Regulated Domestic Pest Program Evaluation Committee Recommendations for the Biological Control Program

Introduction

In spring of 2019 (FY 2020), representatives from the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ) and the National Plant Board (NPB) selected the PPQ Biological Control (BC) domestic program for review by the Regulated Domestic Pest Program Evaluation Committee (RDPPEC). Based on the information the RDPPEC received from the CFWG, the RDPPEC determined it was not possible to complete a comprehensive review of the program. Lack of a strategic plan, a clearly defined process for selecting and evaluating biocontrol projects, and no relevant evaluative program metrics hindered the review process. In January 2021, interim recommendations were provided to the PPQ Deputy Administrator and recommended that the CFWG:

- Review, revise, and finalize the Biological Control Program strategic plan;
- Develop a consistent and transparent process for identifying, selecting, and supporting new biocontrol projects that align with strategic goals and objectives;
- Establish relevant metrics to evaluate program performance; and
- Develop a CFWG charter using the PPQ template.

In February 2023, the RDPPEC followed up with the CFWG to determine whether they completed the RDPPEC's recommendations. Based on the information provided by the CFWG, the RDPPEC determined there was adequate information available to perform a full program review of the BC program. The recommendations, included herein, are presented for consideration by the joint leadership of PPQ and NPB.

Program Background

The PPQ Biological Control program currently operates under the regulatory authority of the Plant Protection Act (PPA) of 2000, which states: "biological control is often a desirable, low-risk means of ridding crops and other plants of plant pests and noxious weeds, and its use should be facilitated by the Department of Agriculture, other federal agencies, and states whenever feasible."

Regarding biological control organisms, the PPA also states: "Congress finds that the unregulated movement of plant pests, noxious weeds, plants, certain biological control organisms, plant products, and articles capable of harboring plant pests or noxious weeds could present an unacceptable risk of introducing or spreading plant pests or noxious weeds."

Starting in 1971, three different USDA agencies were involved in biological control programs

including:

1. Agricultural Research Service (ARS), covered basic and applied research and foreign exploration;
2. Animal and Plant Health Inspection Service (APHIS) was committed primarily to action programs, such as mass-rearing and release; and
3. Forest Service (FS) was involved with the use of biological control for endemic and exotic forest pests.

PPQ's Biological Control program has four goals:

- Goal 1. Administer clear and transparent project selection and evaluation processes in order to support the most appropriate and successful biological control projects.
- Goal 2. Develop and deliver timely and informative program and pest specific reports, milestone achievements, and key project impact assessments.
- Goal 3. Support existing PPQ biological control expertise, capabilities, and infrastructure while leveraging outside agency expertise and support.
- Goal 4. Leverage multiple funding sources and opportunities among partners and vested stakeholders to achieve program goals more rapidly and efficiently.

There is no Technical Working group for the Biological Control program. Though there is a Technical Advisory Group for Biological Control Agents of Weeds (TAG) which acts independently of the Biological Control Program. TAG members review petitions for biological control of weeds and provide an exchange of views, information, and advice to researchers.

The Biological Control Program touches many aspects of everyday life as agents have been released to support, agriculture, natural resources, targeted pests, has supported foreign and domestic trade, human and/or animal health. APHIS would have to rely on other agencies or organizations to develop and support biological control technologies to suppress emerging plant pests and to support biological control options in established domestic plant pest programs.

Results of Review of the Biological Control Program

The RDPPEC reviewed program documents provided by the BC CFWG and the group's responses to questions raised by the RDPPEC. The following is not an all-inclusive list items pertaining to the review, but are the significant facts and findings of the review, on which the recommendations are based:

- The CFWG had completed all of the actions that had previously been recommended by the RDPPEC, as interim recommendations. The CFWG developed program guidance documents, a written strategic plan, a charter following the PPQ template, and identified their process for selection and evaluation of target BC agents and host pests.
- The CFWG cooperated with the RDPPEC in providing documentation and additional information for the RDPPEC to perform its program review.
- The CFWG Charter is robust and includes roles and responsibilities for each member and also identifies how the CFWG will operate regular business for the BC program. It

should be noted that the charter did not identify or list evaluative metrics to measure the successes of the program.

