



Briefing Note

Why Do Leaves Change Colour In The Autumn?

Autumn is a time for leaves to turn dramatic bright colours. Most of those spectacular colours of autumn have actually been in the leaves all summer, however they were “covered up” by the dominant green of the chlorophyll. As weather cools, and shorter days settle in, the leaves are no longer able to produce food for the tree. The chlorophyll begins to break down, revealing new and varied colour pigments. The brightest colours are seen when late summer is dry, and autumn has bright sunny days and cool nights.

Graphics: The following graphical charts provides (1) the science behind the leaf colour change and (2) the timeline of leaf colour change in Algonquin Park (also a guide for upper Madawaska Basin).

- 1) [Why do leaves change colour in the Autumn?](#)
- 2) [Leaf Colour Change in Algonquin Park](#)

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White Birch



GREEN - Chlorophyll

Chlorophyll is responsible for helping trees and plants turn sunlight into food. For most months, it is the dominant colour seen in most leaves until it fades away. As many trees shut down their food production, they turn to stored sugars to survive the winter.



Swamp Chestnut Oak



RED - Anthocyanin

Unlike other leaf colours that always exist in the leaf, anthocyanins are produced as the chlorophyll is broken down. The anthocyanins are often seen in leaves named for their autumn splash of red including Red Maples, Scarlet Oaks, and Red Sumacs.



Sugar Maple



ORANGE - Carotene

Sugar Maples may be one of the best examples of carotene in action. Their bright signature orange fills many hills and country roads throughout eastern Canada. Sassafras leaves also turn a slightly more muted orange. As its name implies, carotenes are also the chemical responsible for giving carrots their unique colouring.



Aspen



YELLOW - Xanthophyll

Xanthophyll can be seen throughout the fall in trees including beeches, ashes, birches, aspens, and some oaks. It also contributes its bright yellow colour to autumn squash and corn.

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