

# Color and Garden Design

by Jan Little

Color in a garden is an elusive quality. Our perception of color changes from year to year; from season to season; morning to evening. How we see color changes from sunlight to shade and between close and distant views. Each of us also sees color uniquely. All of those challenges make the use of color in landscape design both difficult and rewarding.

In designing the landscape, the gardener makes a series of thoughtful choices. How do areas relate? Which areas should connect functionally? Which materials will best meet your design goals? Each stage of the process refines the thoughts and solutions from the previous stage.

Within that design framework, color is used in two distinct ways. At a broad scale, color is one of the final screens used to sift through your possible material selections. Color is used to reinforce the thoughtful design choices made earlier. You may choose a punctuation of dark green to draw the eye, or install an even field of green to provide a backdrop. In this broad scale, the final plant choice is a combination of functional requirements for size, density, texture, the site's horticultural limitations, and finally, color choice.

In contrast, at a smaller scale in garden design, color takes a seat closer to the front of the decision bus. In the flower bed or garden border, color combinations become far more of the goal. Functional and horticultural requirements now act as the final sieve for color choices. So, for example, in

a lightly shaded garden you may be looking for a specimen perennial plant to anchor the bed. You will want to consider all bright value flowers that will prosper in shade. The selection might include creamy goatsbeard (*Aruncus dioscurus*), astilbe selections, white fairy wands (*Cimicifuga racemosa*), lavender meadowrue (*Thalictrum rochebrunianum*), lime hosta 'Sum & Substance' or yellow celadine poppy (*Stylophorum diphyllum*). In each case these plants have some extreme feature to consider: for most it is height, but for the hosta and the celadine poppy it is coarse texture. Which to choose? In winnowing your selection, the celadine poppy is tossed out of the running because it is so invasive, the fairy wands because they bloom later than you want, the astilbes because they will be relegated to a supporting role and the meadowrue because it is too fine in texture for this particular site. You settle on using both the goatsbeard and the hosta 'Sum & Substance' as anchor plants since they combine well, offer different seasons of interest and have different attributes that work well together. These two key choices are the springboard for choosing the rest of the garden's plants.

Both types of color choices, large and small scale, deserve your attention. But learning about the use of color in garden design can be frustrating. Most books and articles give you a good, basic vocabulary of color systems, color wheels and mixing paint to create colors, and that generally ends the discussion of color in favor of listing plants by color.

Color can be created by mixing light or by mixing pigments, as in paint. In both of those applications you work with the traditional primary colors, red, blue and yellow and their various combinations that create the secondary and tertiary colors. In the garden, plants are used for their color effects. We don't create their colors, we use them, place them and manipulate their environment. So, in the garden, it is more important to talk about how the human eye perceives color.

Humans perceive four colors as unique: red, green, blue and yellow. To our eye these colors do not appear to be mixtures of other colors, as orange, for example, appears to be a mixture of red and yellow. This is important news for the gardener because it adds the color green as a unique—human—primary color. The other important color vocabulary words include hue, contrast, value, saturation, warm, and cool. On pages 6-7 is a chart I have devised to define and understand these terms.

## Color as a Design Tool

Let us assume that the landscape's framework and form are in place, and that you have a full understanding of what each garden element is supposed to accomplish. It should then be a simple matter to make some broad decisions about color. To know what should be dark and what should be light, imagine the design as a black

and white photograph or as it will appear in winter. The painter Monet used color in his gardens first by creating black and white studies of the desired landscape. Studying darkness and light, shadow and sunlight, focusing on where the eye would go and where it would pause. Only when Monet understood those broad-scale issues, and how color would reinforce them, did he move on to his smaller-scale color choices.

Do you want certain areas or elements to be distinct? Do you want to frame an entryway, or draw attention to an object that accents a view? Is it a contrast in value you seek? Is it a change in hue? Or is it dependent on color saturation?

For example, if you want visitors to move through an area, emphasize a sense of “hallway” by limiting the amount of color contrast, such as when an allee is created with two long rows of a single plant. If you want your visitors to pause at a gateway or entry, make them do so by creating a sudden contrast in color or in value. The dark green of conifers placed on either side as you exit from a woodland garden will signal the visitor that this is a doorway to changing views.

You can ease transitions from sunlight to shade, for example, by using a color very high in value (light yellow flowers, chartreuse leaves, white or silver foliage or flowers) as the visitor crosses into shade. Your eyes take a bit of time to re-adjust to dim light. Using a high value color at that transition will make the adjustment easier. So that lime-green hosta ‘Sum and Substance’ will serve well as an entry plant in the shade garden.

Another issue that requires close attention in choosing colors for a landscape

is the site itself. Your perceptions of the site will change over the course of the day, from season to season, and over the course of years. Once again, the gardener will find that the use of color on a site has two scales: first, the overall site layout in which color is an underpinning tool and second, the flower border in which color is the primary concern.

Your analysis of the site will change the manner in which you combine design goals with site conditions. For example, from which direction does the light come from at various times of the day? At what time of day or season do you want the garden to look its best? Is there a single point of view or entry that is more important than others? Will people simply view the garden or will they move through it as well? How close a view will they have of the individual plants? Do you want the user to feel entertained, intrigued, or calmed?

