ask the landscape professional

SEND ME YOUR QUESTIONS ... I will do my best to address the ones of most general interest. **Email or mail your questions to: info@sprigsandtwigs.net or Linda Lillie, Sprigs & Twigs Inc, PO Box 245, Gales Ferry, CT 06335**

Linda's Question of this Week:

The other week when it was bitterly cold, my Rhododendrons looked terrible. The leaves were droopy and all curled up. I thought they were dead. Now that the weather is warmer, the leaves look normal. What's going on?

Linda's Answer:

You ask a fascinating question that has been asked for more than 150 years and to some extent is not fully answerable even today. Back in 1880, Charles Darwin wrote in his book "The Power of Movement in Plants" that plant leaves move in response to many things including temperature. Temperature movement is called "thermotropic". In Rhododendrons, the leaves respond to cold temperatures by drooping downward and curling.

There are many varieties of rhododendrons, some are cold hearty and some are not. Interestingly, the varieties that do the best in cold weather also are the ones where the leaves move the most. For years, it was widely believed that leaf curling and drooping were the Rhodis way of preventing water loss in the winter ("desiccation" that I wrote about last week), but that is probably not the case at all. Leaf curling and drooping are caused by different things. In the winter, when the leaves are off the deciduous trees that protect the Rhodis in the summer, Rhodi leaves are exposed to the highest radiation of the year in the coldest weather. Leaf drooping and curling is the plant's way of reducing the potential for radiation damage. Beyond that, leaf curling is the plant's response to the temperature of the leaf itself (not the air temperature). Leaves generally don't curl when there is a layer of insulating snow on them even with colder air temperatures. One of the current theories that some scientists believe is that curling helps protect the leaf from freezing damage. Commonly during the winter, Rhodis freeze at night and thaw during the day. The most cell damage occurs when the leaves freeze, form ice crystals that cut the cell walls and then thaw too rapidly. As it turns out, curled leaves thaw more slowly during the day because they have less surface area exposed to the light which protects the leaf from freezing damage. Thank you for a great question!