

# Clemson Horticulture *Student Essay*

## Reflective Essay: The Path of a Raindrop

by Megan Betzel



Imagine following the path of a raindrop: it falls thousands of feet from the sky, passing through clouds, and onto the waiting Earth below. Before humans began building massive concrete structures, these drops of water all found solace in the warm, loamy soil. Now instead of earth, some raindrops land on asphalt or roof shingles and slide off, down cold and dirty drainpipes to join countless of their comrades as they swirl helplessly into the sewer. I knew that stormwater runoff was a major concern, but I did not know it was one of the biggest threats facing the world's lakes, rivers, and oceans (Clemson University, 2009).

Guest speaker Dr. Sarah White was kind enough to take time out of her schedule to speak to my Horticulture 101 class on the subject of stormwater runoff. She explained that stormwater runoff not only pollutes the Earth's surface waters, but can also be dangerous to the humans that cause it. Flooding damages people's homes and causes car accidents every year. Dr. White impressed upon my class the importance of taking action to control stormwater runoff by installing rain gardens, which are gardens designed to retain and clean excess surface water.

This was a concept not entirely new to me. During the summer of 2010, I took an architecture class during Clemson's Science and Engineering Summer Program. My classmates and I had the opportunity to travel to Atlanta, Georgia to visit a professional architecture firm. I remember walking through shiny glass doors tall enough

to accommodate two of the world's tallest men stacked on top of one another. The office smelled of paper and featured white models of buildings of every shape and size. All were devoid of color except for one, to which I was immediately drawn. This model sported the green hues of microscopic trees, shrubs, and bushes on its roof. At first I thought it was a garden someone had misplaced, but the architect in charge of the project explained that it was a "green roof," a rain garden located on a roof. He explained that the green roof absorbed rainwater that would otherwise runoff into the sewer and cleaned the water as it filtered down through the soil. Along with the environmental benefits green roofs provide, they also insulate the buildings beneath them, reducing electrical consumption, which has environmental benefits of its own.

This past knowledge of mine was mostly forgotten until Dr. White's presentation. After her speech, I began looking at the roofs of buildings in a different way, wondering how many plants could be planted there and pondering the benefits they would have for the environment. Even if I am not able to install a green roof on any future buildings, I will implement as many preventative measure as I can to I reduce stormwater runoff. One of the things I will install will be permeable pavement, which will allow water to soak through instead of running off. In addition, my parents are preparing to build a new home. I will share my knowledge with them and encourage them to include rain gardens, permeable pavement, and rain barrels in their plans.

Clemson University (2009, February). *Rain gardens: A rain garden manual for South Carolina* (Information Leaflet 87). Clemson, SC: Public Service Activities.

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