



Enhancing livestock farms resiliency and forage autonomy through silvopastoralism in the Pyrenean mountains



Enhancing the use of local resources

In the hills and mountains of the Pyrenees, more than 50% of the surface are woodlands, and 63% of extensive livestock farms.

Agrosyl OG EIP project implements innovative solutions to develop agro-silvo-pastoralism mountain livestock systems in Ariège, by increasing both their capacity to adapt to climate change, and the skills of technicians and farmers.



Working with farmers to set up silvopastoral experimental plots

Experimental plots with different thinning rates were defined on 3 farms, based on farmers' objectives, topography and initial vegetation. At first, these woodland had little grass resource, and little interest for cattle.

The experiment aims to measure the impact of thinning on the cover, yields and quality of the grass, as well as the impact of grazing on trees.

Farm	Farmer's objectives	Control	Thinning Plot A	Thinning Plot B
1000 sheep Permanent grasslands, pastoral and wood lands No experience with silvopastoralism	Increasing forage autonomy and agroecology	3589 tree/ha, 2,7ha Common ash (<i>Fraxinus Excelsior</i>), Black Locust (<i>Robinia pseudacacia</i>)	Initially 3444 tree/ha, 33% (2017)	Initially 3011 tree/ha 50% (2017)
1200 sheep Permanent grasslands, pastoral and wood lands Familiar with silvopastoralism	Increasing farmer's knowledge on silvopastoral grazing, Increasing income from tree selling	Initially 1111 tree/ha, 2,5ha Oak (<i>Quercus Pubescens</i>)	Initially 1222 tree/ha 40% (2017)	Initially 1222 tree/ha 40% (2017) 50 % (2018)
100 beef cattle Permanent grasslands, pastoral and wood lands No experience with silvopastoralism	Increasing forage autonomy and income diversification	Initially 1444 tree/ha, 2 ha Oak (<i>Quercus Pubescens</i>)	Initially 900 tree/ha 40% (2017)	Initially 1111 tree/ha 40% (2017) 50% (2018)



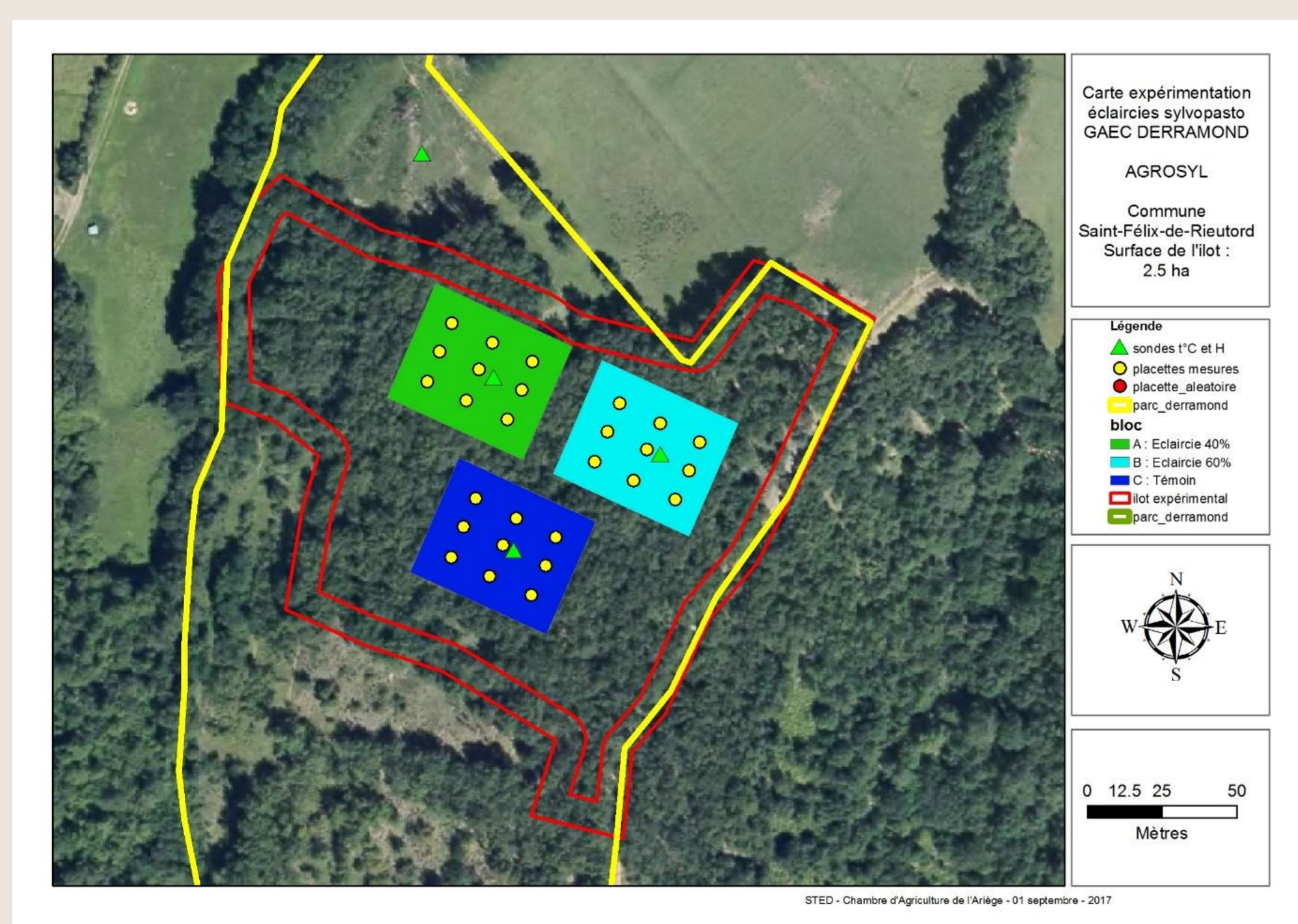
Assessment of trees and pasture production

Before and after use by the livestock, different parameters for pastoral use are monitored, in nine plots measuring 140m² :

- ease of movement
- cover and diversity of the vegetation (moss, grasses, legumes, shrubs, trees)
- indications of potential misuse (injuries on trees, nitrophilous species).

We also monitor silvicultural parameters :

- Health, quality, dendrometry, suckers, crown



Example of experimental pilot



Monitoring will last until 2020

First results won't be available before this date. A positive result so far is farmers' interest for this practice, with increased knowledge of the use of local resources for livestock production.