The direction of light will affect your perceptions of a landscape. If the light is coming from behind the garden the shadows will cast forward, creating an increasingly dim light towards the front of the bed. Don't lose the front portion of your bed with cool, receding colors, a low level of contrast, or dark values. Build contrast and visual depth by using fully saturated colors in the foreground with a high value. Imagine, if you will, a backlit flower bed with shrub roses, ornamental grasses, Russian sage and peachleaf bellflower forming the back and middle range of the bed. At the front of the border is an edging of annual deep blue lobelia. Unfortunately, the lobelia will disappear as soon as you are ten feet away from the bed. Instead, substitute *Coreopsis verticillata* ‘Zagreb’ (it is a warmer color) for the lobelia, and suddenly you have re-claimed the front of the bed by using a flower that is warm, high in value and high in hue

(color) contrast to the blue and red of the other flowers.

On the other hand, light coming from the side will emphasize the shapes of plants, since your eye picks up the light's shadow effect. Some plants act as light “sifters”: the seedheads of ornamental grasses practically glow when low morning or warm evening light sifts through them. Remember also that low value and cool colors will disappear in the shadows. Front lighting can foreshorten a plant bed, because as the shadows cast backward the plants become invisible to the viewer.

Morning light, particularly in the summer, looks the clearest because it is moving through less particulate matter in the atmosphere. Summer light is also the highest overhead, creating crisp shadows and a clarity that allows us to enjoy all colors, although it can be bright enough at midday to dull even saturated colors. What was described to you as a clear pink rose will often look washed out in the midday summer sun: plan for that by picking a rose of a more saturated hue.

In contrast, evening light assumes a warmer glow because it is moving through a more “dusty” atmosphere, which adds a rich glow to the light and everything it touches.

Light not only changes in quality over the course of the day but also changes effect from season to season, in direction and clarity. In autumn the light is lower in the sky and it also passes through more atmospheric particles, creating a warmer light. Because it is lower it appears to skim through plants, which is why ornamental grasses look superb in the fall. Because the colors in nature at that time pick up a warm cast, cool shades such as the greenish-yellow of *Coreopsis verticillata*

'Moonbeam' would look out of place. They are replaced by the warmer shades of golden yellow leaves, rich golden mums, and warm red-purple asters.

The sun in winter is at its lowest and is muted by the atmosphere it passes through; hence, value contrasts, as seen in a black and white photograph, are key in this season. Silhouette becomes important in the winter—a winged burning bush [*Euonymus alata*] loaded with snow along its branches creates a striking image. Don't diminish that contrast in value by backing it with something low in value and dark, such as a yew grouping. Emphasize the value contrast between dark branches and bright snow by backing it with a middle range value, such as that created by the mid-range green of 'Wintergreen' boxwood.

Finally in spring, the sun is following the path of returning to its high summertime zenith. The light is transitioning: moving from a "thin" winter light and gaining clarity as it becomes intense summer light. The colors in nature intensify over the course of the season as well, the saturated colors of summer would look strange to us in early spring, particularly here in the midwest. The shocking lavender-magenta of the 'PJM' rhododendron is disliked by many midwesterners because they identify it as being out of place in our low-contrast springs. On the other hand, the white snowdrop and the pale vernal witchazel fit our spring-time season very well.

To write about the use of color in the landscape is almost to make it seem more complicated than it really should be. In the

end, the choice of colors is no more complicated than completing a landscape design; in each case the gardener is working from a general set of goals through a prioritized series of steps leading to specific solutions for even the tiniest of areas. And, as in life, you can't control everything. Once in a while, you'll see a color combination that you dislike. Other times, as the light moves through the tree limbs and falls on a bit of your garden, the colors will gleam, and, for the moment, take your breath away.



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[compiled by Jan Little and Rommy Lopat]

