



EU CAP Network workshop
'Enhancing food security under changing
weather patterns: farm adaptation'

14 - 15 March 2023, Bologna | Italy



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Workshop: 'Enhancing food security under changing weather patterns:
farm adaptation' | 14-15 March 2023 | Bologna, Italy



REGENERATIVE PASTURES - Promoting climate adaptation, regeneration, and sustainability of extensive livestock systems in regions at high risk of desertification.

Marta Cortegano



climate change/weather event impact/farm loss addressed

Region: Alentejo, South Portugal

Semi-arid conditions, aggravated by climate change:

- Decrease in average annual rainfall;
- Increased episodes of extreme droughts;
- Increased number of days with extreme temperatures;
- Eroded soils, poor in organic matter;
- Productivity is decreasing (need to purchase feed for livestock and rising costs for farmers).



The project

The initiative aims to improve farm adaptation using regenerative agriculture principles in extensive livestock management, in regions of high aridity and susceptibility to desertification, through experimentation and testing of innovative techniques of soil mobilization and grazing management (transition to a holistic management system). Pilot tests had been implemented in experimental areas, using a Key-line design system, and the impacts on soil and biodiversity are being evaluated.

Using the Consortium Benchmarking methodology, the initiative also foresees the capacity building and training of local stakeholders for the application of these techniques, as well as the establishment of a regional cross-border network (Portugal/ Spain) for knowledge sharing and dissemination of best practices in livestock management and climate adaptation. This regeneration initiative has a pilot character for many other peripheral regions, especially in Southern Europe and the Mediterranean area and semi-arid climate conditions.

WP1 Peer-to-peer learning | WP2 Training/capacity-building, | WP3 Characterization and monitoring of 3 keyline pilots | WP4 Experimentation, and testing of regenerative practices at farm level | WP5 Communication, lobby, and advocacy.



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farm practices for adaptation – the key line design

- A land management practice that maximizes the retention and infiltration of water in the soil and its distribution in the soil from the most humid areas to the driest areas (**slow, spread, and sink** rainwater)
- The implementation of the system starts with the definition of key lines and the design of slope curves in the landscape starting from the main water retention points.
- It may also include water retention design of roads and paths or swales.
- Statistically significant positive impact of the keyline on Moisture index (NDMI & MSI) and vegetation (NDVI), in the following 3 years, in the driest season (Avelar, D. and Ulm, F.; 2ADAPT)



Author: Jesus Ruiz



Author: Jesus Ruiz

farm practices for adaptation regenerative rotational grazing

- Planning and decision system based on a holistic approach, that considers social, economic, and environmental factors for the grazing plan each year (ex: Family holidays are considered to define the days out of the farm in the planning)
- An important aspect of this system is the planning of livestock movements for short occupancy times and adequate and sufficient rest times to boost the basic ecosystem functions (plant and soil recovery) but also stock days per hectare, rate of gain in livestock, as well as other factors.



Author: Bernardo Marujo, Monte do Carrascalão

final tips/conclusions

- Farmers' adherence to the project is related to their perception of the need for a paradigm shift and their understanding of the principles of regenerative agriculture, however, there are no recipes or formatted solutions.
- Co-creation, multi-stakeholder collaboration, and the permanent promotion of a community of practice, involving peer-to-peer learning, have been key factors for the success of the project.
- In the keyline pilots, scientific monitoring proved that the soil moisture and grass productivity were higher during the dry summer season in the 3 years after the keyline implementation.
- Empiric observations suggest that the keyline system it's more effective under the worst soil conditions.
- Spontaneous adherence to the regenerative grazing system has been high among participating farmers, who are convinced of the system's virtues by observing their peers' results.
- Greater knowledge about permanent grasslands adapted to semi-arid conditions and access to the respective seeds can be critical issues to work on.



Thank you!



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All information on the workshop is available
on the **[EU CAP Network website](#)**

On the event webpage: **https://eu-cap-network.ec.europa.eu/events/eu-cap-network-workshop-enhancing-food-security-under-changing-weather-patterns-farm_en**