Explored and unexplored topics in Mountain Livestock Farming scientific literature

Zuliani A., Contiero C., Arsenos G., Bernues A., Dovc P., Gauly M., Holand Ø., Martin B., Morgan-Davies C., Schneider M., Zollitsch W., Cozzi G.

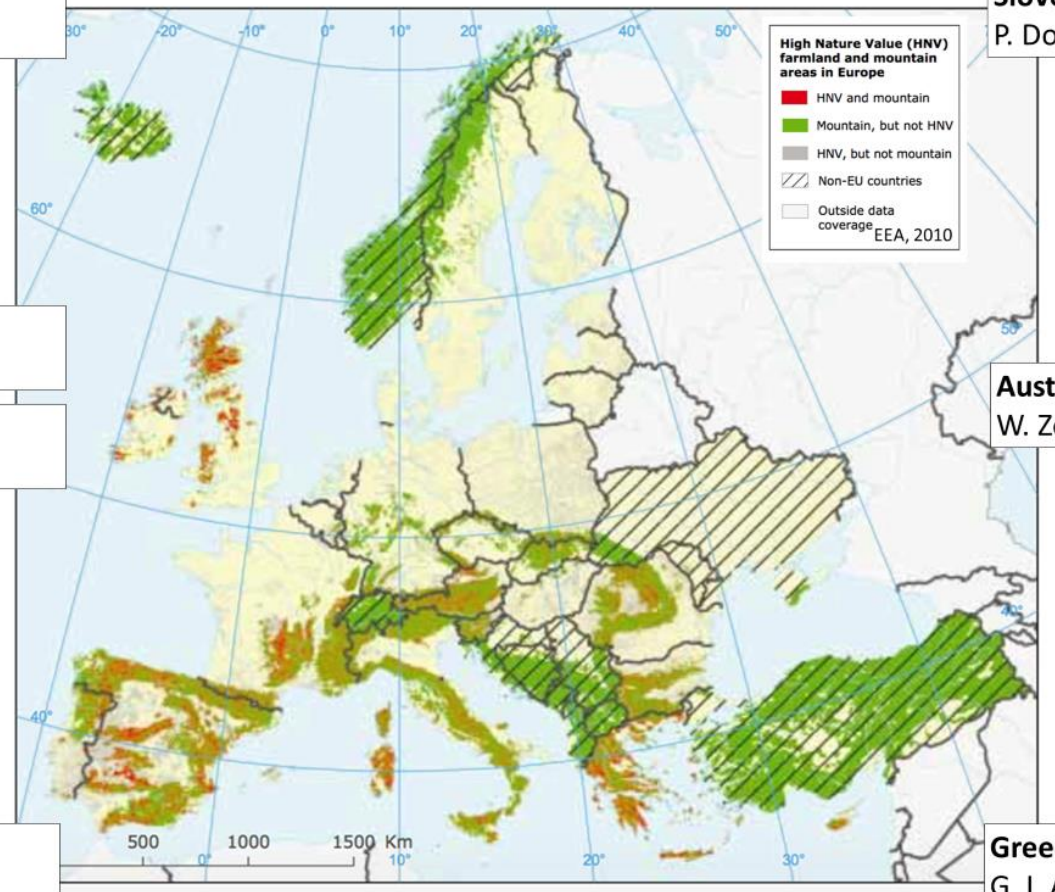
Background

Establishment of the EAAP Across Commissions WG on Mountain Livestock Farming (2018)

