

- Recycling Media With SE60107, SE0017, and SE00345

ACE Department

July 11<sup>th</sup>, 2011

# Recycling Media

## Objective

- To determine the best way to condition media returning to the pond after a harvest
- Returning media from the DAF system is typically bleached for one hour at 125ppm to neutralize any remaining polymer, and then the bleach is neutralized with 90ppm Sodium Thiosulfate for one hour before being returned to the pond

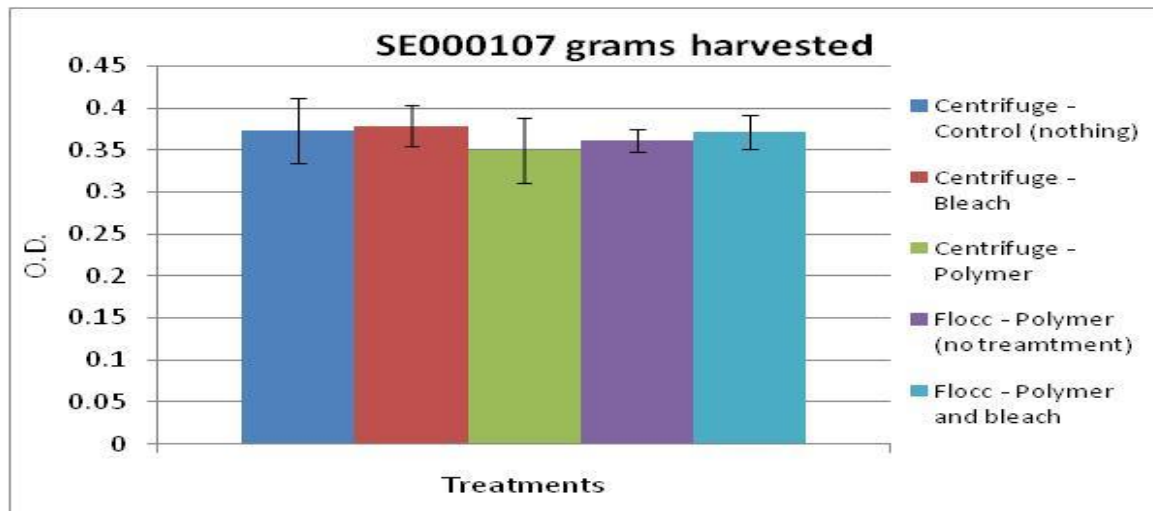
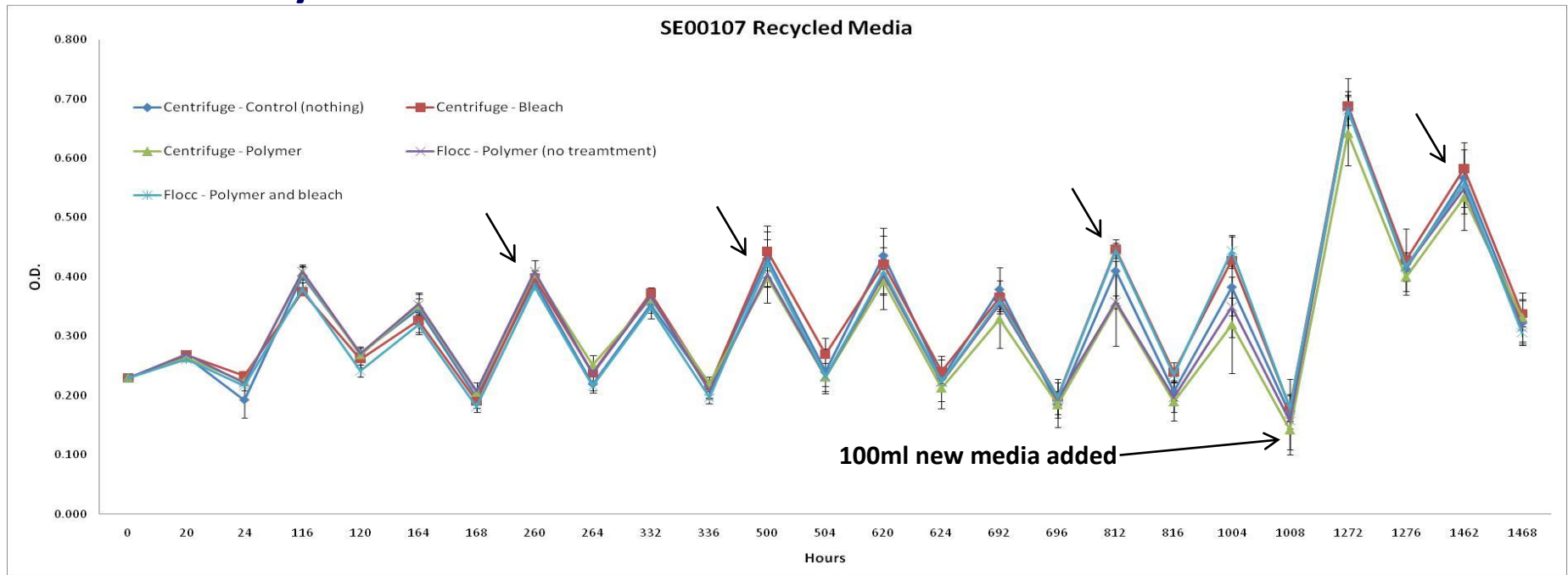
## Hypothesis

