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The cooperative approach to biotechnology for the promotion of education inclusion, improved agriculture, and science-based industries: An ongoing experiment from a rural area in Argentina**Lentz EM**

IdESA-UGACOOP, Argentina

Cities around the world with a rich history of renowned universities have seen the rise of biotech-based companies, which further stimulates the concentration of creative and opportunity-discovering minds in these interdisciplinary centers. In this long-term project, we aim to promote such process in the 50,000-people city of General Alvear in Mendoza, which neither counts with a university, nor a research center, and its main economic activities are based on agriculture. A biotechnology lab has been constructed with funds from the local government, maintained with the support from cooperative energy and wine producing companies in the area, and managed by an interdisciplinary group of professionals. We have started teaching the first year of a biotechnology technical degree making use of both DIY-Bio and low-cost approaches, and we are observing growing interest among students in town and surrounding cities, who are looking for non-traditional career options. A collaboration with the government organization ISCAMEN has been started to produce and commercialize biocontrol agents and insect-derived

products to supply the growing demand from organic producers that can access to new markets, created by consumers around the world interested in good agriculture practices and decrease use of phytochemicals. Another key collaboration addresses the need of wine producers of "Algarrobo Bonito" for virus-free plant material. The generation and certification of healthy plants stocks of *Vitis vinifera* by virus specialists in INTA Lujan de Cuyo, led by Dr. Gomez-Talquenca, and the micropropagation of these plants in our cooperative laboratory, will make this high-quality material available for local producers, leading to an upgrade of their vineyards with an associated yield increase in the fields. These "biotechnological seeds" could generate a synergistic critical mass of science-based individual entities, collaborating in a highly mutualistic community of entrepreneurs and academic environment, contributing to the evolution of city development and progress.

e: ezequiel.lentz@gmail.com

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