

Introduction

The Ministry of Environment and Climate Change Strategy (ENV) administers the *Integrated Pest Management Act* (IPMA) and Regulation (IPMR). Under the IPMA, the use of pesticides in aquaculture to manage sea lice generally requires a pesticide use permit (PUP). Issuing a PUP and setting conditions are statutory decisions made by ENV staff that are designated as statutory decision makers (SDM). A PUP is not required for the use of products registered federally as a drug and administered orally such as Slice®.

Concerns over the potential impacts to the environment resulting from deposition of pesticides in marine environments to manage sea lice have been expressed by NGOs, the public and First Nations. In response to these concerns, the Minister announced in December 2017 his intention to direct ENV staff to review the regulatory framework and scientific justification of current practices.

In addition to these actions, guidance has been provided to SDMs when processing PUP applications. This guidance is intended to ensure proponents adopt practices that minimize risks to the environment and consider pesticide use to manage sea lice only within an Integrated Pest Management (IPM) framework. A policy for SDMs was created in February 2018. The general direction provided in this policy is described below.

Best Available Technology

- SDMs will be directed to consider authorizing pesticide application using the Best Available Technology (BAT) in an effort to minimize risks to the marine environment.
- SDMs will be required to assess existing technology to manage sea lice, including practices and equipment used in aquaculture operations elsewhere.
- Options which are technically infeasible will be removed from consideration. This may be due to environmental conditions that prevent adoption in BC (e.g., water temperature).
- Cost-effectiveness of each option will also be incorporated. However, financial implications to adopting new technology or practices will be considered with a long term view and continual improvement is expected.
- Options will be ranked according to their ability to minimize pesticide exposure to the marine environment. SDMs will be encouraged to consider selecting the BAT to achieve the optimum result when issuing a PUP.

Key Points:

- ➔ A pesticide use permit (PUP) issued by ENV is required to apply pesticides in aquaculture to manage sea lice.
- ➔ The use of in-feed therapeutants registered as a drug does not require an authorization under the IPMA.
- ➔ Aquaculture operators applying for a PUP will be expected to demonstrate they have considered application technology options to minimize unnecessary introduction of pesticides into the marine environment.
- ➔ Applications for a PUP will be considered within an IPM framework. Operators should be able to show that non-chemical options have or will be attempted to avoid unnecessary pesticide use.
- ➔ SDMs may include environmental monitoring requirements to confirm pesticide levels will not cause impacts to non-target organisms.
- ➔ Effective immediately, SDMs will use this policy when reviewing PUP applications.

Managing Sea Lice Using Integrated Pest Management

- IPM is a decision making system designed to eliminate unnecessary use of pesticides and is a fundamental component of the IPMA.
- IPM incorporates pest biology, prevention of pest problems, setting treatment thresholds, monitoring pest populations, considering treatment options (including the use of nonchemical methods), and evaluating effectiveness as well as impacts to non-target organisms.
- SDMs will be directed to consider PUP applications within an IPM framework. This may result in the inclusion of PUP conditions relating to pest monitoring, prevention efforts, nonchemical options, and evaluation.
- Proponents are encouraged to submit detailed information with their PUP application demonstrating that they have used IPM to manage pests and/or how they propose to incorporate pesticide use into their IPM process. This will include prevention efforts, nonchemical methods attempted or proposed; and future commitments on continual improvement (e.g., modifying infrastructure) to prevent pests from exceeding thresholds in the future.

Environmental Monitoring

- Proponents share responsibility with the Ministry in protecting BC's marine ecosystems. This includes performing due diligence to ensure releases to the environment from operational practices are reasonable and will not result in adverse impacts.
- SDMS will be directed to consider including PUP conditions relating to monitoring requirements. This information should confirm pesticide levels released in the marine environment do not reach levels that may cause issues with non-target organisms.
- Proponents are encouraged to consider this aspect when they are developing their PUP applications.

Next Steps

- The policy will be implemented immediately to guide SDM decisions.
- The science review of technologies and practices to manage sea lice will be provided to SDMs for consideration when processing PUP applications.
- For more information about the regulation and appropriate use of pesticides in British Columbia, please visit www.gov.bc.ca/PestManagement.