- Not bleaching and neutralizing media after the DAF. system will not negatively effect the growth of a culture when the media is returned to a pond.

## Design

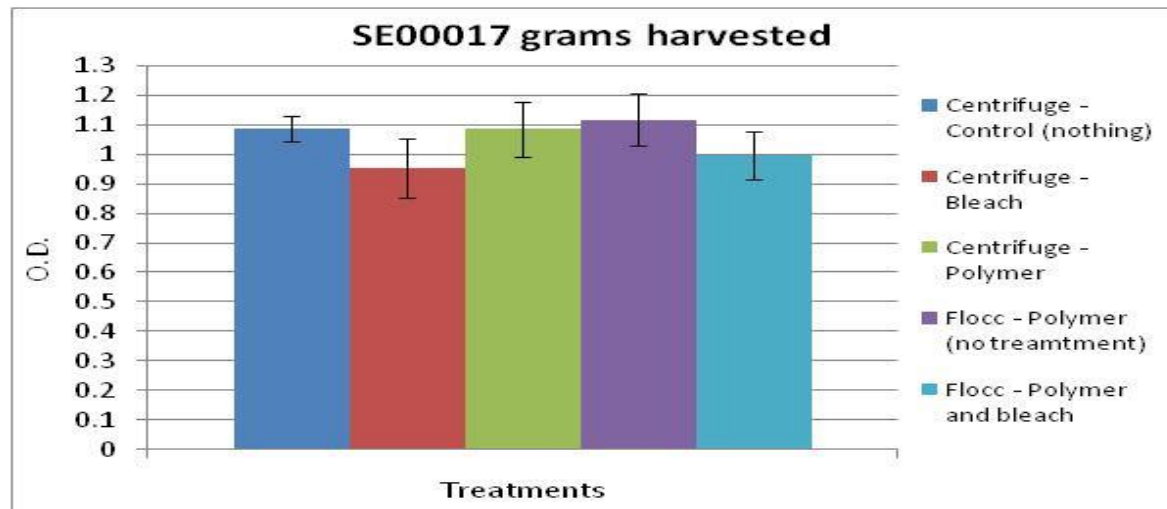
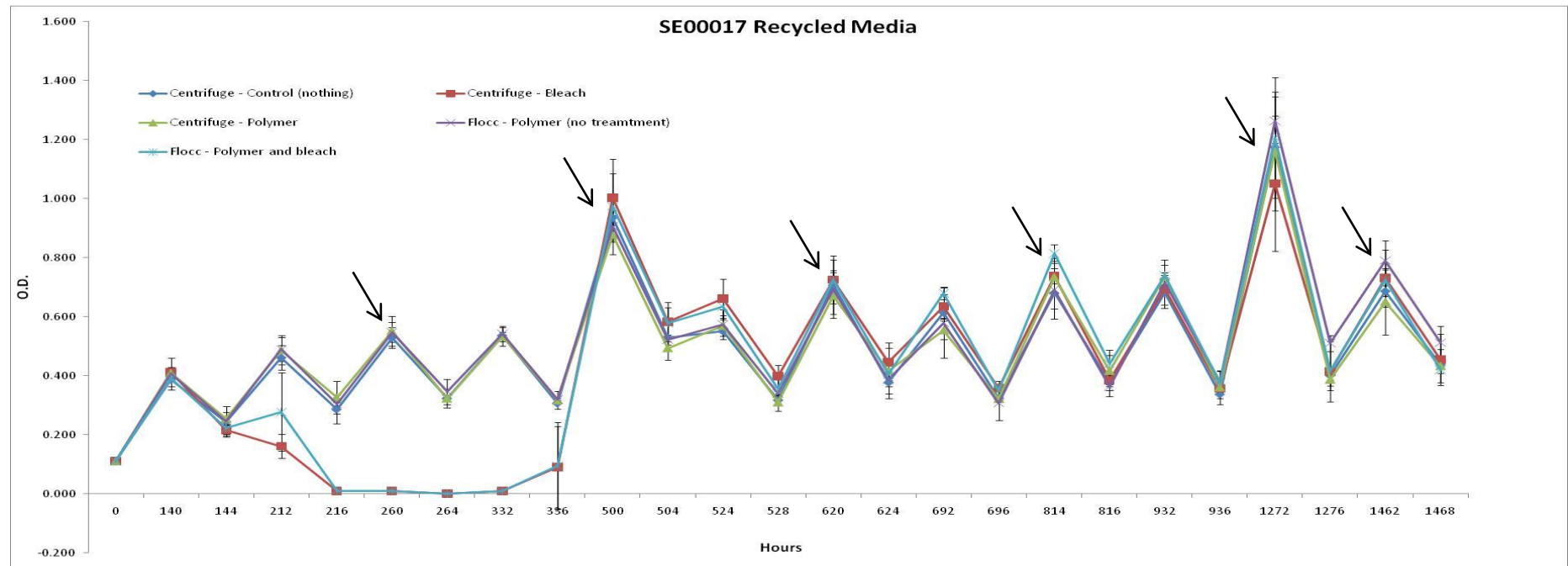
- Grow 3.75 liters of desired strain to an O.D. of 0.2~ and then split in 15 flasks, 250mls in each. Then as they reaches an O.D. of 0.5 (approximately every 3 to four days) and above harvest 50ml (1/5 volume) or 100ml (2/5 volume) from each culture depending on O.D.
- 5 different harvest conditions in triplicate: 1)Centrifuge – no treatment, 2)Centrifuge – bleach and neutralize, 3)Centrifuge – polymer added directly to flask, 4)90% Flocc (polymer) – no treatment, 5)90% Flocc (polymer) – bleach and neutralize
- Then return media to flask and make sure to record the O.D.s before and after each harvest
- Supplement nutrients as needed

