

Project Update: June 2018

From January 2018 until now, we have been registering the biological variables of the plants and seeds sown and the climatic variables at the planting sites. In order to carry out these activities, we have visited once a week each of the study areas (hillsides of Mojotoro Mountains and slopes of the reserve Campo Alegre). We performed 32 field trips.

During the field trip activities, students from engineering in natural resources and biology helped us. In addition, we have had the opportunity to discuss with them about the ecological importance of our forests and the responsible use of their natural resources.

The results of these measurements (summer period), provides information on the emergence of seeds planted and seedling growth. We have also recorded their death rate by transplant and/or absence of establishment during this period. Our preliminary data is the planting effectiveness rate; which was 98% for *Jacarandá mimmosifolia* D. Don and *Ceiba chodatii* (Hassl.) Ravenna and 93% for *Anadenanthera colubrina* (Vell.) Brenan.

We still have to record the mortality rate during the winter period, which is critical for the establishment due the low temperatures and the lack of water that characterises the area. In order to do this, we plan to perform new field trips during June, July, August and September 2018.

With regard to the experiments that take place in the common garden, we have been registering climatic and biological variables twice a week. We are still processing the data obtained; we hope to obtain relevant information to isolate the effect produced by each of the environmental factors on the optimal development of the studied species. Such information is not available in the bibliography of our country and it is essential to understand the dynamics of regeneration of our forests.

In March 2018, we were invited to expose our work in the "Encounter of exchange of research experiences in the Campo Alegre Private Nature Reserve". The Friends of the Mountain Club and the Secretariat of Environment and Sustainable Development of Salta Province organized this meeting. During the event, we have been able to debate about the ecological restoration of our forests with scientists and government people.

Furthermore, our project was selected as an example of restoration application in the Ecological Restoration Workshop that is going to take place in October 2018 in the Natural Science University of Salta. During this event, the participants will be invited to visit the Reserve and observe our work. We hope to get a total of 50 participants: students, professionals and researchers from Latin America.



Figure 1: Sowing weeds as nurseries in the common garden experiment



Figure 2: Measurement of soil temperature, atmospheric temperature and humidity in the common garden plot.



Figure 3: *J. mimmosifolia* plants (left), *A. colubrina* (center) and *C. chodatii* (right) growing on a plot with light restriction within the common garden.



Figure 4: *J. mimmosifolia* plants and *A. colubrina* growing with weeds in a common garden experiment.



Figure 5: Seeds of *C. Chodatti* (above) and *A. colubrina* (below) in distilled water, before being taken to germinate at the field.



Figure 6: *A. colubrina* seedling emergence, 7 days after sowing.



Figure 7: Measurement of *C. chodatii* seedlings emerged 7 days after sowing.



Figure 7: *C. chodatii* plants, one month after sowing.



Figure 8: Jacaranda plant seed emergence 10 days after planting



Figure 9: *J. mimmosifolia* plants after 1 month of planting.