Project Update: January 2019

The fieldwork began in March 2018 with the inventories of established vegetation in isolated trees, open pastures and forest-pasture edges and the survey of seed bank. So far, five isolated trees, five open pastures and five forest-pasture edges were surveyed, totaling 1,500 m² of sampling. A total of 226 morphotypes were recorded, of which 29 were identified to the species level. However, the total number of species is less than the total morphotypes recorded, since some species, for example *Desmodium incanum* (Sw.) DC. (Fabaceae), may have been recorded repeatedly due to polymorphisms or different ecological conditions. The isolated trees presented higher richness of morphotypes ($\bar{x}$ = 41.8, s = 17.75), followed by forest-pasture edges ($\bar{x}$ = 26.8, s = 8.70) and open pastures ($\bar{x}$ = 19.6 s = 2.61). This may have been due to the high number of tree seedlings found in these sites or to some factor (local or landscape) not yet measured. A total of 607 non-graminoid seedlings were recorded in the seed bank, with 345 in isolated trees ($\bar{x}$ = 86.7, s = 66.36), 201 in forest-pasture edges ($\bar{x}$ = 50.25, s = 43.58), 59 in open pastures ($\bar{x}$ = 14.75, s = 14.95). The richness of morphotypes was low for all treatments and there was dominance of certain morphotypes in most of the points sampled.

From July to December 2018, the experimental plots were completely fenced by local people. The established vegetation was removed in December 2018 and January 2019. The seed traps and the seedling plots were established in experimental plots from December 2018 until January 2019. The next steps are to continue inventories of established vegetation and the seed bank in other isolated trees, open pastures and forest-pasture edges, as well as to start data collection of the natural regeneration experiment.

Left: Plot of 10 x 10 m to measure vegetation structure in isolated trees in pastures (March to October 2018). Right: Plot of 10 x 10 m to measure vegetation structure in pasture-forest edges (March to October 2018).

Left: Measurement of percentage cover of plants in isolated trees in pastures (March to October 2018). Right: PVC frame of 1 x 1 m to measure the percentage of herbaceous plant cover.

Left: Plant collected in sampling areas (isolated trees). Right: Part of plants collected in sampling areas (isolated trees).

Left: Seedlings collected in sampling areas (isolated trees). Right: Plant collected and herborized for posterior species identification.

Left: Collection of soil seed bank (March to October 2018). Right: Seed bank evaluated using the seedling emergence method (March 2018 to January 2019).

Left: Seedling emerging from the seed bank. Right: Plant transplanted from the seed bank to plant pots for posterior species identification.

Left: Local people working on fencing of plots in isolated trees in pastures (July 2018). Right: Local people working fencing of plots in open pastures (July 2018).

Left: Isolated tree completely fenced. Right: Isolated trees and open pasture plots fenced for the beginning of the natural regeneration evaluation experiment.

Left: Local people working on fencing and vegetation removal in experimental areas (December 2018). Right: Beginning of installation of seed traps in experimental areas (December 2018 to January 2019).

Left: Beginning of the installation seedling plots in experimental areas (December 2018 to January 2019). Right: Seed traps and seedling plots installed in experimental areas - isolated trees (December 2018 and January 2019).

Left: Detail of seed traps and seedling plots installed in experimental areas - isolated trees (December 2018 and January 2019). Right: Seed traps and seedling plots installed in experimental areas – pasture-forest edges areas (December 2018 and January 2019).