

GreenLight™ 900 Series



...bringing tighter control to food safety



Making agar plates obsolete

mocon®

GreenLight™ 900 Series

An increasing appreciation for the importance of food and microbiological safety has resulted in a demand for a rapid high throughput method for bacterial quantification to deal with the increasing number of food and beverage samples that require testing

The GreenLight 900™ series is an ideal **screening** and **hygiene monitoring** tool for the enumeration of aerobic bacterial load in food, beverages and food processes. Unlike agar film or plate methods, the GreenLight™ systems offer **fast time-to-results**, **ease of use** while **reducing labour and material costs**. Quantitative results are presented automatically from a few minutes to just over 14 hours depending on the bacterial load.

The GreenLight™ 900 Series offer solutions for every level of screening throughput. Three models are available that have capabilities from low (Model 910) to high (Model 930 and 960) throughput.

The main applications for the GreenLight™ 900 series include:

- o Food Homogenates
- o Liquid/beverages
- o Animal carcass swabbing
- o Hygiene monitoring such as benchtop swabbing

The GreenLight™ 900 series **brings tighter control** to Food Safety testing providing:

- Rapid time to result resulting in faster release of products
- Better control of processes; more data including respiration profiles in less time
- Greater control of over testing needs: ability to bring analysis in-house
- Better efficiency resulting in fewer errors
- Reduced labour and material costs
- Better control over batch and lot traceability

.....all resulting in safer foods for consumers



Model 910 with 2.0 ml APCheck™ Vial



Model 930 with 2ml carousel



Plate Reader for Model 960

The Technology

The GreenLight™ sensor technology is luminescence based using oxygen sensing probes that detects bacteria by monitoring bacterial respiration. It measures bacterial oxygen consumption and equates that to viable microbial load. As microbes grow, they consume oxygen, resulting in an increase in probe signal. The time taken to reach this increase in reagent signal (threshold point) is used to calculate initial microbial load. The greater the initial microbial load, the faster the time to threshold.

Ground Beef at a Range of Microbial Contamination Levels



GreenLight™ Model 960 Software:
Assay Read out - Respiration profiles

Same-day results / Fast time to result. In comparison to other methods that require 48-72 hours of incubation time before the colonies can be counted- The GreenLight™ instruments give a result in less than 4 hours for a 6 Log CFU/g sample and less than 9 hours for a 3 Log CFU/g sample (the higher the contamination, the faster the result)

Simple protocol / Easy to perform. Sample preparation is the same as the traditional agar method with no serial dilutions or plating. As a result, preparation is less prone to error and less time consuming. Plate counting is eliminated, reducing the error rate and labour cost.

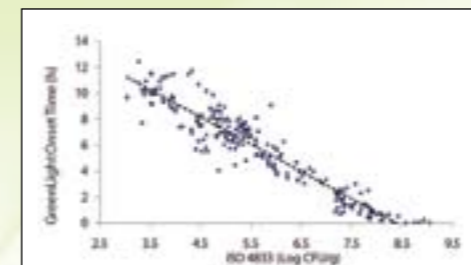


96 well plate for the Model 960



GreenLight™ Model 910 Software: "Traffic Light" flagging system

Ground Beef at a Range of Microbial Contamination Levels



GreenLight™ vs. Agar Plate TVC's
(ISO: 4833:2003) Correlation

Results processed and displayed automatically as well as secure.

Different test modes available: Quantitative (CFU/g or Log CFU/g) / Semi-quantitative and /or pass/fail. Results and respiration trends are stored in a database. The GreenLight™ software package features data security levels to avoid transcription errors, subjective judgment or manipulation. All analysed data is downloadable to LIMS.

Throughput Capabilities. The GreenLight™ 900 Series offer solutions for every level of screening throughput from low (Model 910) to high (Model 930 and 960).

Excellent correlation to the traditional agar plate method (ISO:4833:2003): $R^2 > 0.90$ (for raw meats).

“Food processors now have a faster, less labour intensive screening method compared to traditional agar methods”

GreenLight™ 900 Series

Available in three models

GreenLight™ Model 930: *High Throughput and Flexible*

The Model 930 uses the APCheck™ vial with its integral sensor chemistry and assesses aerobic bacterial measurements using a 48 or 24 position carousel system. Sample preparation is easy with no serial dilutions and plating necessary. The powerful GreenLight software allows the uninterrupted addition of new tests while others are already in progress. Incubation is internal and all vials and carousels are individually and uniquely barcoded.



Model 930

GreenLight™ Model 960: *Compatibility to Lab Automation and High Throughput*

A simple to use, cost-effective 96-well plate assay allows high throughput on a plate reader. The GreenLight sensor is added to each sample well as part of an easy preparation step. The model 960 is ideal for research and development studies who desire total flexibility in their kinetic measurements.



Model 960 : Plate and Reader

GreenLight™ Model 910: *Rapid Results for Lower Volume Users*

Using the APCheck™ vial system, the model 910 can accommodate either the 2ml or 15ml vials in a compact package that is suitable for in-process environments. The unit and its GreenLight™ software require minimal training to test food homogenates, liquids and swab samples with results that outpace plates and films by as much as 12 times.



Model 910

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