- While the BC strategic plan provides a written description of how the BC Program operates and performs its evaluation, selection, and research work, the plan does not address future needs of the program or strategies to address influencing situations such as climate change over the next five to ten years and how that would impact host selection or environment suitability for releases. The Strategic Plan is broad in scope and generalized to how the program operates currently. There is a section in the Plan with listed Goals, Actions, and Deliverables, but it is the RDPPEC's opinion that these are not evaluative metrics that would inform if the program was succeeding or meeting the mission of the program. Rather, the RDPPEC notes that it is a list of the work currently being performed and how the CFWG is maintaining the information of the work, but it is not presented in a way that will evaluate programmatic success.
- The funding source that the BC program is tied to is allocated for one only year, making it difficult for the program to be flexible in funding projects for new and emergent pests. Once funds are dedicated to existing projects, and since BC projects take an extended amount of time to complete, there are not a lot of options to include new projects, such as new and emerging pests that would benefit from BC agents.
- Canvassing for species of concern appears to not include external entities who may be interested in providing rearing support or facilities for species that have been vetted by the BC program. Additionally, canvassing was last performed five years ago at the time this review was performed. There have been a large number of staffing changes with SPHD's, SPRO's, and program staff at USDA-APHIS-PPQ and the RDPPEC supports the CFWG's desire to recanvass to determine which target pests should be pursued.
- The CFWG performs annual reviews of each biological control target agent and host pest to evaluate continued work at the progress level at time of review, however, some projects might not need an annual review, and some might need more than an annual review.
- In documentation provided, it was revealed that stakeholders were not aware of project status or updates on biological control agent availability through the Plant Protection Act Section 7721 program. Additionally, regular updates through the stakeholder registry have not been utilized.
- There was a budgetary item of concern where in Fiscal Years 2022 and 2021, there were unspent funds from the allocation in the approximate amounts of $224,000 and $97,000, respectively. The CFWG indicated that these may be from unfunded salary increases, however, since these are one-year funds, these are a lot of funds that could be utilized within the program.
- Additional quality control work is needed to further quantify the effectiveness of BC releases and population establishment in the targeted environments after agents have been released into the impacted areas. The CFWG stated that there is not enough follow-up at the state level to have a full picture of the success of releases in the environment.

Recommendations

The RDPPEC believes, based on the information provided by the CFWG, that the BC Program provides a beneficial, unique service in researching the feasibility, applicability, and rearing of appropriate biological control agents for targeted pests of concern. The RDPPEC recognized areas within the BC Program which could benefit from increased focus and development by the CFWG, and support by PPQ Management. The following recommendations, in the Committee's view, would ensure that the BC Program continues to provide valued research and development of biological control agents to meet the plant protection mission of both PPQ and NPB.

The RDPPEC recommends that the CFWG:

Communication

- Further develop BC Strategic Plan to include specific and measurable performance indicators or metrics, that can be used to evaluate whether the activities of the program are 1) supporting the mission and 2) addressing program gaps and challenges in the short and long term.
- Develop a collection of stories that describe BC successes. Increase communication of BC Program updates and successes utilizing tools such as the Stakeholder Registry system or other communication strategies to advance the mission of the BC program.
- Develop, maintain, and make available a resource that identifies the status of BC agent selection work and availability. The resource should identify what level of completion the agent is in and whether they can be made available through PPA 7721. It is recommended that the resource be posted on the NPB intranet for SPRO availability to assist with PPA 7721 suggestions and on the BC Program webpage on USDA's website, for partner institutions.

Process

- Identify and develop a process for newly introduced and emergent pests to be integrated into the BC program, given the existing funding structure.
- Establish a written protocol or contingency plan to ensure all allocated funds are spent (equipment purchases, one-time expenses, etc...) by the end of the fiscal year.
- When performing canvassing, begin soliciting interest from private industries and stakeholders in the biological control industries. It is possible that these external partners may be interested in taking over rearing from APHIS, which would provide relief on APHIS resources and potentially more capacity for rearing.
- When canvassing, evaluate and modify the survey criteria and questions to clearly define agents and target pests for priority ranking from SPRO's, SPHD's, and other entities being canvassed.

Implementation

- Develop tools to assess biological control agent effectiveness and establishment. This may require increased funding to support quality control work in the field.

- Develop tools to assess and determine appropriate timelines, for the specific pest, understanding that not all pests require annual review.
- Appropriately engage with ARS to ensure PPQ's biological control needs are clearly articulated during their planning processes.
- Develop a detailed knowledge management document which defines existing and potential cooperators. The list should include the contact person, their contacting information and affiliated institution or organization and will serve as an index of experts and ongoing partnerships.