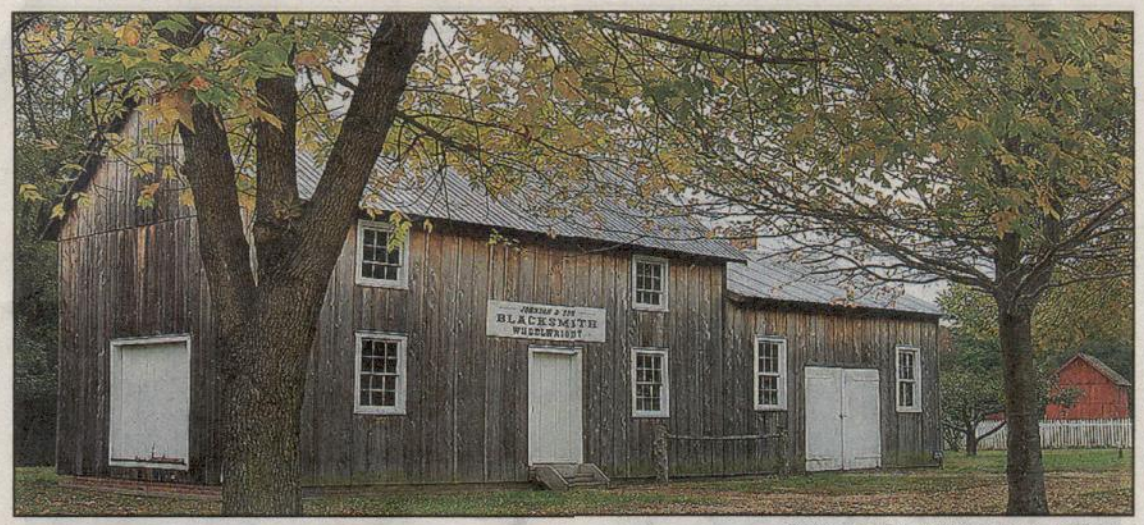

Delaware State News/**Daniel Korup**

The leaves are in full fall bloom around the Johnson & Son blacksmith building behind the Delaware Agricultural Museum on U.S. 13 in Dover.

Watch leaves turn and know why

By Maggie L. Moor-Orth
Delaware Cooperative Extension

You may have noticed on a recent walk in your yard or neighborhood that the tree leaves have begun changing their color from summer green to autumn yellows, oranges, burgundies and reds.

The main function of the leaves on trees and shrubs is to produce food for the plants. Photosynthesis is the process through which green plants make carbohydrates by combining energy from the sun, carbon dioxide and water. This photosynthetic process is also responsible for the oxygen in the earth's atmosphere.

In late summer, the veins that are responsible for carrying water and food in and out of the leaf are slowly closed and a layer of special corky-like cells form at the leaf base resulting in a decrease of chlorophyll production; the leaves eventually stop making new chlorophyll.

What remains in the leaves begins to break down slowly. As this process occurs, the leaves lose their green color and other color pigments become visible.

The two general groups of colored pigments in leaves are anthocyanins and carotenoids. Anthocyanins are the blue, red and purple pigments formed in the cell sap.

In the fall, when days are sunny and bright and nights are cool, anthocyanin production is higher, as a result the leaf color is more radiant.

Carotenoids give the orange, yellow, and brown pigments. Some plants also contain tannin which gives a russet and brown color. Sometimes more than one color may be apparent on one leaf and/or one branch at the same time.

The development of fall colors in leaves is a slow process that is destroyed by early and hard frosts.

Red maple, sugar maple, sweet gum, persimmon, dogwood, and pin oak are deciduous trees that turn beautiful reds, vivid oranges and bronze colors in the fall.

Deciduous trees that display the brilliant yellow and orange colors are hickories, Norway maple, poplar, black cherry, sycamore, birch, beech, green ash, willow oak, sassafras and redbud.

The next time you are walking outdoors or driving, take a few minutes and stop to notice how beautiful the trees are in their brilliant fall colors.

On the campus of Delaware State University, the Claude E. Phillips Herbarium is Delaware's center for research, education, and outreach about plant identifications, locations, and uses. Call 857-6452 (Dr. Susan Yost) to arrange a tour of the herbarium, or for more information about this article.