



TRUE COLORS

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**Autumn
lore has it**
that Jack Frost
decorates trees
in red, yellow
and purple hues.
But science tells
another story.

ELK RIVER CC, NORTH CAROLINA/MIKE KLEMM, GOLFOTO



OLD STONEWALL GC, PENNSYLVANIA/JOHN HENEERY



THE CLASSIC AT MADDENS RESORT, MINNESOTA/KEN MAY, ROLLING GREENS PHOTOGRAPHY

Autumn leaf colors seem divinely inspired. In truth, the geographic distribution, the physics of light and color, the plant pigments, the internal structure of leaves and the weather conditions create the palette.

Few locales in the world combine the tree species and climactic conditions necessary for vivid fall foliage. Fortunately, the United States and Canada teem with many such places, including some urban landscapes where exotic species and the development of cultivars expand fall foliage's reach.

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Sunlight, mixing with leaves' natural pigments, explains the assortment of colors. During spring and summer, leaves serve as the main area for photosynthesis, which provides the trees food and gives leaves their green color. As autumn days shorten and temperatures cool, however, photosynthesis declines. As a result, the green disappears to unveil enchanting colors.

In addition to chlorophyll, leaves also contain yellow or orange carotenoid pigments. For most of the year, chlorophyll masks them. When stripped of the chlorophyll in the fall, the yellows and golds of sycamore, birch and other tree species burst on to the scene.



New England states are known for their spectacular fall colors. The maritime climate in the Northeast moderates the temperature, reducing the severe frost that could kill or injure leaves before pigments reach their apex.

Warm sunny days, followed by cool nights with temperatures below 45 F – but above freezing – often lead to a bright, red autumn.



THE FARM IN ROCKY FAVE, GEORGIA/RANDY PARKER, GOLFLIST PHOTOGRAPHY



GLEN ELLEN CC, MASSACHUSETTS/MIKE KLEMM, GOLFOTO



A complex chemical reaction, involving sugars and compounds called anthocyanidins, produces the anthocyanin pigments responsible for the pink, red and purple leaves of some trees.

But enough about science. Sometimes you just have to sit back and enjoy the view.

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