



# OPINION

## Look At The Trees

Days that are clear and sunny and the nights that are cool and crisp — provide a spectacular show of autumn colors, making this season of the year delightful.

Scientists do not yet fully understand all of the complicated actions — and even more complicated interactions — involving pigments, sunlight, moisture, chemicals, hormones, temperature, length of daylight, and so on that make for a perfect autumn display. As research probes deeper and deeper into the basics of life, more and more answers will be forthcoming.

According to Robert Leiby and David Sunbar in the Lehigh Co. agents office, the leaves of summer are characteristically green because of the presence of a group of pigments known as chlorophylls. When the chlorophylls are abundant in the leaf's cells, as they are during the growing season, their green color dominates and masks the colors of any other pigment that may be present in the leaf.

As autumn approaches, certain influences both inside and outside the plant cause the chlorophylls to be replaced at a slower rate than they are being broken down. During this period, with the total supply of chlorophylls gradually dwindling, the "masking effect" slowly fades away. Then the other pigments that have been present (along with the chlorophylls) in the cells during the growing season begin to show through. These are the carotenoids; they give leaves the colorations of yellow, brown, orange, and the many hues in between.

The carotenoids occur, along with the chlorophyll pigments, in tiny structures within the cells of leaves. Sometimes they are in such abundance in the leaf that they give a plant a yellow-green color, even during the summer. But usually we become aware of their presence for the first time in autumn, when the leaves begin to lose their chlorophyll. Carotenoids are common in many living things, giving characteristic color to carrots, corn, canaries and daffodils, as well as egg yolks, rutabagas, buttercups and bananas.

Carotenoids' brilliant yellow and orange tint the leaves of hardwood species such as hickories, ash, maple, yellow-poplar, aspen, birch, black cherry, sycamore, cottonwood, sassafras, and alder.

The reds, the purples, and their blended combinations that decorate autumn foliage come from another group of cell pigments called anthocyanins. These pigments are not present in the leaf throughout the growing season as are the carotenoids. The anthocyanins develop in late summer within the cells of the leaf, and this development is the result of complex interactions of many influences both inside and outside the plant. Their formation depends on the breakdown of sugars in the presence of bright light as the level of phosphate in the leaf is reduced.

During the summer growing season, phosphate is at a high level. It has a vital role in the breakdown of the sugars manufactured by chlorophyll.

But in the fall, phosphate, along with the other chemicals and nutrients, moves out of the leaf into the stem of the plant. When this happens, the sugar-breakdown process changes, leading to the production of anthocyanin pigments. The brighter the light during this period, the greater the production of anthocyanins and the more brilliant the resulting color display that we see. When the days of autumn are bright and cool, and the nights are chilly but not freezing, the brightest colors usually develop.

In our autumn forests, anthocyanins show up vividly in the maples, oaks, sourwood, sweetgum, dogwood, tupelo, blackgum and persimmon. These same pigments often combine with the carotenoids' colors to give us the deeper orange, fiery reds, and bronzes typical of many hardwood species. So take a little time in the next few weeks to look at the trees. The beauty of nature is an ever present sedative for the soul in those who are sensitive to the environment around them.



### NOW IS THE TIME

By Jay Irwin  
Lancaster County  
Agricultural Agent

#### To Be Careful Around Manure Pits

This is the time of year that many liquid manure pits will be cleaned out and spread on the land; the crops have been harvested and the ground is open enough to absorb much of the liquid; this is necessary rather than to apply it on frozen ground. After application, a pass over the field with a disc will reduce the possibility of odors a great deal.

When these pits are emptied there is a danger of poisonous gases being present. If the mixture is agitated before being moved

then good ventilation must be provided above the pit. Also, never go into a pit without a gas mask or some type of respirator. Keep in mind that these gases can be explosive as well as poisonous to man and animals. Special care is needed in and around manure pits.

#### To Salute 4-H

National 4-H Week runs from October 7 through October 13. I wish to congratulate the over 4,000 members and nearly 600 volunteer adult leaders, and the professional youth workers for their accomplishments and service to Lancaster County.

Through 4-H projects and activities, youth from all social and economic backgrounds, both rural and urban, demonstrate that they can make a difference in food production, conservation of our natural resources, improve economic understanding, and in the formulation of future career decisions.

As a result of the fine exchange programs, 4-H also contributes to international understanding and increased world food production. Four-H provides an important pathway to the future for many youth through their motto "To Make The Best Better."

#### To Beware Of Grazing Hazards

Dairy farmers who are grazing their milking herds in woodlots, or

in pastures with oak trees, should be on the alert for fallen acorns. Our Veterinary Science people tell us that acorns are somewhat toxic to cattle and will dry up most cows for the rest of their lactation. We are aware of many oak trees in pastures, and in most years there will be a pretty good acorn crop.

