

Development of a Seawater Desalination Device

Recently, shortage of water has become a problem in the world. There are many kinds of ways for desalinating water. However, these methods are too expensive. Thus, a cheaper, easier and more efficient seawater desalination device was the aim of this research. In our experimentation, 3.5 percent salt solution was put into plastic containers that varied in construction (black-painted parts, total surface area and sheeted with aluminum). These were then set in the sun for evaporation of the salt water. After one day, pure water was collected from the devices. We had hypothesized that if evaporation portions are black, aluminum sheets are attached to refrigeration parts or the evaporation portion's surface area is large, then the amount of fresh water gotten would increase. In experiment 1, black-painted devices were compared to the non-painted and aluminum-sheeted plastic devices. In experiment 2, different surface areas with and without black paint were compared. From experiment 1, average pure water percentage was 0.55%, 0.73% and 1.92% for the aluminum-sheeted, pure plastic and black-painted devices, respectively. From experiment 2, average pure water percentage was 0.00%, 0.09% and 0.25% for the large pure plastic, small black-painted plastic and large black-painted plastic devices, respectively. It was determined devices with black containers and large surface areas should be used for most efficient desalination. In future research, different funnel material should be used, as well as increased lengths for the evaporating and collecting parts.