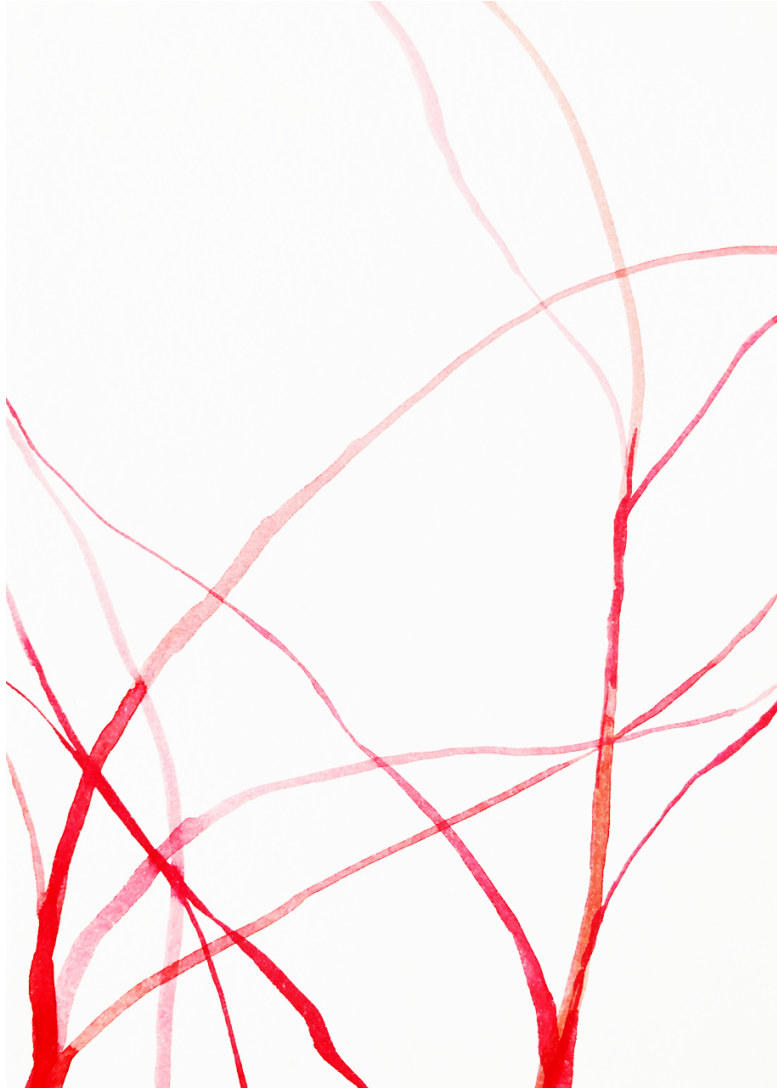


## NOTES FROM AMARANTH LAND (V)

Julia Mensch, Esperanza, Province of Santa Fe, Argentina, March 2024



Colorado, *amaranthus hybridus*, Esperanza, Provincia de Santa Fe, Argentina.

*What happens when poison becomes political, and generates a politics of poison?*<sup>1</sup>

I spend the entire night traveling on the bus to reach the city in the Province of Santa Fe that bears the name of a thing that we should, perhaps, never lose: *esperanza* (hope). I am going there to meet an outstanding expert weed scientist, and to see his laboratory and working team at the Universidad del Litoral. *Malezólogo* (weed scientist) is the informal name given to agronomists specializing in weeds that are resistant to the herbicides utilized in transgenic agriculture. **Ignacio D** is an agricultural engineer and chemical technician who did his Doctorate degree focused on the resistance strategies of **amaranthus hybridus** and **palmeri**, the most extensively prevalent

resistant weed throughout the nation's territory. The conversation begins loaded with information from Ignacio and his team, who are very familiar with this wise plant's strategies for biological resistance, in addition to those of other plants which sometimes share amaranthus' strategies for adaptability and survival.

