

A superior biological treatment for cleaning & waste applications

MULTI-ACTION MICROBIAL CONSORTIUM

Eco FFWD Concentrate's microbial consortium demonstrates superior enzyme performance for use in all organic waste treatment applications. This microbial blend includes unique strains which are used to bio-remediate all major organic contaminants & sources of malodour.

In their natural environment, bacteria produce hundreds of enzymes in response to the organic wastes present in their environment. However, many different enzymes are required to completely break down a substrate so it is the bacteria with the most rapid production of these key enzymes that provide the most dramatic effects. In waste treatment applications, Eco FFWD Concentrate produces the key enzymes to break down the proteins, starches, fats, oils, and greases, cellulose, urine & esters found in those environments and use the components as food sources. Organic wastes are utilised by the Bio enzyme consortium so wastes aren't transferred downstream.

Fats, Oils & Grease are a major problem in grease traps and drain lines, as well as processing plants such as abattoirs, rendering plants & tanneries. Fats, oils and greases are composed of triglycerides. Many bacteria produce a lipase enzyme to break down the triglyceride into glycerol and fatty acids. The glycerol is easily degraded by many bacteria.

However, fatty acids, which typically make up over 90% of the mass of the triglyceride, are difficult to degrade and can persist in grease traps or treatment dams & are thus carried downstream, or need to be disposed of in landfill, causing clogging, pH drops and foul odours.

The Bio enzyme strain provides an additional benefit by degrading and utilizing the recalcitrant portion of grease molecules, the long-chain fatty acids. When used as part of a daily maintenance program, Eco FFWD Concentrate will reduce frequency of cleaning on non-food contact surfaces, grease trap pumping, reduce total C.O.D (Chemical Oxygen Demand) & maintain free-flow in drains, as well as reducing malodours on all surfaces & areas of application.

Eco FFWD Concentrate incorporates proprietary inhibitory systems that provides excellent product stability and, upon addition to waste applications, grease traps or drain line, acts as an essential growth stimulant that promotes superior germination and outgrowth to reduce overall grease loading, as well as reducing organic soiling.

Eco FFWD also performs exceptionally well when partnered with PrepQuip Green's proprietary aeration & treatment systems to ensure effluent water that meets municipal & national specifications for disposal of effluent water into municipal or general disposal into waterways.



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FEATURES

- Specifically selected highly effective bacteria multi-strain formula for:
 - Production of lipase to cleave fats.
 - Production of other extracellular enzymes to degrade food solids and sludge (Excretion of high levels of amylase, cellulase, protease, urease, esterase & xylanase enzymes providing a wider range of degradation capabilities including short- and long-chain fatty acids, proteins, oils, grease, cellulose, carbohydrates, esters & plant cell walls.
 - Ability to survive in the low pH environment of an active grease trap.
- A synergistic blend that works in concert to provide superior performance in grease trap and drain line applications
- Ability to work under aerobic and anaerobic conditions
- A proprietary inhibitory system that provides excellent product stability and, upon addition to a drain line or grease trap, acts as an essential growth stimulant that promotes superior germination and outgrowth.
- Product contains Bacillus bacteria in 100% spore form for:
 - Extended product life
 - Product stability
- Readily biodegradable surfactant pack for efficient cleaning of hard surfaces.

BENEFITS

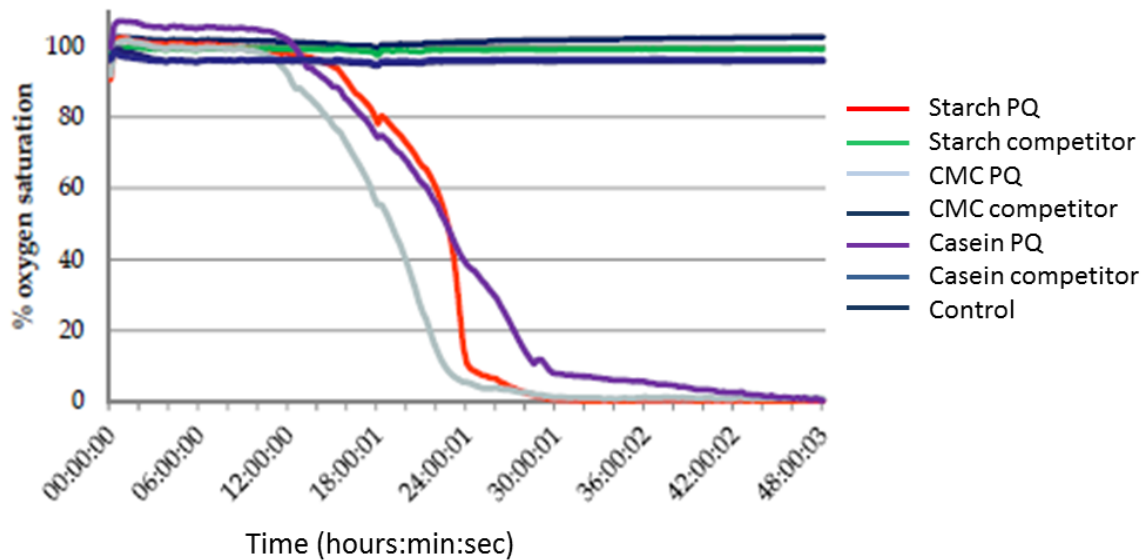
- With regular application & when partnered with PrepQuip Green's hardware solutions, odours are significantly reduced, solids such as proteins, fats & grease are bio – remediated & COD levels reduced to appropriate limits.
- With regular application, Eco FFWD Concentrate will reduce trapped grease, maintain free-flow in drains, and reduce odours in grease traps and drain lines.
- Eco FFWD Concentrate does not transfer the grease downstream. The unique bacillus consortium degrades and digests grease and scum in grease traps and drain lines.
- The active ingredients in Eco FFWD Concentrate reduce the production of odours by inhibiting biological production of odour causing compounds such as hydrogen sulphide and the biological components degrade long-chain fatty acids that are known to be persistent in the environment causing the majority of maintenance and treatment problems.
- The partial break down of grease causes pH to drop, creating an environment that is inhibitory to many bacteria. The Eco FFWD strains are active at the low pH levels generated.
- The Bio enzyme consortium alleviates low pH problems by breaking down both short- and long-chain fatty acids, maintaining an environment more amenable to active microbial degradation.
- The microbial strains in Eco FFWD biodegrade all major organics to ensure hard surfaces cleaned remain clean, slip free with no malodours.

