

Rain Gardens

By

By Scott Hininger
University of Wyoming
Cooperative Extension Service
Sheridan County
1/4/2011

Rain gardens or what I grew up with were called barrow ditches and settling ponds, these are increasingly popular with homeowners and municipalities and are mandatory for many communities nationally. They are manmade depressions that catch storm water runoff from sidewalks, parking lots, roads, and roofs and have some kind of vegetation planted in them. Not only do rain gardens slow water down to give it time to soak into the ground and be used by plants, but they also filter out sediment and chemical pollutants.

Communities are now being more aggressive in using these rain gardens to catch runoff water before it enters streams. This technique has been used in agriculture for many years to help reduce soil runoff, fertilizer runoff and chemical runoff from entering water systems. The main principle is to use vegetation to slow the water down so the sediment settles out and allowing the water to infiltrate into the soil. Once the water enters into the soil it can be used by plants or to help recharge aquifers which can eventually provide late summer stream flow in some cases, which benefits the whole riparian area plants and animals.

Some of the changes to look at is as simple as directing the water into these rain garden areas instead of down the rain gutters of the streets. Such as sloping the sidewalks towards grass areas. Parking lots can direct the water towards planting areas, which the water can then benefit the plants planted there and most of the excess water can be allowed to infiltrate into the ground.

Several things need to be taken into account when constructing such devices such as the soil type or areas of the soil need to be permeable, such as if there is a high percentage of clay, this needs to be amended or replaced to allow better permeability. There are also products that have been developed to help with allowing water to penetrate into the ground versus allowing it to run off a hard surface area. Such as permeable concrete sidewalks and permeable asphalt. These specialty products are quite interesting and sometimes need some additional engineering to stand up to heavy traffic. Pavers can be used for sidewalks or parking areas. Another product available is a plastic grate system which can be placed down and either filled with recycled glass, or gravel (the grate system keeps the material from moving around and offers some structural support) or it can be filled with sod. The sod areas offer better structural support for vehicles to drive over particularly when wet. These sod areas can be managed just like a lawn, but offer more uses.

The use of specific plant materials for these rain garden areas will depend on your location, climate and personal aesthetics. It does get a

little more complicated as far as plant selection and design concerns come in as to how much potential water will the area receive and how long will potential water stand in the area. These questions will determine the plant selections needed and the design of the rain garden area.

The other item that is being looked at from a research stand point is adding material to the soil which will absorb or hold chemicals, such as activated charcoal, and some new products such as biochar (which is a product developed from organic matter such as poultry waists, and it is better at absorbing chemicals than charcoal). Most of us that have had aquariums know that using activated charcoal takes out unwanted chemicals out of the water.

So if you are interested in cleaning up our surface waters and adding water back to our dry soils then think about installing rain gardens or directing rainwater to vegetative areas first before it enters the stream.

The University of Wyoming and the United States Department of Agriculture, Sheridan county Office cooperate. The University is an equal opportunity/affirmative action institution.