

How we tested the growth of *Allium cepa* using tap water vs bokashi liquid

Before we started preaching about the benefits of bokashi liquid, we wanted to see its power first-hand and record our findings. Our goal was also to determine what is the optimal water to the bokashi liquid ratio for fertilizing plants.

As such, we took on a simple in-house experiment using *Allium cepa*, which are the best plants for testing cellular toxicity. This shows us how well the plant, in general, would grow under specific conditions. All you need to know is that the *Allium cepa*'s roots length is inversely proportional to the general toxicity. So, more toxicity means shorter roots.

Using a Bokashi Organko 2 composter, we created our own bokashi liquid from mixed food waste. We then took the liquid and diluted it in 1:10, 1:40, 1:50, and 1:100 ratios. Next, we took one of these four diluted solutions and distributed them in eight test tubes. Then, we placed an *Allium cepa* specimen on top of each test tube. In addition, we also added two sets of eight control testing tubes. One set served as a negative control, where instead of using a diluted bokashi liquid, we used tap water. The other set was our positive control group, where the liquid we used was a solution of dishwashing detergent in a 1:4 ratio with tap water. Our negative control group, test tubes with tap water, serves to show the level of toxicity with unexposed specimens. On the other hand, our positive control group, test tubes with detergent solution, shows that specimens react to toxicity.

Then, we left our specimens soaked in different solutions for seven days, and repeated the process for all four levels of diluted bokashi liquid. The results provided us with a clear insight into the importance of properly diluting the bokashi liquid before using it as a fertilizer substitute. As such, we were able to determine that the most optimal growth was ensured when the 1:100 ratio was used. Specimens soaked in the 1-to-100-ratio solution offered even better results than those in tap water. With that in mind, make sure to use your bokashi liquid to pamper your plants, but also ensure that you properly dilute it first.