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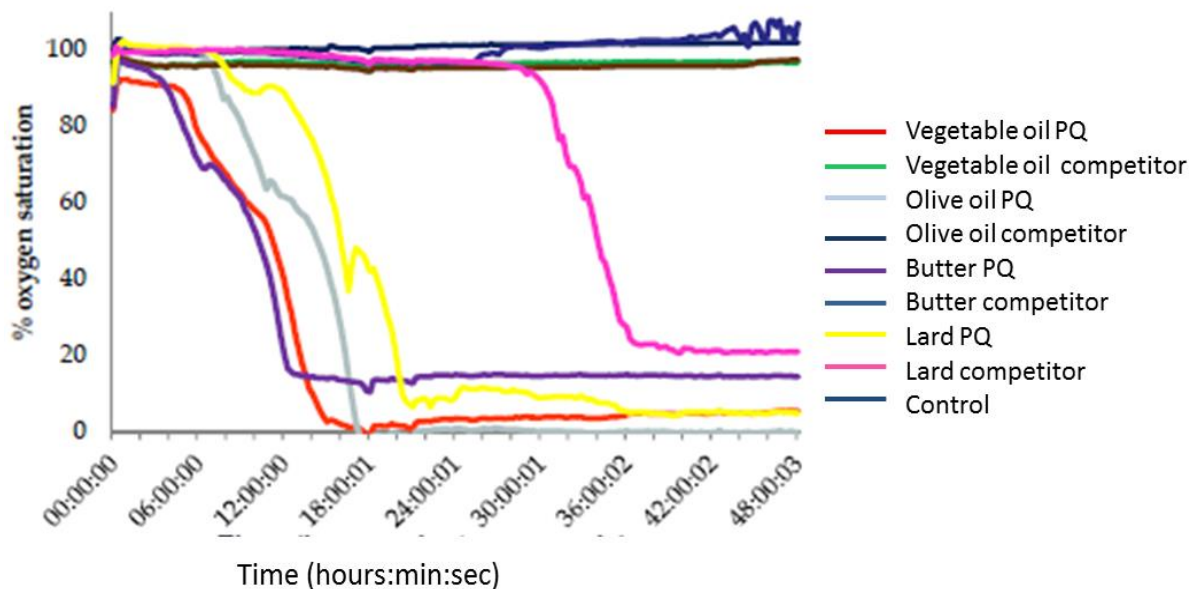
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- Eco FFWD: Effective in breaking down starch, fibre & protein



