

# AQUABACxt & BugJuice

Eliminates Red Worms and Midge Flies In Wastewater



## AQUABACxt

AQUABACxt is a highly effective, US EPA-registered biological larvicide. It contains a species of bacteria called *bacillus thuringiensis* (BT), an approved larvicide for controlling red worms and midge flies in wastewater treatment plants.

Red worms find wastewater plants to be a perfect home. They survive by eating your MLSS, then hatch into midge flies, and the cycle repeats. The active ingredient in AQUABACxt kills the red worms and breaks the cycle.

Common symptoms of red worm infestations include: disappearing MLSS (the red worms are eating it), stringy or clumpy return activated sludge, and nuisance flies that attract pests. AQUABACxt is safe to use and will only kill a very narrow set of target species; larvae of the mosquito, midge flies, and black flies. It will not cause effluent toxicity issues.

## BugJuice

BugJuice degrades the cocoons red worms build around themselves, exposing more red worms to the AQUABACxt treatment. You can often find these cocoons on the walls of clarifier rings, or the sides of basins. This technique increases the effectiveness of AQUABACxt dramatically.

We recommend using BugJuice for the first 20 to 40 days of any treatment. After the initial treatment, an annual or biannual 20 day treatment is helpful for restoring the benefits.



### Figure 1:

Isolated midge fly and an isolated red worm



Red Worm



Midge Fly



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# Dose Rates

## AQUABACxt & BugJuice



### AQUABACxt: Wastewater Plant Dosing

Flow Rate Gallons per day	Super Dose Twice per week for 1-2 weeks	Initial Dose Twice per week for 2 weeks	Maintenance Dose Once per week
10,000 GPD	0.5 pt or 8 oz	4 oz	2 oz
50,000 GPD	1 qt or 2 pt	1 pt	8 oz
100,000 GPD	0.5 gal	1 qt	1 pt
200,000 GPD	1 gal	2 qt	2 pt
300,000 GPD	1.5 gal	3 qt	3 pt
400,000 GPD	2 gal	4 qt	4 pt
500,000 GPD	2.5 gal	5 qt	5 pt
600,000 GPD	3 gal	6 qt	6 pt
700,000 GPD	3.5 gal	7 qt	7 pt
800,000 GPD	4 gal	8 qt	8 pt
900,000 GPD	4.5 gal	9 qt	9 pt
1,000,000 GPD	5 gal	10 qt	10 pt

### AQUABACxt: Wastewater Lagoon Dosing

Lagoon Size	Initial Dose Once per week for 4 weeks	Maintenance Dose Once per week
1 Acres	2.5 gal	1 gal
4 Acres	10 gal	4 gal
8 Acres	20 gal	8 gal

### BugJuice Dose Rate

Flow Rate Gallons per day	Dose: Add Daily at the head of treatment plant
100,000 GPD	1 pt
200,000 GPD	2 pt
300,000 GPD	3 pt
400,000 GPD	4 pt
500,000 GPD	5 pt
600,000 GPD	6 pt
700,000 GPD	7 pt
800,000 GPD	8 pt
900,000 GPD	9 pt
1,000,000 GPD	10 pt

### AQUABACxt:

- Add directly to areas with red worms, often secondary clarifiers and tertiary processes
- Can be metered instead of weekly slug dose, if desired
- Continue to use throughout your climate's active midge fly season

### BugJuice:

- Add daily at headworks of plant
- Use for at least the first 20-40 days of any AQUABACxt treatment

### Available Sizes:

- 5 gal case
- 135 gal pallet
- 250 gal tote (AQUABACxt)
- 275 gal tote (BugJuice)