Norway
Ø. Holand - NMBU

United Kingdom
C. Morgan Davies – SRUC

Slovenia
P. Dovc - University of Ljubljana



Switzerland
M. Schneider - Agroscope

Austria
W. Zollitsch - BOKU

France
B. Martin - INRA

Spain
A. Bernues - CITA

Greece
G. I. Arsenos – Aristotle University

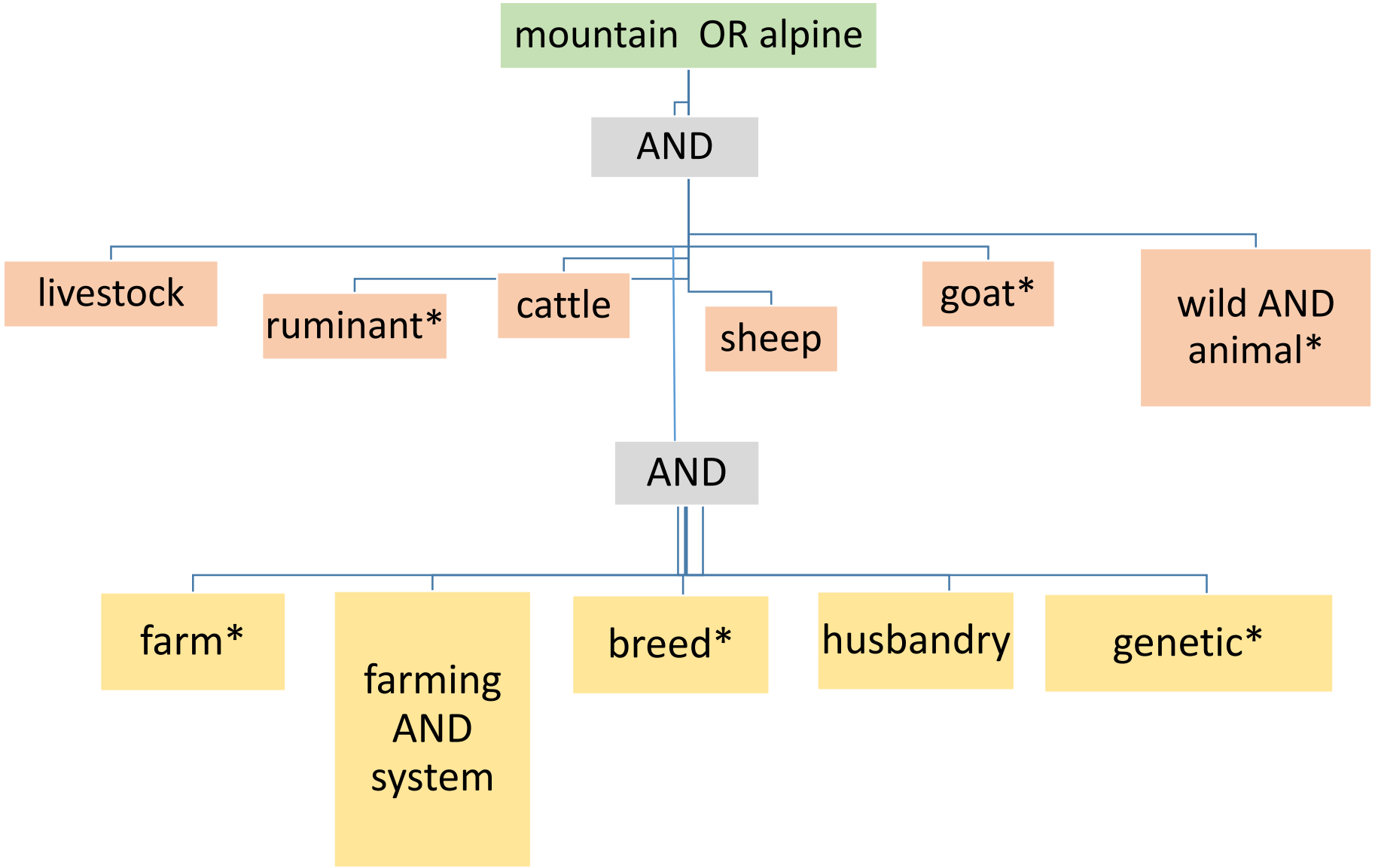
Italy
G. Cozzi – University of Padova
M. Gauly – University of Bolzano
A. Zuliani - University of Udine

Aim

Map the current scientific knowledge in the field of mountain livestock farming (MLF).

Inform the development of future research activities of the MLF WG.

The search string



Statistical analysis

Text mining is the process of deriving word patterns and trends from a large set of textual sources Word frequency was determined using term frequency- inverse document frequency technique (**TF-IDF**)

T**opic modelling** analysis using Latent Dirichlet allocation **(LDA)** identified a set of topics from words that tend to occur together in a document.