If the cows start eating these acorns, then the milk flow will be reduced drastically. Either cows should be removed from the area, or someone should pick up the acorns before the cows are turned each day.

#### To Apply Lime

First, soil test, then apply the needed lime before the soil freezes. That 1-2 order of events should have a high priority now as we finish one growing season and plan ahead for the next.

In order to do its job of correcting soil acidity, lime must come in contact with the soil particles, not just those on the soil surface. Weather changes during the next 6 months will provide just the right conditions to do lots of mixing of lime and soil within the topsoil layer. Freezing and thawing, rain, snow and ice, help to move the lime downward.

During the fall season fields are firm and usually dry enough to allow lime spreading trucks to move about more easily.

#### Monday, October 8

Poultry Management and Health Seminar, Kreider Dairy Farms, Manheim, noon.

KILE, Farm Show Building, Harrisburg.

National 4-H Week, Oct. 7-13. Manheim Community Farm Show, thru Oct. 12.

Penn State Income Tax Preparation Workshop, Farm and Home Center, Lancaster, thru Oct. 9.

43rd annual conference of the Pa. Association of Conservation Districts and SCC, Embers Convention Center, Carlisle, thru Oct. 10.

#### Tuesday, October 9

Delmarva Poultry Industry annual meeting, Delmar, Md.

National 4-H Week, Oct. 7-13. Manheim Community Farm Show, thru Oct. 12.

Penn State Income Tax Preparation Workshop, Farm and Home Center, Lancaster.

43rd annual Conference of the Pa. Association of Conservation Districts and SCC, Embers Convention Center, Carlisle, thru Oct. 10.

Dairylea Cooperative Inc. annual meeting, Sheraton Inn, Electronics Parkway, Liverpool, N.Y., 1:15 p.m.

#### Wednesday, October 10

National 4-H Week, Oct. 7-13. Manheim Community Farm Show, thru Oct. 12.

43rd annual Conference of the Pa. Association of Conservation

(Turn to Page A36)

**GOD CALLING!**  
October 7, 1990

#### Background Scripture:

2 Kings 9: 1-13.

#### Devotional Reading:

Psalms 20.

This story is more than it seems. It appears to be the story of God calling Jehu. But it is really much more than that. It is also about God's call to everyone — and particularly to you.

The first person we encounter is Elisha the prophet. He had been called by God to become the successor to the prophet Elijah, who symbolically had passed on his mantle to him. The message from God came first of all through Elisha. He was called to transmit that message and he did.

The next person in the story is listed simply as "one of the sons of the prophets" and identified only as "a young man." He is given a vitally important and perhaps even dangerous mission. (We're not sure why Elisha warned him to deliver his message and "then open the door and flee," but he was probably fearful that either some would reject this command from God.) Although he fulfills his mission and is successful, still, his name is not recorded for us. And that's the way it is very often:

it is the mission God gives us, not personal recognition, that is truly important. How many missions for God have been performed in this world by people whose names have been lost to posterity!

#### RELUCTANT JEHU

The third person in this story is Jehu, the army commander. The writer is careful to indicate that Jehu was a hesitant or even reluctant candidate. When, at first, the young prophet arrives in Ramoth-gilead and approaches the army commanders, Jehu asks him: "Which of us all? (9:5). And later, when the prophet has anointed him king and left, when the others ask him what the prophet wanted, Jehu stalls a bit: "You know the fellow and his talk" (9:11). It is only when they insist that he reveals to them that the prophet has anointed him King of Israel. Jehu was satisfied to be an army commander; he wasn't looking for a bigger job, as often neither are we.

That is not the end of God's calling in this story; "Then in haste every man of them took his garment, and put it under him on the bare steps, and they blew his trumpet and proclaimed, 'Jehu is king.'" If Elisha, the anonymous prophet and Jehu had all answered God's call and the people had not accepted their new king, God's plan would have been dealt a setback. Sometimes his call to us is to follow the leadership he sends us.

So each of us must stay alert so that we too can know when it is God calling us!

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## Farm Calendar

#### Saturday, October 6

World Dairy Expo, Sheraton Inn, Madison, Wis., thru Oct. 7.  
New Holland Farmers Fair.  
KILE, Farm Show Building, Harrisburg, thru Oct. 8.  
Feeders and Breeders Field Day,

Chapel Ridge Farms, Gettysburg, 9:00 a.m.

#### Sunday, October 7

World Dairy Expo, Sheraton Inn, Madison, Wis.  
KILE, Farm Show Building, Harrisburg, thru Oct. 8.  
National 4-H Week, Oct. 7-13.

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