



**Eric Baker**  
Estill County Extension Agent for Agriculture & Natural Resources

As the seasons shift from summer to fall there are many changes we may notice in our environment such as cooler temperatures, less humidity and shorter days just to name a few. But one change we are sure to notice is the gradual color change in our deciduous tree leaves, from summer green to au-

# The Colors of Autumn

tumn orange, yellow, red and even purple.

Through the warm spring and summer months the tree leaves, the food factories for the trees, are a lovely green thanks to the constant production of chlorophyll which is vital for the process of photosynthesis. This chemical process enables the leaves to convert sunlight with carbon dioxide into sugars or food for the tree.

As the days get shorter and the nights get longer tree leaves will slow and then stop the production of chlorophyll thus causing it to break down and disappear which is when the other colors within the leaves are revealed. The yellow, orange and brown we see in the autumn leaves are due to

the pigments called carotenoids, these leaf pigments have been masked by the chlorophyll during the growing season. The red and purple colors are due to the pigments called anthocyanins which are produced in the fall when the sunlight is bright and there is an excess of sugar in leaves.

These unmasked colors will be more dominate in particular groups of trees. Oaks typically turn red to brown, hickories often turn golden yellow, and maples vary with sugar maple turning orange-yellow or orange-red and red maple turning a deep red. Kentucky's state tree, yellow-poplar also known as tulip poplar turns a golden yellow. And then there are some trees such as elms

that just turn brown and drop.

If you want to predict if it will be a colorful autumn keep an eye on the weather in late summer into early fall. Both temperature and moisture play a role in determining how dramatic leaf color will be. The most intense autumn colors are typically the result of a warm wet spring, pleasant summer weather, and warm, sunny fall days with cool crisp nights.

So venture out this autumn and enjoy Mother Nature's colorful display!

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## Farming News

### Time for Landscape Sanitation

Autumn has arrived in Kentucky and it is time to focus on landscape sanitation. Good sanitation practices can help reduce disease-causing pathogens. These organisms can survive for months or years on dead plant material or in soil, causing infections in subsequent years. Elimination of disease-causing organisms reduces the need for chemical controls and can improve the effectiveness of disease management practices. Following these sanitation practices both in autumn and throughout the growing season can reduce disease pressure in home and commercial landscapes.

Here are some sanitation practices to follow:

- Remove diseased plant tissues from infected plants
- Prune cankers and galls from branches by mak-

ing cuts well below visible symptoms. Clean tools between each cut with a sanitizer, such as rubbing alcohol or household bleach.

- Rake and remove fallen buds, flowers, twigs, leaves, and needles.
  - Discard all above- and below-ground portions of heavily infected perennial and annual plants. Severely infected trees and shrubs should be cut down and stumps removed/destroyed.
  - All discarded plant material should be burned, buried, or removed with yard waste. Do not compost diseased plant material. Exercise caution when storing limbs and trunks as fire wood or using for mulch.
  - Soil from containers should be discarded and not reused.
  - Remove weeds, including roots, which may serve as alternate hosts for pathogens.
  - When treating infected plants with fungicides, remove infected tissues prior to application.
- For more information, contact the Estill County Extension office at 723-4557



**The Garden Bug**  
**Unripened pumpkins**  
If a frost kills your pumpkin plant with a green pumpkin still on it, you can try to ripen it. Cut it off the vine, leaving at least 4" of the vine at the top to prevent rotting. Gently wash away any dirt, dry it, then wipe it with diluted bleach. Set the pumpkin in a warm, dry spot, facing the green side towards the sun for ripening. If the whole pumpkin is green, rotate it from time to time.

Sources: [www.pumpkinook.com](http://www.pumpkinook.com), [www.gardeningknowhow.com](http://www.gardeningknowhow.com)



**Birding BITS** BY Cindy Brook  
*Seasonal Songs*  
I heard the high-pitched whine of the cedar waxwing, so I know fall is almost here. Spring brings the buzzy trill of the Northern parula, and we whoop it up in the summer with great-crested flycatcher. Winter comes with catbirds mewing. Who needs a calendar when you have birds?