Results

n=2.893

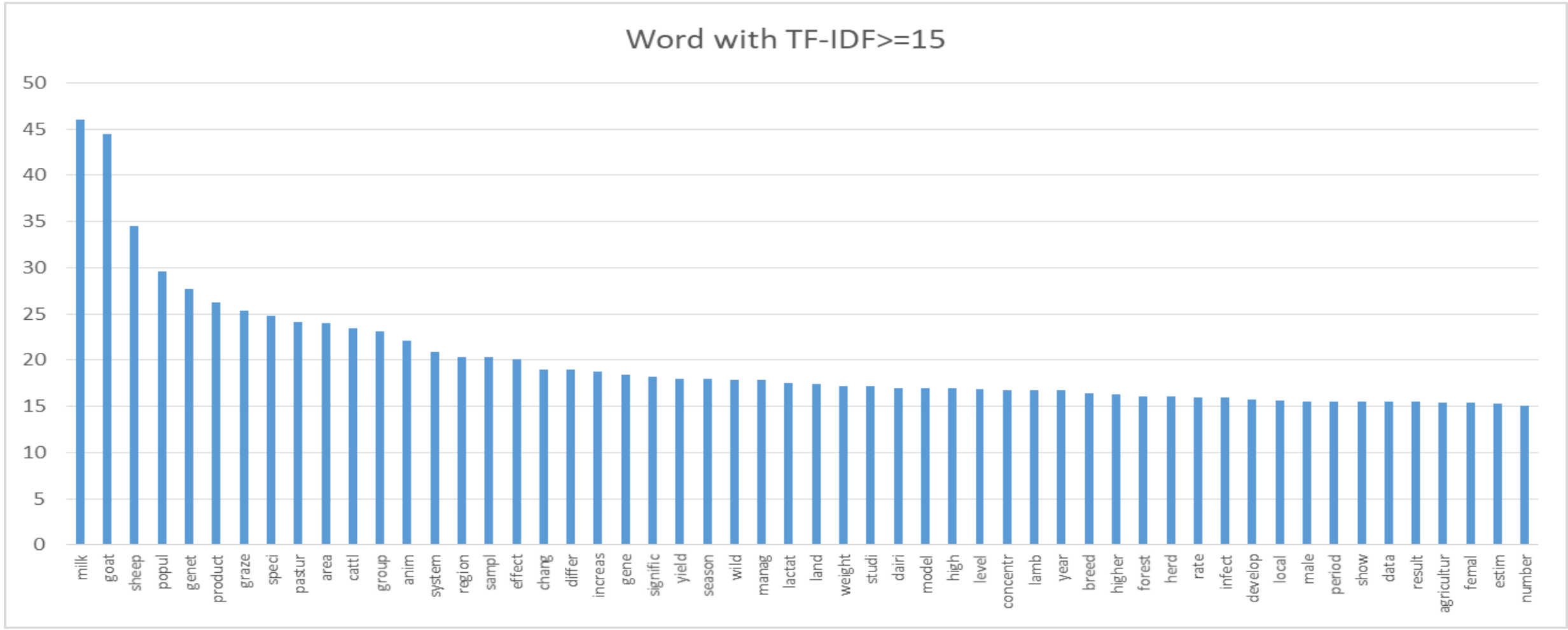
- no abstract 39
- no author 8
- no source 3
- erratum 2
- duplicated 18
- out of range 144

n=2.679

Journals

- Small Ruminant Research (Q2) >100 docs
- Journal of Dairy Science (Q1) 80 docs
- PLoS ONE (Q1) > 40 docs
- Mountain Research and Development (Q2) 40 docs