- ECO FFWD consortium: Effective in breaking down all fat types

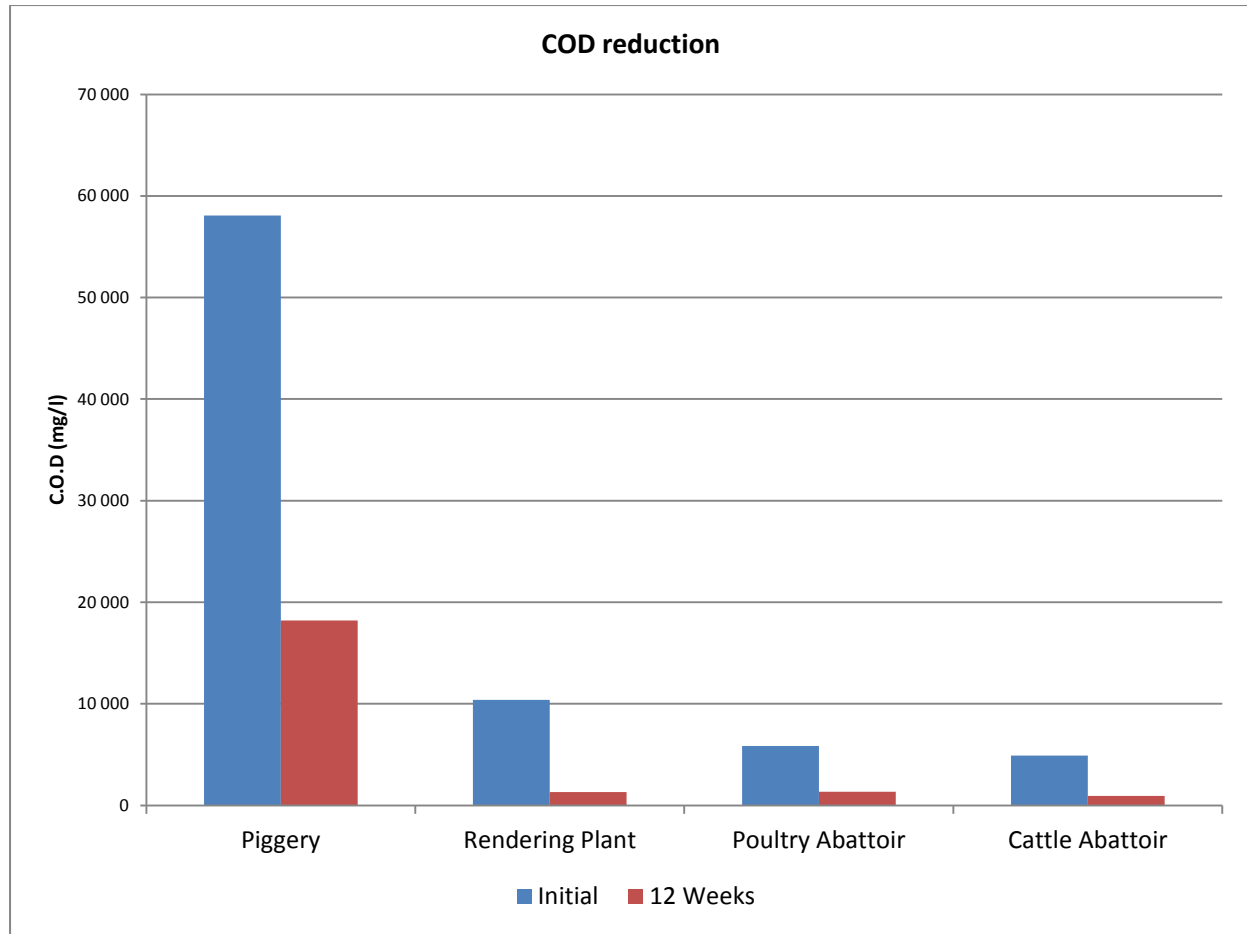


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Reduction in Chemical Oxygen Demand (COD)



SAFETY OF BIO ENZYME CONSORTIUM

Eco FFWD Concentrate contains a blend of safe Bacillus microorganisms. Toxicity studies done by an independent laboratory revealed that the Bio enzyme consortium has no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at maximal test dose. Studies in acute dermal irritation and acute eye irritation have found Bio enzyme consortium as used in

Eco FFWD Concentrate as non-irritating. The Bio enzyme consortium also does not elicit a skin sensitization reaction.

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PRODUCT CHARACTERISTICS

Bacteria Specifications	95.0 x10 ⁷ cfu/ml
Bacteria Type	Blend of Bacillus spores
pH	7.0 – 9.0
Appearance	No colour added, tan liquid
Fragrance	No fragrance added
Shelf-life	Two years; maximum loss of 1.0 log at recommended storage conditions

STORAGE AND HANDLING

- Store in cool and dry places in closed containers at 10°- 40°C.
- Wash hands thoroughly with warm, soapy water after contact.
- Avoid eye contact.

AVAILABLE PACKAGING

5 and 25 litre containers in a concentrate form

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RECOMMENDED APPLICATION FEED RATE

Grease Traps

TRAP SIZE	DOSING
750 litres	30 ml per day
2000 litres – 5500 litres	50 – 60 ml per day
5500 litres or larger	90 – 120 ml per day

Commercial

NON FOOD CONTACT SURFACES			
	FREQUENCY	NOTES	AREA
Floors	Daily	Dilute 100 ml of Eco FFWD 10X into 10 L of water, or set auto dilutor to 1:100. Apply to surface. Clean as per standard protocol & rinse into drains.	10 L of diluted product will cover 100 m ²

Industrial Effluent Treatment

Volume of Effluent	Dosage
Initial Dosage	0.01% v/v for the 1 st 3 days
Maintenance Dosage	0.003% v/v on influent volume

Sewerage Treatment Plants

Volume of Effluent	Dosage
Maintenance Dosage	0.0001% – 0.0003% v/v on influent volume

Wet Waste Skips

Volume of Effluent	Dosage
Dilution	Dilute Eco FFWD Conc 1:9 with water
Apply by means of back-back	Spray liberally over contents of wet waste skip twice daily

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