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<b>COLOR VOCABULARY</b>	<b>DEFINITION</b>	<b>PERCEPTION</b>	<b>PLACEMENT</b>	<b>EXAMPLE</b>
<b>Primary Color</b>	Perceived by human eye as being unique – not a mixture of two or more colors. Traditionally Red, Yellow and Blue – in garden setting include Green as primary.	These colors have the strongest impact on people.	Use for simple, bold, color statements.	A single color garden Depends on contrast in texture to be effective. All Red - All Blue - All Yellow
<b>Secondary Color</b>	Colors created by mixing two primaries; Red & Yellow = Orange Red & Blue = Purple Yellow & Blue = Green	Create a link between colors for our eyes, so that we see a smooth gradation from one color to another. Secondaries can add richness, like a tapestry.	Use that linking quality to bridge between colors or play up the richness by using closely related colors.	Any combination that is too intense can be toned down by adding a 'bridge' color, a secondary shade that is related to the initial colors. Blue campanula with Yellow coreopsis can be softened with the addition of Orange butterfly weed and Blue-leaved grass.
<b>Warm Colors</b>	Are visually and psychologically stimulating.	Appear to advance towards the viewer.	Warm colors will look darker in low light.	Red, Yellow and Yellow-Orange, Orange and Red-Purple, in any of their value levels are warm. Salmon-Pink is a high value shade of Orange.
<b>Cool Colors</b>	Are visually and psychologically calming.	Appear to recede from the viewer.	Cool colors appear brighter in low light.	Blue and Blue-Green, Green and Blue-Purple, again at any level of value. A Bluish-Pink is simply a high value of Blue-Purple.
<b>Hue</b>	Identifies the color – when we say something is blue, we are identifying its hue.	How we perceive a hue is influenced by surface, size, texture, shape and mass, as well as the surrounding colors, light, atmospheric conditions and distance.		
<b>Complementary Colors</b>	Colors with greatest amount of contrast in hue. On the color wheel these are across from each other.	The hue will appear bold when paired with its complement.	At a distance complementary colors blend to Gray, use larger masses as view gets further away.	An Orange lily will appear its brightest when paired with the Purple-Blue of salvia 'May Night'.
<b>Value</b>	The level of brightness of lightness. Value describes the quality of Gray in a color. Judge the relative value of a color by comparing it to a scale that ranges from White through increasingly darker shades of Gray to Black.	<ul style="list-style-type: none"> <li>- Contrast in value allow us to define the shape of an object.</li> <li>- A small value difference is easier to perceive in dark colors.</li> <li>- Hues are not equal in value.</li> </ul>	<ul style="list-style-type: none"> <li>- High value (light) colors will appear closer to viewer if background is darker.</li> <li>- High value colors will wash out in strong light.</li> <li>- High values bring a sense of openness in dim light.</li> <li>- Intricate combinations of low value colors will appear rich; the same in high value colors can appear too intricate to be pleasant.</li> </ul>	<p>Contrasts can be studied using Black and White photographs.</p> <p>Yellow is highest in value of the hues and Purple is the lowest in value.</p> <p>Intricacy vs. "busy" – think of a tapestry or oriental rug. Colors are combined in very intricate contrasts, but generally they are shades that are low in value. Imagine the same in bright, high value colors!.</p>

<p><b>Saturation</b></p>	<p>Describes the intensity or brilliance of a color. Our view of what is a saturated color is (I think) impacted by print and paint colors. No one can imagine saturated “road sign” Orange in the landscape!</p>	<p>Saturated colors create a visible edge to an object – the color is so intense it appears closer to you than its surroundings appear.</p> <p>A low saturation color will be perceived as a more “natural” color.</p>	<p>A highly saturated color will catch your eye first.</p> <p>Light that is either very dim or very bright will diminish the impact of saturation.</p> <p>Highly saturated colors placed close to the viewer will cause the space to feel deeper – emphasize by using Gray tones as backdrop.</p>	<p>Deep Blue delphinium is both deep in value and a very saturated color. Emphasize the value by backing it with something light in value – artemesia or a White flowering rose with pale Yellow Green leaves.</p> <p>Emphasize the saturation by favoring the Grayed tones of the artemesia.</p>
<p><b>Contrast in Hue</b></p>	<p>As in complementary colors.</p>	<p>High impact from complements. Subtle impacts can be created using analogous colors (those that share a common parent color).</p>	<p>Analogous colors will appear as one single color from a distance, only separating into their closely related shades as the viewer gets close.</p> <p>The smaller the quantity of any one color the more it will change in combination with a much larger quantity of a different shade.</p>	<p>From a distance, poppies in shades of Orange and Yellow appear a Golden-Yellow. Close view reveals a rich combination.</p>
<p><b>Contrast in Value</b></p>	<p>Contrasts between light and dark.</p>	<p>Low contrast in value can create a serene atmosphere, slipping towards dull. Think of a room in all one color, one value (a science lab).</p> <p>High contrasts in value can be exciting, bold, edging into too intricate. Think of a Hawaiian shirt.</p>	<p>Use contrast intentionally to highlight or diminish differences. If you want a garden path to “disappear” into the garden, use plants along its edges that are close in value to the paving material. As an example, a mulched path is a mid-range value, very high or very low value plants along its edge will make it more visible. Mid-range value plants, such as perennial geraniums or some of the coralbell family, will create a less than distinct edge between path and bed.</p>	<p>A pale Pink rose will be much more vibrant with a dark Green background.</p> <p>The poppy example above combines a low contrast in hue and a low level of contrast in value. If you introduce a hedgerow of yew dividing the two shades you would increase the contrast in value between the poppies and the yew.</p>
<p><b>Contrast in Saturation</b></p>	<p>Contrasts between various intensities.</p>	<p>A saturated color will appear more intense if backed by its complement.</p> <p>Highly saturated colors will appear less intense when paired with other saturated colors.</p>	<p>Saturated colors when paired create a vibrant scene, a full blown effect.</p>	<p>Purple muscari with Yellow tulips, you cannot overlook that plant bed! Small scale, contrast deep Pink rose backed with medium to pale Green foliage and Blue salvia. Rose and salvia are very saturated, pairing them creates a full, rich, vibrant scene.</p>