Minga House Foundation
Non-Profit Organization – Founded in 2014
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What is MINGA?

"Minga entails a collaborative work system that dates back to the Incas. It refers to the commitment, contract or work agreement between two or more people. The word minga also stands for meeting or reunion."

INTERNSHIP OPPORTUNITY

Biological Pest Control using invertebrates and microorganisms

Learning Objectives:

BioProteccion is a one of the leading companies in Colombia that produce biological products for getting rid of or preventing insects on cattle or crops.

The desired participant would use his/her background in chemistry, biology, business or agriculture in developing a stronger understanding of the production, use and distribution of these biological products. The participant will also gain better knowledge in the business aspect of this process, and learn how innovation is a pivotal part of growing and sustaining a biological company. Upon completion of the internship, the participant will have more knowledge in:

- The life cycle of a biological product (how they are created, used and exposed of)
- Statistical evaluations of the products using investigation standards
- How biological products can be utilized in place of chemical products
- How these products can change the quality and safety of the food we consume
- The further development of existing biological products
- Creating a mixture of biological and chemical products to have a better outcome

Participant Requirements:

Educational Background:

Undergraduate, graduate, or professionals in any of the following fields: Agriculture, biology, veterinary medicine, or zootechnics with interest in knowing new alternatives of pesticide control of insects that affect the production of human consumed goods and livestock.

Spanish Language Skills:

(None) 1 2 3 4 **5** 6 7 8 9 10 (Fluent)

A medium level of Spanish is desired, but not required.

Potential projects and day-to-day duties:

- Assist team in the production of the biological products
- Assist supervisor in any administrative tasks
- Support in the daily tasks and other duties assigned by supervisor
- Collect and compile information necessary for validating the products
- Assist in the validation of the biological products using investigation standards
- Research and test other potential products that could be used for livestock or crops
- Use statistical methods to show what products are more effective than others

Service Term:

- **Plan Prep Time:** 30 days min required before arrival date
- **Service Term:** 60 days min required – 32 hrs/wk required
- **Work Schedule:** TBD (may be supplemented by course enrollment for UCM credit)
- **Service Window:** January to December

Special Skills Desired:

- Ability and willingness to help in all aspects of the mission
- Experience in research of different biological products
- Competent in the use basic computer applications
- Experience in chemistry/biology laboratories
- Knowledge of statistical evaluation
- Knowledge of biological sciences
- Great attitude
- Proactive
- Self-directed
- Strong work ethics

BioProteccion Introduction video link: https://youtu.be/xl5n8BTL46s

Related Article:
Biological control using invertebrates and microorganisms: plenty of new opportunities

van Lenteren, J.C., Bolckmans, K., Köhl, J. et al. BioControl (2017). doi:10.1007/s10526-017-9801-4
https://link.springer.com/article/10.1007%2Fs10526-017-9801-4

Biological control using invertebrates and microorganisms: plenty of new opportunities

- Authors
- Authors and affiliations

- Joop C. van Lenteren
- Karel Bolckmans
- Jürgen Köhl
- Willem J. Ravensberg
- Alberto Urbaneja

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Abstract

In augmentative biological control (ABC), invertebrate and microbial organisms are seasonally released in large numbers to reduce pests. Today it is applied on more than 30 million ha worldwide. Europe is the largest commercial market for invertebrate biological control agents, while North America has the largest sales of microbials. A strong growth in use of ABC, particularly of microbial agents, is taking place in Latin America, followed by Asia. The current popularity of ABC is due to (1) its inherent positive characteristics (healthier for farm workers and persons living in farming communities, no harvesting interval or waiting period after release of agents, sustainable as there is no development of resistance against arthropod natural enemies, no phytotoxic damage to plants, better yields and a healthier product, reduced pesticide residues [well below the legal Maximum Residue Levels (MRLs)], (2) professionalism of the biological control industry (inexpensive large scale mass production, proper quality control, efficient packaging, distribution and release methods, and availability of many (>440 species) control agents for numerous pests), (3) a number of recent successes showing how biological control can save agricultural production when pesticides fail or are not available, (4) several non-governmental organizations (NGOs), consumers, and retailers demanding pesticide residues far below the legal MRLs, and (5) policy developments in several regions of the world aimed at reduction and replacement of synthetic pesticides by more sustainable methods of pest management. We are convinced, however, that ABC can be applied on a much larger area than it is today. We plead in the short term for a pragmatic form of agriculture that is adaptable,

non-dogmatic and combines the sustainability gain from all types of agriculture and pest management methods. We then propose to move to “conscious agriculture”, which involves participation of all stakeholders in the production and consumer chain, and respects the environment and resource availability for future generations. Were “conscious agriculture” to be considered a serious alternative to conventional farming, ABC would face an even brighter future.

Keywords

Augmentative biological control Pest control policies Benefits of biological control Market developments in biological control Worldwide use of biological control Integrated pest management Conscious agriculture

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Electronic supplementary material

The online version of this article (doi:10.1007/s10526-017-9801-4) contains supplementary material, which is available to authorized users.

Introduction

Politicians, policy makers, retailers, consumers, growers and grower organizations are increasingly asking for and speaking about biological control. Hardly a day passes during which we, the authors of this paper, do not receive a question on how to control a certain pest, disease or weed, where to obtain biological control agents, and how to stimulate use of this environmentally safe pest management method. The European Union (EU) has been advocating the use of biological control since 2009 in its Sustainable Use of Pesticides Directive (EC 2009). The President of China recently launched a “National research program on reduction in chemical pesticides and fertilizers in China” involving more than 340 million US$, indicating a need for the development and application of non-chemical control methods. Together, the authors of this paper have been working in the field of augmentative biological control (ABC) for more than 150 years. We noted a hesitant start to ABC in the 1970s, then a burst of activity took place over the next 25 years. During the first decade of the twenty-first century fewer new biological control agents came to the market, but during the second decade we again experienced a new phase with strong growth in both the development of new agents and a market for biological control (van Lenteren 2012; Tables 1, 2 and 3 in this paper).