|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Raw Data: Diameter of zone of inhibition (mm)**  Table 1: Trial 1     |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 16.0 | 13.0 | 14.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 0.0 | 0.0 | 0.0 | | Shallot | 0.0 | 0.0 | 0.0 |   Table 2: Trial 2     |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 22.0 | 17.0 | 17.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 0.0 | 0.0 | 0.0 | | Shallot | 9.0 | 7.0 | 0.0 |   Table 3: Trial 3     |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 0.0 | 0.0 | 0.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 0.0 | 0.0 | 0.0 | | Shallot | 0.0 | 0.0 | 0.0 |   Table 4: Trial 4     |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 11.8 | 9.4 | 7.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 0.0 | 0.0 | 0.0 | | Shallot | 0.0 | 0.0 | 0.0 |   Table 5: Trial 5   |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 11.0 | 7.0 | 8.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 0.0 | 0.0 | 0.0 | | Shallot | 7.0 | 0.0 | 0.0 |   Table 6: Trial 6   |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 9.5 | 7.1 | 7.1 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 0.0 | 0.0 | 0.0 | | Shallot | 0.0 | 0.0 | 0.0 |   Table 7: Trial 7   |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 30.0 | 27.0 | 28.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 8.0 | 0.0 | 8.0 | | Shallot | 14.0 | 10.0 | 10.0 |   Table 8: Trial 8   |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 24.0 | 22.0 | 22.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | (9.0 mm of cloudy white ring around disc) | (7.5 mm of cloudy white ring around disc) | (7.8 mm of cloudy white ring around disc) | | Shallot | 10.5 | 10.0 | 8.0 |   Table 9: Trial 9   |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | (9.0 mm of cloudy white ring around disc) | 0.0 | (10.2 mm of cloudy white ring around disc) | | Garlic | 33.5 | 23.5 | 23.0 | | Leek | (10.1 mm of cloudy white ring around disc) | (7.0 mm of cloudy white ring around disc) | (8.0 mm of cloudy white ring around disc) | | Onion | 8.1 | 8.0 | 6.9 | | Shallot | 9.5 | 9.8 | 8.0 |   Table 10: Trial 10   |  |  |  |  | | --- | --- | --- | --- | |  | 100% juice concentration | 75% juice concentration | 50% juice concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 24.0 | 22.0 | 21.0 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 0.0 | 0.0 | 0.0 | | Shallot | 14.3 | 8.0 | 9.0 |   Table 11: Average Data of 10 Trials\*  Diameter of zone of inhibition (mm)     |  |  |  |  | | --- | --- | --- | --- | |  | 100% Juice Concentration | 75% Juice Concentration | 50% Juice Concentration | | Chives | 0.0 | 0.0 | 0.0 | | Garlic | 20.2 | 16.4 | 16.4 | | Leek | 0.0 | 0.0 | 0.0 | | Onion | 1.8 | 0.9 | 1.7 | | Shallots | 7.1 | 5.0 | 3.9 |   \* Trial 3 is excluded from the average, since no zone of inhibition was established (even with the garlic concentration), showing that error was performed in that trial.  **Control:**  All of the control discs of each trial, including dry ones and those soaked in distilled water, created no zone of inhibition as expected.  Graph 1: Size of the Zones of Inhibition (cm)  Converting percent concentration to the unit of mg/mL :  1.) mass 100 mL of the substance in grams  **ex**: garlic 100 mL=.145g  2.) plug the mass into the following equation (w=weight in grams)  W (1,000 mg) = X mg/mL  100mL (1 g)  **ex**: garlic  .145 g (1,000 mg) = 1.45 mg/mL  100mL (1 g)  3.) To find the concentration for the 75% and 50%:  75%:  multiply X by .75  ex: (.75)(1.45)=1.0875  50%  multiply X by .5  ex: (.5)(1.45)=.725 |

*This Web Site is Best viewed with 256 or more colors.*

*For More Information about Creekwatch, please contact Eric Thiel at* [*ethiel@pleasanton.k12.ca.us*](mailto:ethiel@pleasanton.k12.ca.us)