## SE000107 Recycled Media



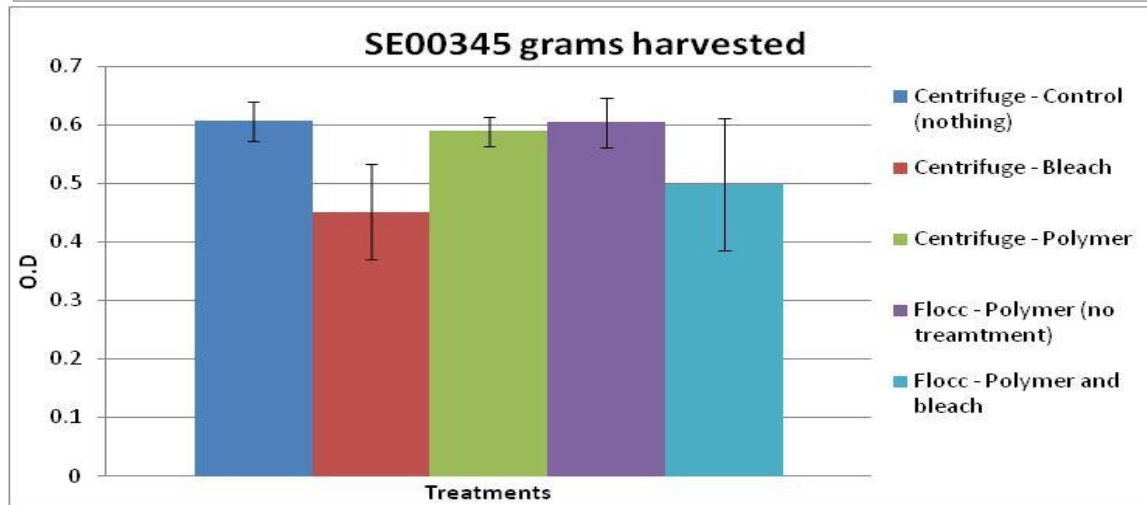
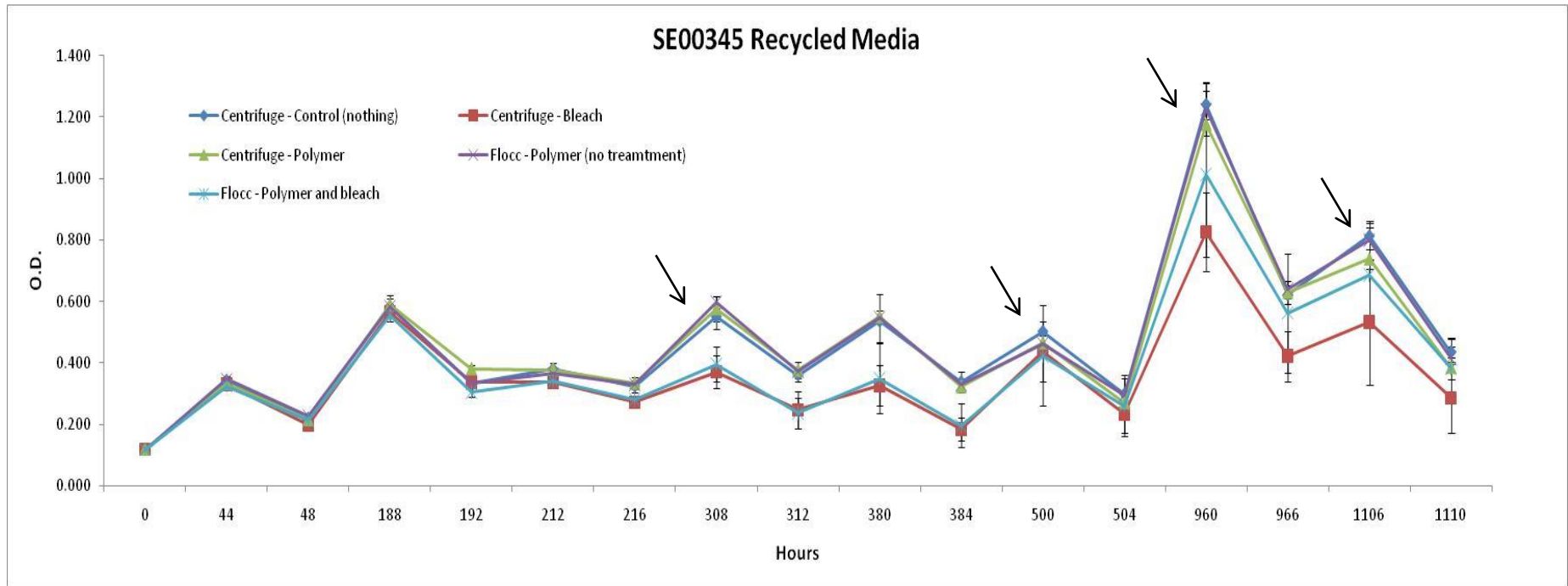
Both the similarity in the growth curve and the total grams per liter harvested shows that the conditioning of the recycled media after a harvest has little no observable effect on the productivity or harvest-ability of a culture of SE000107

