

VITASTIM LOW F:M

Many of today's municipal wastewater treatment plants are over designed for current incoming food levels. When the pounds of food (BOD) coming into wastewater plants are low relative to the pounds of bacteria (MLSS), this is called a Low Food to Microorganism ratio or Low F:M. The F:M ratio may also be low if a plant gets a lot of inflow and infiltration (I and I).

Problems such as low food conditions can cause filamentous bulking and a cloudy effluent and operators struggle to keep their bugs alive. To help plants that have low incoming food we have developed VitaStim Low F:M, a bioaugmentation product, using bacteria that culture and floc well in low food conditions. In addition, it contains micronutrients that are steroids for the existing bacterial cultures.

VitaStim Low F:M stimulates the development of a robust biomass of floc-forming bacteria that provide excellent nutrient uptake, better settling, less filamentous, and a clean effluent.

For plants that are severely underloaded and suffering from chronic issues, VitaStim Low F:M pairs well with our SmartBOD. SmartBOD is a food source designed specifically for wastewater bacteria.

F:M Ratio Example Calculation:

Incoming Flow: 0.5 MGD

Incoming BOD: 100 ppm

MLSS: 2500

Gallons in aeration and clarifier: 1.5 MG (expressed in million gallons)

Calculation: $(0.5 \text{ MGD} \times 100 \text{ ppm}) / (1.5 \text{ MG} \times 2500) = .016$ is your F:M ratio

Conventional activated sludge calls for a 0.1 to 0.5 ratio, but the ratio can be 0.2 to 0.1 in extended air plants. The bottom line is many municipal plants have a number that is too low.

Benefits:

- Adds bacteria that floc well in low food environments
- Prevents low F:M filaments like Type 0041 and Type 1863
- Great for municipal or industrial waste streams





AQUAFIX^{Inc.}

*Innovations in
wastewater treatment.*

1.888.757.9577 • www.teamaquafix.com • bugman@teamaquafix.com

TECHNICAL UPDATE

DOSAGE RATES

VS Low F:M in WWTP		
Flow Rate	Dose Rate 30 days	Maintenance Dose 30 days
100,000 GPD	0.5 lb per day	0.5 lb every other day
200,000 GPD	1 lb per day	0.5 lb per day
300,000 GPD	1.5 lbs per day	0.5 lb per day
400,000 GPD	1.5 lbs per day	1 lb per day
500,000 GPD	2 lbs per day	1 lb per day
600,000 GPD	2.5 lbs per day	1.5 lbs per day
700,000 GPD	2.5 lbs per day	1.5 lbs per a day
800,000 GPD	3 lbs per day	1.5 lbs per day
900,000 GPD	3.5 lbs per day	2 lbs per day
1,000,000 GPD	4 lbs per day	2 lbs per day