## THE THERMOMETER AND THE pH METER

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The inquisitive rosarian may ponder the title of this article and wonder just what these two instruments have to do with growing roses. The answer is obvious to the trained rose grower. Let's investigate the two.

There is not one rosarian among us whose bushes have not experienced the ravages of hot weather during summer. It has played havoc on our prize blooms and restricted their size and beauty. All of us know that without sunlight we could not enjoy this hobby that gives us much satisfaction. But what about too much direct sun? That's when our rose expertise is tested. There are some methods that can be employed to alter the damage wrought by excessive heat. Let's talk about them.

Knowing that roses are 90% water, it follows that high heat brings on rapid dehydration in the bushes and blooms. To cope with this stress, the wise rosarian will not only keep the rose bush's root system well watered and heavily mulched, but he or she will treat the foliage with a shower of cool water during the extremely hot periods. This showering operation is best used when sufficient time is left for complete evaporation of the water. Some may fear that the wetting of leaves will prompt the introduction of dreaded blackspot. Have no fear if the proper spray schedule is kept. Water does help to incubate blackspot spores on untreated bushes but of itself it does not cause blackspot provided the bushes have been timely sprayed with effectively proven spray formulas.

Another remedy for dealing with excessive heat involves the placement of the rose bed. Try to select a spot where the peak heat period is lessened by shade. In my own garden, the rose bed nearest trees that provide late afternoon shade perform the best. One may be quick to say that some C/R's preach that roses must be in the sunlight to perform best. There is a happy medium that is better than continuous sunlight. Providing at least six hours of morning sun is adequate and proves to be better, particularly in the stressful heat periods that many rosarians experience.

There is an alternate way of growing roses that will provide the rosarian an escape from the damage wrought by heat during high temperature days. The method calls for growing roses in pots. It is becoming popular with some rose growers and merits consideration. A 15-gallon size pot is recommended if hybrid teas or other large root-system roses are to be grown. Providing ample drainage holes is a must and more frequent watering usually is required. Being able to move the roses from place to place will permit the grower to place them temporarily in shaded areas when the thermometer registers high heat.

Having been involved in providing a "better mouse trap" in the fertilizing arena through Magic Rose Mix and EasyFeed, it is only natural that I concern myself with an innovative way to minimize the damage to roses caused by excessive heat. It would be well to develop some method to provide shade to roses during stressful heat periods. Surely there is a mechanical process, similar to a retractable awning that would automatically raise and lower shade cloth just as we provide water with an automatic system. It's now in the thinking stage but the idea just may reach fruition.

And now to the matter of the pH meter. Maintaining proper pH levels in soil is a continuous chore if the roses are expected to reach optimum growth and beauty. All of the fertilizer in the world will not improve the plant's performance if the pH factor is not right. The pH factor is a scale of 1 to 14 with 7 being the dividing line between acidity and alkalinity. The use of a pH meter will determine the makeup of the soil as to its acidity or alkalinity. Remember that roses perform best when the soil is slightly acid. The optimum reading is 6.5, however anytime the meter registers below 6, the rosarian must take remedial action. The decrease of one point on the scale means

that the soil is ten times out of kilter. If the soil is too acid the application of dolomitic lime is required. Since lime is slow acting, the best time to apply it is in the fall. However, if the pH meter registers excessive acidity, commence the lime treatment at once. Pulverized lime works faster than lime pellets and hydrated lime is even faster. Be sure to water well when hydrated lime is used to prevent burning of the tender root system. If alkalinity is the problem and the pH rises above 7, simply apply sulfur for corrective action.

The thermometer and the pH meter - both are handy tools that should be used by all rosarians. TV and newspapers will advise you of temperature swings but the procurement of a pH meter will require purchasing. There are expensive ones and modestly priced meters that will give fairly accurate readings. Of course the more expensive ones offer more dependable readings. These are recommended, for the matter of soil acidity or alkalinity is too important to leave to chance. Already this year, two gardens that I examined have suffered because of excessive soil acidity, even though regular fertilizing was done. The nutrients being applied were locked in place and could not be taken in by the root system because of this adverse condition.

Keep a vigilant eye on both the factors covered in this article. Your roses will reward you with added beauty.