

# Is the site right?

*The three most important considerations for planting success (like buying real estate) are: location, location, location.*

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**P**lanting, whether trees, shrubs, annuals, perennials or ornamental grasses, is not simply a matter of putting stock or seed where ever the whim strikes you, the customer wants you to, or the landscape designer indicates to you.

Much of the success or failure of landscape elements are due to three important factors: location, location, location.

Location affects virtually every aspect of planting success. When location is broken down into the various elements that affect plant establishment and growth, it may seem like there is a lot to consider. That is true, initially. The trick is to be aware of the characteristics of any potential planting site, and that's something that comes with a little practice.

Practically all of you reading this article can think of situations where what you saw in the landscape caused you to stop in your tracks and shake your head. This means that most of you already have some of the location factors already in-grained, so let's bring them to the surface and review them. This may refresh your memories and possibly remind you of some factors you may have been temporarily overlooking.

#### **Location factors**

**Temperature** - the hardiness zone (or the tolerance to climactic extremes) of a plant indicates its extent or range. It is possible to locate

stock outside the recommended range but you may find the stress conditions increase plant vulnerability to insects, disease, decline etc. When placing a plant at the edge of, or beyond, its hardiness range, try to locate where the extremes are moderated (a sheltered site in the north, for example, could provide a suitable microsite) and realize that any extreme weather or temperatures could kill the plant at some time.

**Light** - whether a plant prefers direct sun or shade, it may be possible to survive where the light is different from its typical requirements. However, this is another source of stress to a plant and may affect vitality as well as the leaves, flowers and/or fruit in size, color and amount. Increased or decreased moisture levels from the sun and heat (or lack of) can weaken plants and make them more prone to pest and disease problems.

**Moisture** - more or less moisture availability is not simply a function of irrigation (or the lack thereof). The drainage of the soil can be a factor, including changes to drainage due to construction (even when not directly beside a plant). In wet locations, a mounded or bermed planting site can help raise the plant to increase drainage. In drier sites, or where no irrigation is likely to occur, mounded plantings may dry out too quickly. The moisture needs of a plant and the moisture available should be in the same ballpark. This is a common stress factor for landscape plants.

**Soils** - a lot of factors come under the category of soil, such as texture and structure, drainage, pH, and the soil requirements for a particular plant. Knowing the characteristics of the soils, including the extent of compaction, before planting can help reduce problems, as well as the need for remediation later on.

**Other effects** - these cover a broad range, from pollution sensitivities of a



Different locations can mean different problems. This flowering dogwood grow best in partial shade; in this location with full sun and no mulch it may be prone to borers; in too much shade and/or mulch, dogwood anthracnose may be a problem.



plant, winter salt use, vandalism, mechanical damage, mature size and spacing, proximity to buildings, parking lots or other hardscapes, and local pest and disease problems. There is little point in planting a pollution sensitive plant on a median of a highly traveled road or in a parking lot, even in a "good" growing site, which is rare in itself.

Planting for the present visual effect without considering the mature size and potential for crowding is short-sighted and can lead to problems, in both above-ground and below-ground competition. On more than one occasion I have seen Colorado blue spruce planted practically in a doorway of a building and wondered if anyone had given any thought to that phenomenon known as growing. Or seen a line of young trees, which are spaced nicely for the present or if they were to remain small trees, but are much too close for the large, mature trees they will become.

#### **Stress and the single plant**

Interestingly enough, when you consider these factors, you're actually well on your way to a major preventive component of an Integrated Pest Management (IPM) or Plant Health Care (PHC) program. Trying to make the best decisions and choices by taking into account the limitations of your plants and the site factors before planting will minimize stress upon plants once installed in the landscape. We can't always predict how well a plant will do on a site, but we can try to stack the deck in its favor.

The issue of location, and the site factors which are a part of location, is important mainly due to the stresses that can result from poor plant placement. Basically, a stressed plant is one which is not growing under optimum conditions, so that the plant spends more energy reserves for survival and less energy is available to store carbohydrates, extend roots, and put on top growth. Stress can be short-term (acute), like a drought, or long-term (chronic), like lack of nutrients. Chronic stress can lead to plant decline which can result in an unattractive plant or death.

Stress can be compared to a person being run down from lack of sleep or poor eating habits. The body is less able to withstand and fight off germs, but likely to recover. In chronic situations with poor nutrition or lack of health care, there may be more problems and even something relatively minor can become a serious problem.

In a similar way, healthy, vigorous plants are better able to withstand temporary droughts, and disease and pest problems; while plants which are



**These trees have chronic stress from a number of factors: pollution, poor soil, soil compaction. The excess moisture may be a short-term or long-term stress depending on how long it sits on the site.**



**Repeated damage can be considered chronic stress. If mechanical damage, even mower damage which occurs a single time, is likely, take additional steps to protect the tree so that the location does not prove fatal.**

weakened are subject to attack by secondary agents. For example, a tree weakened by drought may be more susceptible to attack by borers. Indeed, some pests are attracted to weakened plants.

You can't control all the factors affecting plants in a landscape situation, but you can reduce some of the negative impacts by considering the plant requirements and the effects of location.