Results



1441 relevant words

Results

T4 - Production system and sustainability

T10 - Genetics in sheep

T2 - Animal health and epidemiology

T1 -Vegetation dynamics and climate

T7 - Reproduction and productivity in small ruminants

T8 - Dairy production and quality

T9 - Land use – land use change

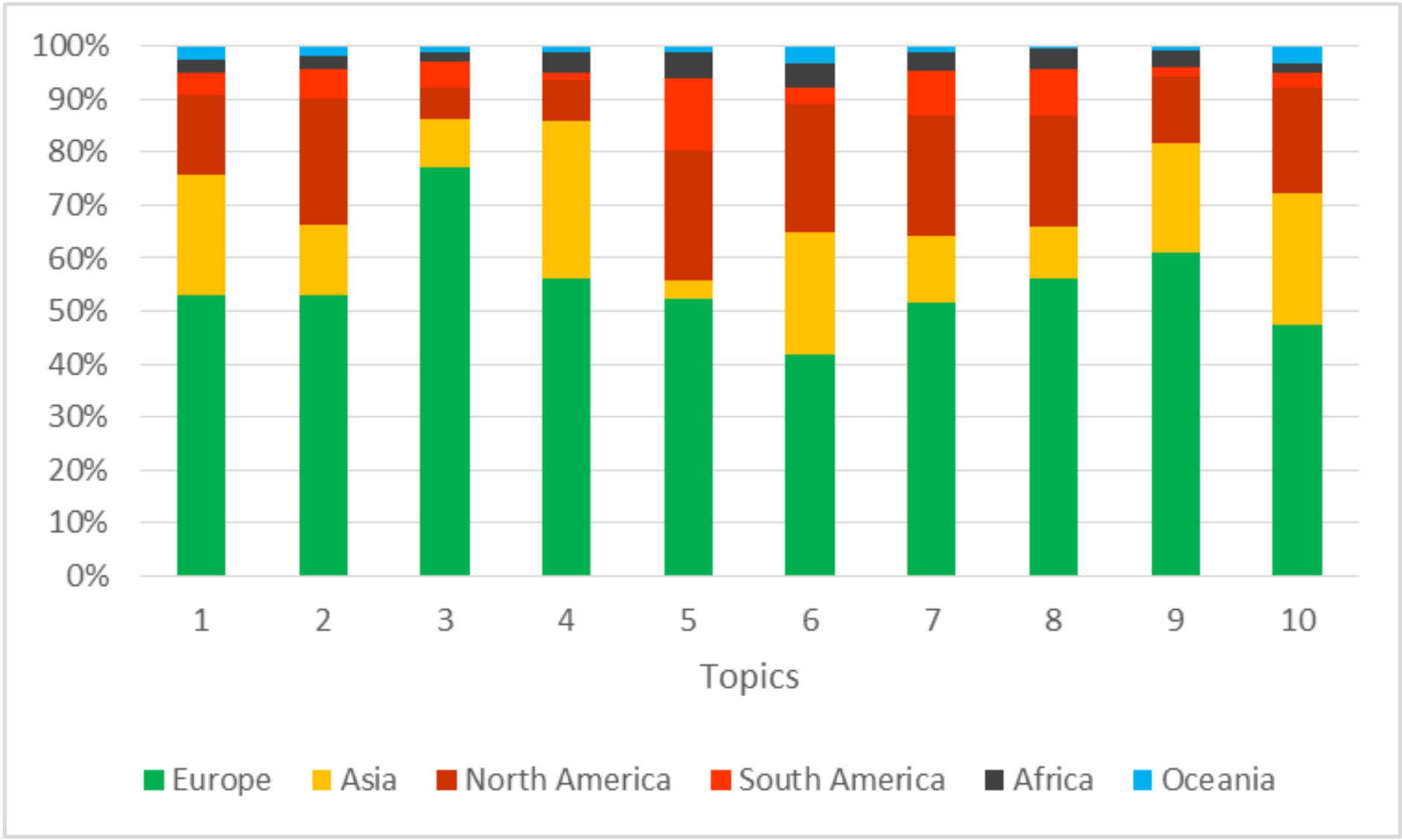
T6 -Wildlife and conservation issues

T5 - Methodological studies

T3 - Cattle studies

Significant increasing trend in scientific production for T1- T2-T4-T9 and T10

Results


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1
2
3
4
5
6
7
8
9
10
Topics
Europe
Asia
North America
South America
Africa
Oceania

Discussion points

- WG members produced the greatest number of papers on **T4 (Production system and sustainability)**

- **T1 (Vegetation dynamics and climate)** was the second most researched topic by the WG member

- Fewer papers produced by WG members were classified as T10, as T2, T7, T8, T5 , T3

- No papers produced by WG members were assigned to **T9 (Land use – land use change)** and **T6 (Wildlife and conservation issues)**

-

Conclusion

- Text-mining represents a suitable method for information retrieval when the collection of documents is large and the research question has not a narrow focus.

- Text-mining highlights themes that are/were of interest to the scientific community but does not identify future challenges/opportunities that could benefit MLF

Thank you!

EAAP Across Commissions WG on Mountain Livestock Farming
zuliani.anna.2@spes.uniud.it