## SE00017 Recycled Media



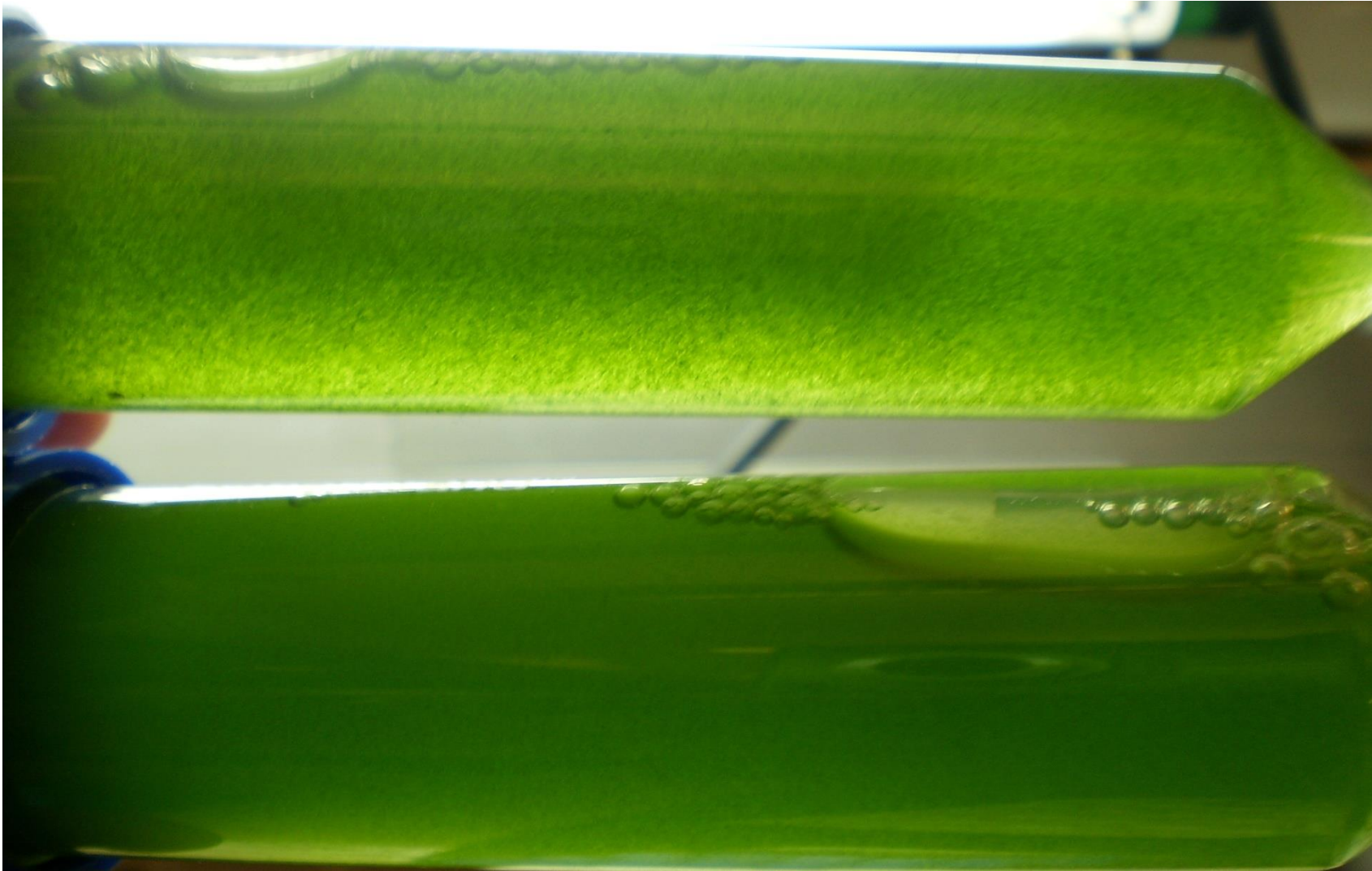
**Both the similarity in the growth curve and the total grams per liter harvested shows that the conditioning of the recycled media after a harvest has little no observable effect on the productivity or harvest-ability of a culture of SE00107**

## SE00345 Recycled Media



Both the similarity in the growth curve and the total grams per liter harvested shows that the conditioning of the recycled media after a harvest has little no observable effect on the productivity or harvest-ability of a culture of SE00107





**SE00107 polymerized at >90% efficiency, over non-polymerized**



←SE00017 polymerized  
at >90% efficiency, over  
non-polymerized

SE00345 polymerized at  
>90% efficiency, over  
non-polymerized →

