

The Leaf Tree Agricultural Plant Stand Efficacy Testing

PROCEDURE

Quantitative Antibacterial Assessment:

JIS Z 2801:2010 was used to quantitatively test the specimen for antibacterial activity. In brief:

1. The sample was placed into a container with a lid.
2. A 0.3 mL inoculum of *Escherichia coli* (ATCC #8739) or *Staphylococcus aureus* (ATCC #6538) was placed, in microdroplets, on the surface of the samples. Sterile films were placed over the inoculum to encourage good contact.
3. The specimen was incubated 24 hours at 37C.
4. 20 mL of Lethen broth was added to the container and shook. The liquid was plated using dilution techniques.
5. The “Value of Antimicrobial Activity” was carried out using the formula

$$R = [\log (B/C)]$$
 Where:
 R= value of antimicrobial activity
 B = Average of the number of viable cells of bacteria on the untreated test piece / inoculum control after 24 hours
 C = Average of the number of viable cells of bacteria on the antimicrobial test piece after 24 hours.

RESULTS

Quantitative Assessment of Activity – JIS Z 2801:2010					
<i>E. coli</i>					
Concentration of starting inoculum			1.02 x 10 ⁵		
Sample Description		No. Bacteria Recovered	Log Value	R = [log(B/C)]	% Reduction
1	CC10238136 IP @ 2% LDR	6.28 x 10 ⁶	6.8	0.4	56.4%
2	CC10238136 IP @ 4% LDR	8.25 x 10 ²	2.9	4.3	>99.9%
3	Tritan TX1001 control	1.44 x 10 ⁷	7.2	--	--
Inoculum Control		1.01 x 10 ⁷	7.0	--	--

Quantitative Assessment of Activity – JIS Z 2801:2010					
<i>S. aureus</i>					
Concentration of starting inoculum			1.92 x 10 ⁵		
Sample Description		No. Bacteria Recovered	Log Value	R = [log(B/C)]	% Reduction
1	CC10238136 IP @ 2% LDR	7.66 x 10 ²	2.9	2.2	99.4%
2	CC10238136 IP @ 4% LDR	4.77 x 10 ²	2.7	2.4	99.6%
3	Tritan TX1001 control	1.32 x 10 ⁵	5.1	--	--
Inoculum Control		8.15 x 10 ⁵	5.9	--	--