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# Bioaugmentation

Reinforce your  
biological processes

 **Univar**Solutions

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## Reinforce your biological processes

Univar Solutions are proud to promote unique biological solutions for the water treatment industry.

Bioaugmentation is the practice of adding actively growing, specialised microbial strains and microorganisms to enhance the ability of indigenous biomass to respond to process fluctuations or to degrade certain components, resulting in improved treatment. Bioaugmentation is the most sustainable approach to tackle challenges in operations at a water treatment facility.



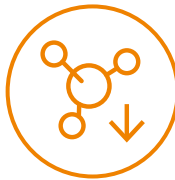
### Application



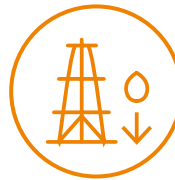
**COD removal**



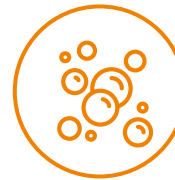
**FOG removal**



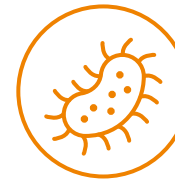
**Ammonia removal**



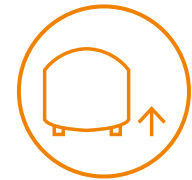
**Hydrocarbon & phenol removal**



**Surfactant removal**



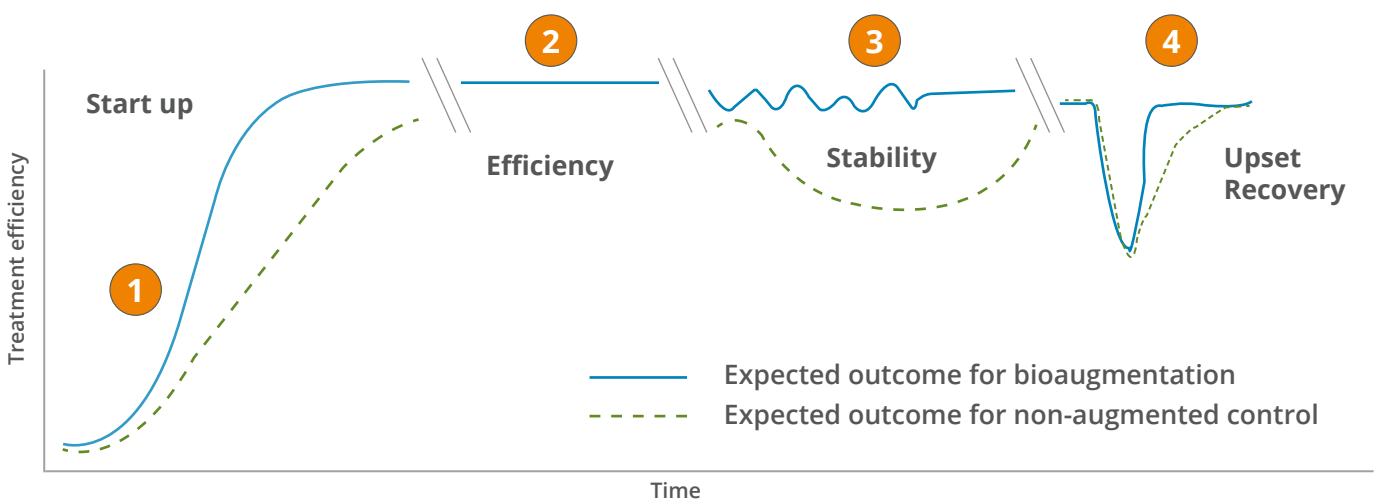
**Filamentous bulking**



**Increased Biogas**

### Benefits

Bioaugmentation is a technology with multiple uses. While most customers use it to improve the efficiency and stability of their biological systems, it can also be used to (re)start a biomass at launch or after system failure.



**1** The time it takes to get to “steady-state” conditions

**2** Biomass performance during steady conditions

**3** Ability of the biomass to withstand stress and maintain treatment efficiency

**4** Ability of the biomass to return to steady state after a treatment disruption - Toxic shocks, Organic shock loading, Hydraulic overloading

## Sustainable Technology

When optimising a water treatment system, formulators often look to add extra chemicals or include extra treatment steps. However, the option to strengthen biological processes as a solution to the problem, is often overlooked. Microbiological processes have been the foundation of our planet’s ecosystem ever since the creation of it and they are doing this job in very efficient way. Utilising bioaugmentation to tackle challenges is undoubtedly the most sustainable approach in the industry today.

## What does it offer you?

- Enables a cost-effective and fast plant start-up**  
 Helping the native microbes adapt to rapid changes in organic and hydraulic loading during start-up.
- Ensures compliance and production continuity**  
 Minimising failures in downstream water treatment secures upstream production and maintains license to operate.
- Postpones CAPEX**  
 Maximising performance of “old” treatment plants already running on the verge of design capacity.



PRODUCT	BioRemove™ COD	BioRemove™ FOG	BioRemove™ HC	BioRemove™ SF	BioRemove™ AM	BG Max™ 3000
<b>Target Substrate/main application</b>	<b>COD removal</b>	<b>FOG removal</b>	<b>Hydrocarbon removal</b>	<b>Surfactant removal</b>	<b>Ammonia removal</b>	<b>Anaerobic treatment / biogas</b>
Removes ammonia					● ●	
Effective at low temperatures					● ●	
Improves floc formation and settleability	● ●					
Effective in anoxic and anaerobic environments	●	●				● ●
Effectively degrades hard COD	● ●		●	●		
Removes surfactants	●		●	● ●		
Controls fats, oils and grease (FOG) levels	●	● ●				●
Prevents filamentous foaming	●	● ●				
Prevents surfactant-related foaming	●			● ●		
Removes hydrocarbon	●		● ●			
Removes phenol	●		●			
Enhances biogas production						● ●

BENEFITS

Physical Form: Brownish Powder  
 Packaging: Available in small buckets containing prepacked water soluble bags in different sizes.  
 Storage: Frost free storage strongly recommended, optimal conditions between 10-25°C,  
 Shelf life: Product will offer optimal performance within 12 months from production date

● Effective ● ● Extremely effective



**Contact:**

For more information on this range of Products please contact your local Univar Solutions representative.

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**[www.univarsolutions.com](http://www.univarsolutions.com)**