Scientific Symposium 2017*, , , [10.24326/fmpmsa.2017.5](#).
15. Bellino, R.; Affeltranger, B.; Battistini, B.; Evanno, S.; Le Pochat, S. Comparative environmental assessment of two systems of agronomic and energetic valorisation of horse manure. In Proceedings of the Proceedings 2nd LCA conference; 2012; Vol. 6, p. 7.
16. Bellino, R.; Affeltranger, B.; Battistini, B.; Evanno, S.; Le Pochat, S. Comparative environmental assessment of two systems of agronomic and energetic valorisation of horse manure. In Proceedings of the Proceedings 2nd LCA conference; 2012; Vol. 6, p. 7.

Retrieved from <https://encyclopedia.pub/entry/history/show/8316>