Bio-Cap[™] Evaporation Study

Hypothesis: It is suspected that water will evaporate more quickly from a Bio-Cap[™] covered surface than water alone.

Methodology: Three replications of covered/uncovered containers of tap water will be placed under individual heat lamps for each container. Water will be weighed into each container and will be weighed out of each container at the conclusion of the test.

The Bio-Cap[™] covering will be weighed dry before placement on the water surface of a container and this weight will be subtracted from the wet weight of Bio-Cap™ covering at the conclusion of the test.

Materials: 6 infra-red (clear) 125 watt heat lamps

6 six quart ice cream pails (clean)

- 3 Bio-Cap[™] covers cut to fit the diameter of the pails
- 1 equal-arm balance gram scale
- 1 Centigrade stick thermometer

A small fan will be operated to blow air across the pails and an exhaust hood will continuously operate.

Summary Data:	First Trial-	3/23/99				
		Water Wt	Water Wt	Diffe	erence	
		IN	OUT	Wat	ter Wt	% Loss
	Pail #1	997.5	608.6		388.9 Bio-Cap™	[^] 39.0%
	Pail #2	988.1	536.9		451.2	45.7%
	Pail #3	991.0	474.7		516.3 Bio-Cap™	⁴ 52.1%
	Pail #4	994.2	605.0		389.2	39.1%
	Pail #5	996.2	500.3		495.9 Bio-Cap™	49.8%
	Pail #6	991.4	609.2		382.2	38.6%
		Bio-Cap™	Loss	No Cover Loss	Difference	e
		39.0%		45.7%		
		52.1%		39.1%		
		49.8%		38.6%		
	Average:	47.0%		41.1%	5.8%	6
	0					Difference
Average Gran	ns per minu	te per squa	are foot eva	aporation with	cover: 2.6	2 110.6%
Average Grams p	-			•		7 100.0%

Summary Data:	Second Tria	al- 3/24/99					
-		Water Wt	Water Wt	Diffe	erence		
		IN	OUT	Wat	er Wt		% Loss
	Pail #1	766.6	355.1		411.5	Bio-Cap™	53.7%
	Pail #2	760.5	314.6		445.9	-	58.6%
	Pail #3	761.4	244.5		516.9	Bio-Cap™	67.9%
	Pail #4	764.4	354.3		410.1	-	53.6%
	Pail #5	762.4	208.7		553.7	Bio-Cap™	72.6%
	Pail #6	765.4	429.2		336.2	-	43.9%
		Bio-Cap™	1 088	No Cover Loss		Difference	
		53.7%		58.6%		Billerende	
		67.9%		53.6%			
		72.6%		43.9%			
	Average:	64.7%		52.1%		12.7%	
	, nonagon	• ,•		0_11/0		,.	
				aporation with			
	Average Gran	ns per mir	nute evapo	ration without	cover:	2.37	100.0%
Summary Data:	Third Trial-	3/25/99					
Summary Data:			Water Wt	Diffe	erence		
Summary Data:			Water Wt OUT		erence er Wt		% Loss
Summary Data:		Water Wt	OUT		er Wt	Bio-Cap™	% Loss 40.5%
Summary Data:		Water Wt IN	OUT 453.2		er Wt	•	
Summary Data:	Pail #1	Water Wt IN 761.6	OUT 453.2 387.3		er Wt 308.4 377.0	•	40.5%
Summary Data:	Pail #1 Pail #2	Water Wt IN 761.6 764.3	OUT 453.2 387.3	Wat	er Wt 308.4 377.0	Bio-Cap™	40.5% 49.3%
Summary Data:	Pail #1 Pail #2 Pail #3	Water Wt IN 761.6 764.3 771.7	OUT 453.2 387.3 360.8 501.2	Wat	er Wt 308.4 377.0 410.9 275.9	Bio-Cap™	40.5% 49.3% 53.2%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4	Water Wt IN 761.6 764.3 771.7 777.1	OUT 453.2 387.3 360.8 501.2 396.8	Wat	er Wt 308.4 377.0 410.9 275.9	Bio-Cap™ Bio-Cap™	40.5% 49.3% 53.2% 35.5%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0	OUT 453.2 387.3 360.8 501.2 396.8 491.6	Wat	er Wt 308.4 377.0 410.9 275.9 365.2	Bio-Cap™ Bio-Cap™	40.5% 49.3% 53.2% 35.5% 47.9%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss	er Wt 308.4 377.0 410.9 275.9 365.2	Bio-Cap™ Bio-Cap™	40.5% 49.3% 53.2% 35.5% 47.9%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™ 40.5%	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss 49.3%	er Wt 308.4 377.0 410.9 275.9 365.2	Bio-Cap™ Bio-Cap™	40.5% 49.3% 53.2% 35.5% 47.9%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™ 40.5% 53.2%	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss 49.3% 35.5%	er Wt 308.4 377.0 410.9 275.9 365.2	Bio-Cap™ Bio-Cap™	40.5% 49.3% 53.2% 35.5% 47.9%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™ 40.5% 53.2% 47.9%	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss 49.3% 35.5% 36.2%	er Wt 308.4 377.0 410.9 275.9 365.2	Bio-Cap™ Bio-Cap™ Difference	40.5% 49.3% 53.2% 35.5% 47.9%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™ 40.5% 53.2%	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss 49.3% 35.5% 36.2% 40.4%	er Wt 308.4 377.0 410.9 275.9 365.2 279.4	Bio-Cap™ Bio-Cap™ Difference 6.9%	40.5% 49.3% 53.2% 35.5% 47.9%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™ 40.5% 53.2% 47.9% 47.2%	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss 49.3% 35.5% 36.2% 40.4% Average of	er Wt 308.4 377.0 410.9 275.9 365.2 279.4 Trials:	Bio-Cap™ Bio-Cap™ Difference 6.9% 8.5%	40.5% 49.3% 53.2% 35.5% 47.9% 36.2%
Summary Data:	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6 Average: Average G	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™ 40.5% 53.2% 47.9% 47.2% Grams per	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss 49.3% 35.5% 36.2% 40.4%	er Wt 308.4 377.0 410.9 275.9 365.2 279.4 Trials: cover:	Bio-Cap™ Bio-Cap™ Difference 6.9% 8.5% 2.06	40.5% 49.3% 53.2% 35.5% 47.9% 36.2%
	Pail #1 Pail #2 Pail #3 Pail #4 Pail #5 Pail #6 Average: Average G	Water Wt IN 761.6 764.3 771.7 777.1 762.0 771.0 Bio-Cap™ 40.5% 53.2% 47.9% 47.2% Grams per ns per min	OUT 453.2 387.3 360.8 501.2 396.8 491.6 Loss	Wat No Cover Loss 49.3% 35.5% 36.2% 40.4% Average of aporation with of ration without of	er Wt 308.4 377.0 410.9 275.9 365.2 279.4 Trials: cover:	Bio-Cap™ Bio-Cap™ Difference 6.9% 8.5% 2.06 1.83	40.5% 49.3% 53.2% 35.5% 47.9% 36.2%