

# The Effects of an Infusion of Pine Tree Needles (*Pinus pinaster*) Using It as Herbicide over Weeds in a Home Garden

Fuentes Rivera, Jeylimar (School: Estero High School)

Santiago Lozada, Katiria (School: Sequim High School)

The following research analyzes the effect of pine tree needle, *Pinus Pinasters*, infused as an herbicide in a home garden. The hypothesis postulates that if the pine tree needles contain allelochemicals, then, an infusion of these leaves would prevent the growth of the weed in a home garden. To develop this research, two home gardens with pepper plants are simulated. One will be labeled Group A Control, the other Group B Experimental. Each group will be under the same environmental conditions as sunlight, air, water, soil and nutrients. After the pepper plants grow, the soil is watered with alpiste, fast growing grass, to serve as weed among pepper plants. A 3: 1 infusion with pine tree needles and water is prepared at a ratio of three parts pine needles to one part water. This is sprayed on the seeds of the experimental Group B, not to spray directly the pepper plants. The control Group A is not treated with the infusion. The growth of pepper plants and weeds is observed daily to look for changes. The treatment in the experimental group is repeated on the leaves to look for any change. Once the facts were abridged, other studies related to the theme were analyzed to support the facts obtained. The data was recorded using charts and graphs to assist in the analysis. According to the results, the conclusion was that the pine tree needle infusion had an herbicidal effect on the weeds seeds and plants, it made them disappear.