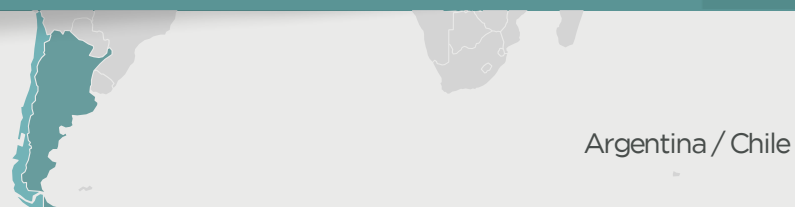




Agroecological model for avian coccidiosis leading to increased productivity in family poultry farming

The project aims to design and disseminate a pilot agroecological model based on the introduction of technological innovations that adapt to family poultry farming in Argentina and Chile



154 Producer that receive direct assistance

90 Surveys made

135 Samples

224 Workshops and seminars

21204 Directly and indirectly trained people

8 Publications in scientific journals and books

3 Benefiting student theses (2 doctoral student theses and 1 undergraduate student theses)

10410 Directly and indirectly trained women

1 REDICOA Innovation network for avian coccidiosis

1 Manual for agroecological production of free-range chickens

259 Molecular identification of Eimeria spp.

15 Communications at scientific conferences

We focus on the recognition of coccidiosis as a factor in decreasing productivity in family poultry farming and in the implementation of innovations to control it

The implemented initiative

This applied science proposal for family poultry farming, which identifies agroecological innovations to reduce the impact of coccidiosis on productivity, aims to benefit over 60,000 producers. The proposal seeks to be integrated into institutional and governmental programs, aligning with public policies, and working towards gender equity, food security, and environmental

stewardship. Additionally, more than 1,500 individuals from various disciplines will directly benefit through technical assistance, training, and awareness campaigns, with a potential indirect benefit for 200,000 people through local radio and social media. In conclusion, this initiative will contribute to reducing the socio-cultural and economic disparities in family poultry farming.

The implementation and dissemination of the agroecological model that is developed, will improve animal health, productivity and the environment benefiting family poultry farming and consumers.

The technological solution

In the project region's family poultry farming, neither the prevalence of coccidiosis nor the species of the Eimeria parasite present are known. Understanding the environmental conditions in which birds are raised is strategic to controlling the disease. Therefore, a survey of family poultry farming was carried out in the project regions of Chile and Argentina, to know in detail the practices of poultry management, the facilities, the typology of the producers, etc. At the same time, samples were obtained to assess the status of the disease and recognize it as a potential factor for

decreasing productivity in family farms. Based on these results, an agroecological model will be designed for assessing coccidiosis by adapting existing technologies, including good management and animal well-being practices and, according to experimental results, the use of natural compounds (origanum, garlic and/or black acacia) to control the disease. Then, the productive model developed will be promoted through training, technical assistance and the use of media in the regions involved.

First diagnosis ever made of coccidiosis in family poultry farming in the project region

DIAGNOSIS OF COCCIDIOSIS IN FAMILY POULTRY FARMING IN ARGENTINA AND CHILE

WHAT ARE WE LOOKING FOR?
Establish a baseline for introduction of technological innovations adapted to the family poultry farming of Argentina and Chile and, in the end, design and disseminate a pilot agroecological model for the control of avian coccidiosis.

WHAT DID WE DO?
We survey 106 producers of 69 egg and meat chickens' farms.
We sampled bed, fecal matter and bird intestines to analyze the presence of Eimeria

RESULTS 1
59 % farm are managed by men + women, 26.5 % by women and 14.5 % only by men.
69 % do not handle stress well, whether due to low temperatures, high humidity and/or mixture of birds of different ages.

RESULTS 2
The frequency of cases of coccidiosis (prevalence) is 84.2%.
By PCR, 7 species of Eimeria were detected: E. mitis (52.81%), E. tenella (42.77%) and E. acervulina (39.30%) were the most frequent.
48.5 % of farmers, on average, did not know the disease.

PART OF THE TEAM

MÁS INFO



Results

First study on coccidiosis in family poultry farming in Argentina and Chile, with 85.2% occurrence in 135 samples. The most frequent species were E. mitis (24.1%), E. acervulina (21.3%), and E. tenella (20.4%). About 48.5% of producers are unaware of the disease, with 94.7% in Chile. Women manage 48-53% of farms. In Chile, 85.7% of farms clean monthly, while in Argentina, 64.9% clean per rearing cycle. Around 69% of farms have stress factors, like low temperatures or mixed-age

birds. A bank of oocysts and DNA was created, and an experimental model with technological innovations and an agroecological input is being implemented to improve production and meat quality. An innovation network in Latin America is already established to spread the model, aiming to increase profits by 10-20%, raise bird weight at slaughter by 15%, improve feed conversion by 10%, and reduce mortality by 80%.