

BioTech Agrifood Innovation: A pre-acceleration program and contest to promote knowledge and technology transfer in agri-food and agri-environmental sectors

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Introduction

The European agri-food sector needs to overcome several related to sustainability and food security [1]. For this, it is necessary for professionals working in this area to be able to innovate, and to propose solutions that must be based on scientific knowledge, and on models of lifelong and postgraduate education, which allow the efficient transfer of knowledge between industry and higher education institutions [2]. This study aims to develop and implement a contest and pre-acceleration program for business projects in the agri-food and agri-environmental areas through academic entrepreneurship.

Methodology

This research involved a single exploratory case study, with primary data collected through instruments developed for the Lab2Business project and observations of different project actions.

Results and Discussion

The contest and program developed was called BioTech Agrifood Innovation. This consisted of three phases: screening/selection/admission, development and assessment/awarding of prizes. Once admitted, participants had to develop a business plan, to prepare a poster to present their idea, and deliver a pitch to stakeholders (Table 1).

Table 1. Phases of the Contest and Program BioTech_Agrifood Innovation.

Screening/selection/admission	Development	Assessment/awarding of prizes
Competitors must fill out an online tool developed by the Organization, called the Application Form, with data about the team, project idea, market opportunities, etc. After evaluation by the organizing committee, the selected competitors were admitted to the competition.	<ul style="list-style-type: none"> a) Prototype/ Proof of concept b) Product Dossier/ Business project c) Communication and dissemination actions/ Pitch 	Evaluation carried out by a jury according to predefined criteria based on the quality of the projects, in which 2 winners of the Contest are selected, in the categories "+ Potential" and "+ Innovation".

The two editions of the BioTech Agrifood Innovation contest had 64 competitors, of which 30 were admitted to the contest. All participants were researchers or PhD students, mostly were female (73.3%), under 30 years old (52.0%), lived in Porto (80,0%). Figure 1 shows the main result indicators of Biotech_Agrifood Innovation.

Conclusions

The innovation program and contest proved to be easy to implement and replicate among PhD students and researchers in the areas of biotechnology, food engineering, environment, and nutrition. The program and contest allowed participants to consolidate and develop skills and knowledge, complementing their training, namely in management/entrepreneurship/marketing through the development of business and marketing plans for their products. It allowed innovation in agri-food and environmental sector through the development of new products or optimization of processes, also valuing the results of research/doctoral activities.

References

[1] Innovation & entrepreneurship driving food system transformation. Lynde, R.. Physiology & Behavior, 220, 112866. (2020)

[2] Education for innovation and entrepreneurship in the food system: the Erasmus+ BoostEdu approach and results. Viaggi, D., Barrera, C., Castelló, M. L., Dalla Rosa, M., Heredia, A., Hobley, T. J., . . . Viereck, N. Current Opinion in Food Science, 42, 157-166. (2021)

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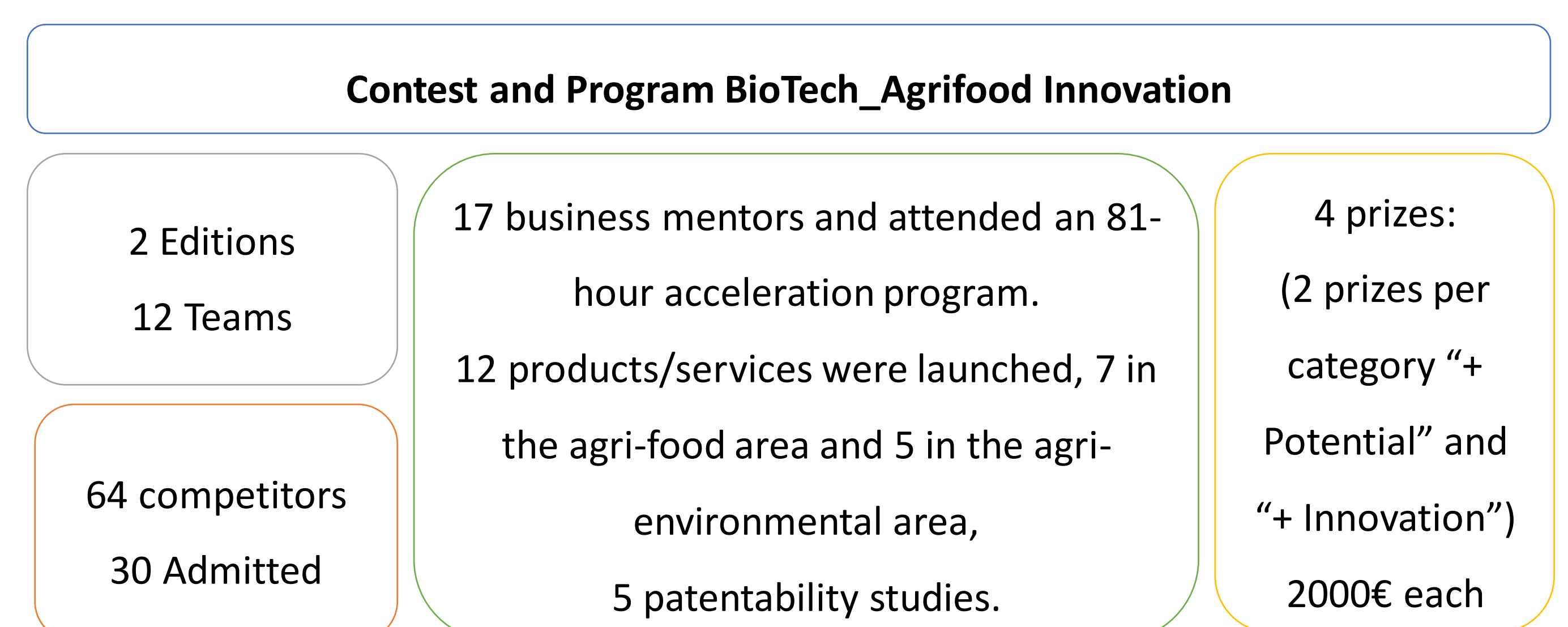


Figure 1. Main result indicators of Biotech_Agrifood Innovation.

Table 2 shows the winning projects of the Contest and Program BioTech_Agrifood Innovation in the "+ Potential" and "+ Innovation" categories.

Table 2. Winners of the Contest and Program BioTech_Agrifood Innovation.

Project	Description
+ Potential	
MycoBranches	Reuse and recovery of by-products from the wine industry through the production of molding materials for the biomaterials, packaging and conservation industries.
OraLeaf	Oral films with caffeine (stimulant effect, increased wakefulness), an antihypertensive peptide and a relaxing peptide.
+ Innovation	
BioColdPasteurization	Offer non-thermal processing that guarantees the product's safety during its shelf life, through the three "hurdles" combined, preventing the reappearance of target pathogens ("regrowth").
AQUAVAL	Valorization of bivalve's biomass in the treatment of water for recycling/reuse in the production facility or direct discharge into natural sources.