Kombucha Growth Experiments July – Aug, 2017

1. Effect of depth of growth medium (constant surface area)

Cultures grown in identically dimensioned containers, with water added to change depth. (Nutrient concentration varies, but total available nutrients constant, but exposure to oxygen constant).

Growing time: days

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test** | **Depth (mm)** | **Wet wt (g)** | **Dry wt (g)** | **Dry thickness (mm)** |
| 1 (deepest) |  |  | 3.6  3.4 | 0.12  0.04 |
| 2 |  |  | 2.4  2.8 | 0.04  unmeasurable |
| 3 |  |  | 2.7  2.8 | 0.025  0.025 |
| 4 (shallowest) |  |  | 4.2  4.5 | 0.12  0.075 |

Dry thickness measured by folding sheet over to 8 layers, measuring and calculating single layer thickness

1. Effect of depth of growth medium (variable surface area)

Cultures grown in different dimensioned containers, with a fixed volume of nutrients. (Nutrient concentration and total nutrients constant, but exposure to oxygen varies).

Growth time: days

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test** | **Depth**  **(mm)** | **Surface area (cm2)** | **Wet wt**  **(g)** | **Dry wt**  **(g)** | **Dry thickness**  **(mm)** |
| 1 (deepest) |  | 81 |  | 2.8 | 0.08 |
| 2 |  | 183.75 |  | 1.8 | 0.07 |
| 3 |  | 516.75 |  | 5.0  2.2 | 0.08  0.04 |
| 4 |  | 701.5 |  | 5.3  6.7 | 0.05  0.05 |

1. Effect of amylase treated starch nutrients

Starches incubated overnight at oC, with alpha amylase at recommended concentration.

Growing time: 14 July to 18 Aug (35 days)

|  |  |  |
| --- | --- | --- |
| **Test** | **Wet wt (g)** | **Dry wt (g)** |
| Control | 26  16 | 1.1  0.5 |
| 50% conc control | 21  16 | 0.5  0.5 |
| 25% conc control | 20  18 | 0.3  0.25 |
| Potato starch | 8  6 | 0.9  0.7 |
| Tapioca starch | 10  10 | 0.6  0.5 |
| Chick Pea starch | 10  6 | 0.6  0.3 |

Lentil flour was contaminated and so no result