



## Driving Biocontrol Forward: The Role of the CABI BioProtection Portal

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The preservation of agricultural crops should not come at the expense of environmental degradation. However, the continuous reliance on chemical pesticides for pest control has set humanity on a path of ecological destruction. BioProtection, or biocontrol, offers a sustainable alternative. This approach involves the use of natural tools—such as living organisms, including viruses—to manage pests, weeds, and diseases while minimising harm to human health and the environment. Biological control is defined by the interaction of three key components:

1. A biocontrol agent (e.g., predator, parasite, or pathogen),
2. A target pest or pathogen, and
3. A human beneficiary, such as a farmer or community, who benefits from the pest control service provided by the biocontrol agent.

### The Need for BioProtection

To appreciate the necessity of BioProtection, it is essential to recognise the shortcomings of current pest control practices. The repeated use of chemical pesticides has numerous adverse effects. These chemicals disrupt soil ecosystems, harming beneficial microbial communities that are vital for nutrient cycling and plant health. According to soil scientist Dr. Elaine Ingham,

“The overuse of chemical fertilizers and pesticides has effects on soil organisms that are similar to the overuse of antibiotics in humans. Indiscriminate chemical use may yield short-term results, but over time, the depletion of beneficial soil organisms compromises the soil’s ability to retain nutrients.” Beyond soil degradation, pesticides contaminate water systems, harm non-target species, and pose significant risks to human health, including cancer, reproductive defects, birth defects, and allergic reactions. BioProtection provides a cost-effective, environmentally friendly, and sustainable solution to these challenges by leveraging natural pest regulation mechanisms.

### Implementing BioProtection Strategies

Adopting biocontrol methods requires accessible knowledge and practical tools. Traditional educational resources, such as textbooks and lectures, often prove cumbersome and time-consuming. In the modern era, digital platforms offer a more efficient means of disseminating information. The CABI BioProtection Portal, developed by the nonprofit organization CABI (Commonwealth Agricultural Bureaux International), serves as a valuable resource in this regard.

### CABI and Its Mission

CABI is a global nonprofit organization operating in over 40 countries. Its mission is to improve lives by addressing challenges in agriculture and the environment. These challenges include crop losses caused by pests and diseases, the spread of invasive species, and limited

access to scientific research. To address the issue of pest control, CABI has developed the BioProtection Portal, a digital platform designed to guide farmers, students, advisors, and other stakeholders in adopting biocontrol measures.

### Features of the CABI BioProtection Portal

The primary purpose of the CABI BioProtection Portal is to help users identify biocontrol products tailored to their specific needs. The platform hosts an extensive database of resources related to biocontrol, including information on Integrated Pest Management (IPM), pest identification guides, and crop-specific recommendations. The portal is accessible in multiple languages and is available both online and offline on various devices, including smartphones, tablets, and computers. Additionally, the portal offers a mobile application, which can be downloaded from the Google Play Store and Apple App Store.

### The Search Tool

One of the standout features of the CABI BioProtection Portal is its search tool. Users are required to input four key pieces of information: their country, occupation, the crop they are working on, and the pest they wish to control. Based on these inputs, the portal generates a list of biocontrol products, complete with details such as product names, manufacturer information, and active ingredients. Users can access additional information about each product by clicking on the “More Info” option.

### Conclusion

The goal of maximizing agricultural productivity must be balanced with the need to protect environmental health. BioProtection represents a sustainable and ecologically responsible approach to pest management, offering an alternative to the harmful effects of chemical pesticides. Platforms like the CABI BioProtection Portal play a crucial role in facilitating this transition by providing stakeholders with easy access to science-based solutions. By embracing biocontrol, humanity can move toward a future where agricultural practices are both productive and environmentally sustainable.

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