



*dedicated to solving problems*

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- Ammonia
- Calibration
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- Conductivity
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- Dissolved Oxygen
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- Nitrate/Nitrite
- Odour FOG Control
- pH/ORP
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- Sludge Blanket Level
- SRT Control
- Suspended Solids
- TOC/COD
- Turbidity

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## **/// BYO-GON PX-109® Background**

### ***(What is it and How Does it Work?)***

BYO-GON PX-109® is not an enzyme, bacteria or micro-nutrient. It is a non-toxic, non-flammable, non-corrosive, and 100% organic and biodegradable material. The active ingredient is an alkaloid compound called Xeronine, discovered by a University of Hawaii researcher exploring natural medical remedies over twenty years ago. In 1987, the compound received its third patent "for eliminating grease, sewage odour and hydrogen sulfide from restaurant grease traps and municipal sewage systems." The source of Xeronine in BYO-GON is a combination of naturally occurring plant extracts, combined with a sequestering solution to stabilize and deliver the product.

Xeronine stimulates cell growth by converting inactive plant and bacterial amylases (enzymes which convert starches to sugars) into active amylase. As a stimulant to enzymatic activity at the cellular level, Xeronine promotes more rapid cell growth and consumption of organic material, and increases resistance to limiting environmental factors such as toxins. Medical research has in fact suggested Xeronines are essential coregulators of metabolism, and that many normal hormone responses may not occur in the absence of adequate xeronine. Study of medical applications is ongoing, and includes everything from fighting nicotine and drug addiction to cancer to certain types of senility.

In waste treatment systems relying on microbial populations, xeronine and the more stable proxeronine promote a healthier biomass across the aerobic to anaerobic spectrum. For example, facultative organisms with sufficient xeronine can use chemically bound oxygen to respire, consuming ammonia as a nutrient source and sulfide as an energy source. In contrast, facultative and strict anaerobes without adequate xeronine may ferment or decompose, releasing ammonia and sulfide compounds in offensive or even noxious concentrations.

Traditional approaches to odour control largely accept the production of these foul gases, prescribing capture and treatment usually requiring large capital outlays and costly, time-consuming and/or hazardous ongoing O&M costs. In most cases, the use of BYO-GON PX-109® promotes healthy biological systems, preventing both the production of offensive odours and the need for large capital expenditures, as well as reducing O&M costs for activities such as grease and solids handling.