

Integrated Pest Management Control Strategies

* Control strategies are often utilized after action thresholds are surpassed. IPM aims to utilize all possible pest control methods in a well organized and harmonious way in order to achieve long-term pest control. Chemicals are not prohibited but often used as a last resort.

Biological Releases

The use of natural predators, parasites, parasitoids, etc. to manage pests. Examples include ladybugs, hoverflies, spiders, etc.



Other Non-Chemical Measures i.e., Mulch, Hot Water Treatments

Out of the box, non-chemical control strategy are also utilized in IPM. Pesticide are not encouraged in aquaculture systems. However, it is allowed if label language does not prohibit it and the crop is listed on the label.



Chemical Measures

Use of a chemical to prevent, destroy, or repel pests. Typically considered after other control methods. Low toxicity chemicals are considered first. If available, use selective vs. broad spectrum chemicals. Chemicals should always be rotated with other chemicals to minimize resistance issues. Application and timing intervals are important.



Pesticide Safety Reminders:

A pesticide is defined as a chemical used to prevent, destroy, or repel pests in all types of systems and farming operations.



- Read and follow the label
- Calculate the treatment area
- Calibrate your equipment
- Do not apply more than the maximum allowable limit

Crop	Target	REI (hrs)	PHI (days)	Remarks
Apple & other stone fruits	Appleworm, Codling Moth, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Asparagus	Asparagus Beetle, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Beans	Bean Beetle, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Broccoli	Broccoli Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Brussels Sprouts	Brussels Sprout Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Cauliflower	Cauliflower Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Corn	Corn Earworm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Cucumbers	Cucumber Beetle, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Eggplant	Eggplant Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Kale	Kale Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Karri	Karri Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Leafy Greens	Leafy Green Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Lettuces	Lettuce Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Onions	Onion Fly, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Potatoes	Potato Beetle, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Spinach	Spinach Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Squash	Squash Bug, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Tomatoes	Tomato Worm, etc.	4	0	Do not apply to fruit that is to be eaten raw.
Watermelon	Watermelon Beetle, etc.	4	0	Do not apply to fruit that is to be eaten raw.

Wear REQUIRED Personal Protective Equipment (PPE).



Follow Re-entry Intervals (REI), Pre-harvest Intervals (PHI), and post appropriate signage according to crop labels.

EXAMPLE ONLY: Crop sprayed

REI: 24 hours OK to enter field

DO NOT HARVEST: PHI: 4 days

Ok to harvest / sell

** NOTE: Workers who enter fields within the specific REI MUST wear appropriate PPE.

Crop Season

Pesticide Use in Aquaponics are allowed IF:

- Label language does not prohibit it
- If there is a reference that the pesticide is harmful to fish, then be aware of consequences if used.

Trade Name	Active Ingredient	REI (hrs)	PHI (days)	Remarks
Acetamiprid	Acetamiprid	4	0	Do not apply to fruit that is to be eaten raw.
Abamectin	Abamectin	4	0	Do not apply to fruit that is to be eaten raw.
Admethion	Admethion	4	0	Do not apply to fruit that is to be eaten raw.
Azinphos methyl	Azinphos methyl	4	0	Do not apply to fruit that is to be eaten raw.
Bifenthrin	Bifenthrin	4	0	Do not apply to fruit that is to be eaten raw.
Carbaryl	Carbaryl	4	0	Do not apply to fruit that is to be eaten raw.
Chlorpyrifos	Chlorpyrifos	4	0	Do not apply to fruit that is to be eaten raw.
Cyfluthrin	Cyfluthrin	4	0	Do not apply to fruit that is to be eaten raw.
Deltamethrin	Deltamethrin	4	0	Do not apply to fruit that is to be eaten raw.
Emamectin benzoate	Emamectin benzoate	4	0	Do not apply to fruit that is to be eaten raw.
Enprophos	Enprophos	4	0	Do not apply to fruit that is to be eaten raw.
Ethion	Ethion	4	0	Do not apply to fruit that is to be eaten raw.
Fenprophos	Fenprophos	4	0	Do not apply to fruit that is to be eaten raw.
Fenvalerate	Fenvalerate	4	0	Do not apply to fruit that is to be eaten raw.
Fluralaner	Fluralaner	4	0	Do not apply to fruit that is to be eaten raw.
Gamma-cyhalothrin	Gamma-cyhalothrin	4	0	Do not apply to fruit that is to be eaten raw.
Imidacloprid	Imidacloprid	4	0	Do not apply to fruit that is to be eaten raw.
Lambda-cyhalothrin	Lambda-cyhalothrin	4	0	Do not apply to fruit that is to be eaten raw.
Permethrin	Permethrin	4	0	Do not apply to fruit that is to be eaten raw.
Pymethrin	Pymethrin	4	0	Do not apply to fruit that is to be eaten raw.
Spinosad	Spinosad	4	0	Do not apply to fruit that is to be eaten raw.
Thiamethoxam	Thiamethoxam	4	0	Do not apply to fruit that is to be eaten raw.
Triazophos	Triazophos	4	0	Do not apply to fruit that is to be eaten raw.
Zeta-cypermethrin	Zeta-cypermethrin	4	0	Do not apply to fruit that is to be eaten raw.



ENVIRONMENTAL HAZARDS
This product is hazardous to fish and aquatic invertebrates. For Terrestrial Uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

