

# AgriPampa - Agriculture and Livestock Production in the Pampas “Prevention of incidents in Agricultural Environments”

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**Abstract:** AgriPampa is being developed in the municipality of Alegrete/RS/Brazil, a city that plays a central role as a catalyst for regional development. It is a project that relies on a multidisciplinary approach in the context of family farming, with a focus on technological innovation and efficiency in agricultural practices, to solve concrete challenges faced by rural producers in the region. Among the challenges are high rainfall that causes constant flooding of the rivers that make up the Ibicuí River basin, erosion in agricultural environments, crop losses, among others. AgriPampa promotes sustainable methods that can mitigate some of the impacts of climate change, such as the cultivation of crops that are resistant to adverse weather conditions and the adoption of techniques that preserve the soil and biodiversity, based on family farming. The adoption of techniques that preserve the soil, such as direct planting, contour planting, and biodiversity, such as research focused on the production of graphene from sheep wool, residual straw from rice crops, and rice husks, with the purpose of returning it to the production cycle, i.e., incorporating graphene into the soil. These methods are supported by the use of low-cost management technologies and agricultural machinery that are easy for farmers to acquire. To this end, a laboratory is important for producing technologies, obtaining data, and evaluating solutions in agricultural environments, in addition to produced and characterized graphene from various types of agricultural waste, i.e., an unwanted environmental liability in the agricultural production cycle. In this way, AgriPampa will contribute to the management of soil, water, and plants on each rural property registered in the project, encouraging the consumptive use of natural resources and adopting new technologies such as the insertion of graphene in the form of fertilizer, obtained from the rural property itself.

**Keywords:** Alegrete / Brazil; Agricultural practices; Family farming; Use of natural resources