The Molecular Plant Physiology and Biology Research Laboratory at the Universidad del Litoral—a public university—collaborates with GM crop producers and agro companies. The GM crop producers report the resistant weeds they find growing in their fields,<sup>2</sup> and Ignacio D and his team obtain seeds from these wild plants, which they call weeds, in order to later evaluate their sensitivity, tolerance or resistance to the agrochemicals utilized in transgenic crop production.<sup>3</sup>

The seeds are fundamentally those of the *yuyo colorado* (red-colored weed), primarily *amaranthus hybridus* (smooth or red amaranth), but also of *amaranthus palmeri* (Palmer's amaranth), the two species of amaranth that grow as resistant weeds in GM crop plantations. The seeds are carefully cataloged, observed, analyzed and studied by the research team. In parallel, they develop testing that involves the application of agrochemicals for resistant weeds that have not yet been released on the market. In a glass enclosure with an internal spray system, they shower the amaranth plants with different doses of these poisons. The seedlings are placed inside, and the toxic rain bathes the plants with these liquids. This task is carried out by graduate students in agronomy degree programs. The sprayed plants are taken to growth chambers, with optimum conditions of light and temperature. There, the poisoned plants will grow, along with a few others called “*testigos*” (literally “witnesses” in Spanish, referring to experimental control subjects), amaranth plants of the same biotype that have not been sprayed (or rather fumigated) with the liquid in question. This way, they evaluate and compare the growth of that biotype with and without the application of the herbicide. With the funding provided by the private agro companies for agrototoxin testing, this public university's laboratory buys the lamps and equipment necessary to carry out their work. The growth chambers have an orange or magenta light, which for obvious reasons brings the color of my teacher plant to mind. There, amaranths are seen in diverse states: some are twisted and wilted, and others thrive, either those that manage to resist the agrochemicals in question or the plants called “controls” that have not been fumigated. I am surprised that these amaranths are given the name “*testigos*”, and I think about the ones that grow among GM soy and corn. What have the *amaranthus palmeri* and *hybridus* witnessed since 1996? What has the *kiwicha* witnessed over centuries, following their prohibition by the Spanish colonizers?

In Esperanza, I employ my disguise as neutral Swiss-Argentinean artist and academic to a certain extent. Although I express opinions or postures regarding the transgenic model, I do not hide my interest in investigating what I call amaranth politics. This public university laboratory is made up of doctorate students like myself, graduate students and researchers with the Conicet.<sup>4</sup> You could say that they are at the service of this model, contributing to the continuity of what I understand to be an ecocide with their work. However, they also enunciate the risks of the transgenic model, and although only in passing, the word “agroecology” does reverberate. They are convinced that their work and the use of “Good Practices” contribute to making transgenic agriculture a healthier, safer and sustainable practice.

In the hallways of this public university, the smell of agrochemicals is intense and intolerable; I ask myself how they can stand it. Although there is talk of the precautions taken inside the laboratory (such as zones where it is obligatory to use gloves, the masks that are available, etc.), everything is condensed in one same space, where people work, chat, listen to music or drink mate,<sup>5</sup> breathing the piercing odor that I feel entering through my sense of smell and beginning to run throughout my whole body.

<sup>1</sup> María Paula Blois and Guillermo Folguera, *Veneno*, Hekht, 2024, p. 24.

<sup>2</sup> As is the case with AAPRESID (Argentine No-Till Farmers Association, for its initials in Spanish), which creates a map of resistant weeds on the basis of reporting from producers, following verification by agro specialists in weed science, focused on these plants' resistance. Mensch, Julia, *Notes from the Amaranth Land (I)*. Accessed March 10, 2024. <https://plants-intelligence.ch/notes-from-amaranth-land/>

<sup>3</sup> The weeds may be tolerant, sensitive or resistant to the agrochemicals utilized in transgenic agriculture. Tolerant means that the plant naturally has the ability to survive the herbicides. Sensitive plants are those that die after being in contact with the herbicide, and resistant, those that were sensitive, but develop strategies to survive agrochemical applications over time.

<sup>4</sup> Consejo Nacional de Investigaciones Científicas y Técnicas (National Scientific and Technical Research Council).

<sup>5</sup> Hot infusion prepared with yerba mate leaves, a common drink in Argentina, Paraguay, Uruguay and in some areas of Brazil, Bolivia and Chile.