E-mail: [birdingbits@cflrr.com](mailto:birdingbits@cflrr.com)  
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## Wishing Well®

2	6	7	4	6	2	8	2	4	5	3	4	6
B	T	B	Y	H	E	L	S	O	Y	L	U	I
4	2	4	6	7	3	7	2	5	6	4	7	4
E	Y	X	N	E	I	I	M	O	K	U	N	D
2	5	6	3	4	7	4	7	2	7	6	7	8
P	U	B	F	E	D	S	E	A	P	E	E	I
6	4	2	3	7	8	3	5	7	2	7	4	5
F	U	T	E	N	F	I	R	D	H	E	C	L
2	4	5	6	5	2	3	2	3	2	8	4	8
E	C	U	O	C	T	S	I	G	C	E	E	C
4	3	4	5	7	6	7	3	5	3	6	5	8
S	O	S	K	N	R	T	O	Y	D	E	D	H
6	5	8	5	6	8	6	8	6	8	6	8	6
Y	A	A	Y	O	N	U	G	A	E	C	S	T

HERE IS A PLEASANT LITTLE GAME that will give you a message every day. It's a numerical puzzle designed to spell out your fortune. Count the letters in your first name. If the number of letters is 6 or more, subtract 4. If the number is less than 6, add 3. The result is your key number. Start at the upper left-hand corner and check one of your key numbers, left to right. Then read the message the letters under the checked figures give you.

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## CryptoQuip

This is a simple substitution cipher in which each letter used stands for another. If you think that X equals O, it will equal O throughout the puzzle. Solution is accomplished by trial and error.

Clue: A equals E

XKAS HKA INHIWTG SAARAR  
 ITHAVXAUUV HI YAAW ZHGAJP  
 XUVD, Z VANYIS ZH  
 WTVNKUGAR U NIUH IP UVDG.

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## CryptoQuote

AXYDLBAAXR  
is LONGFELLOW

One letter stands for another. In this sample, A is used for the three L's, X for the two O's, etc. Single letters, apostrophes, the length and formation of the words are all hints. Each week the code letters are different.

DNW RVZXJ FQ Y DNFC T  
VA SDDWZ FCVZJFCYDW  
PVBOXWUFDG YCJ ZFPNCWQQ  
YCJ QDZYCTWCWQQ DNYD FQ  
YKQVXSDWXG YRWQVBW.

— JVSTXYQ YJYBQ

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## Puzzle Answers

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### Puzzles4Kids

Answer  
HOARSE A SHORE  
CLEATS C STEAL  
OLDIES O SLIDE  
CLEARS L CARES  
TOURED D ROUTE  
SPIDER S PRIED  
SPHERE P SHEER  
ERASED E READS  
CANDLE L CANED  
LITERS L RITES

### FEAR & KNIGHT

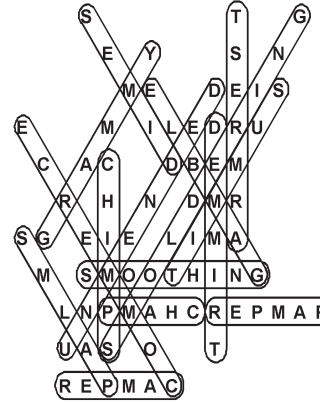
answer  
U  
S A N  
O T O W A G E  
W I T O R  
U N R E S T I O  
T G U T  
C L O S E T  
A N  
T H E W

### Letter Box

Solution

A	J	G	C	U	L	N	T	E
L	T	E	N	A	J	G	U	C
N	C	U	E	G	T	A	L	J
J	U	N	G	L	E	C	A	T
E	L	C	J	T	A	U	N	G
G	A	T	U	C	N	E	J	L
U	E	A	T	J	G	L	C	N
T	G	L	A	N	C	J	E	U
C	N	J	L	E	U	T	G	A

REMOVE THE M'S TO MAKE A NEW WORD



### CryptoQuip

answer  
When the octopus needed outerwear to keep itself warm, I reckon it purchased a coat of arms.

### CryptoQuote

answer  
The world is a thing of utter inordinate complexity and richness and strangeness that is absolutely awesome.  
— Douglas Adams

### Even Exchange

- answers
1. Limber, Lumber
  2. Pulse, Purse
  3. Rough, Rouge
  4. Baron, Bacon
  5. Squirt, Squirm
  6. Dipper, Diaper
  7. Raven, Ravel
  8. Chase, Phase
  9. Margin, Marlin
  10. Quiet, Quilt

### Weekly SUDOKU

Answer  
9 7 3 8 6 5 4 2 1  
2 8 6 1 3 4 7 5 9  
5 1 4 9 7 2 8 3 6  
6 5 2 3 4 9 1 7 8  
3 4 7 5 1 8 6 9 2  
1 9 8 6 2 7 3 4 5  
4 6 9 7 5 1 2 8 3  
8 2 1 4 9 3 5 6 7  
7 3 5 2 8 6 9 1 4

### King Crossword

Answers  
Solution time: 25 mins.  
S E G O D O H E D A M  
C A M P O N E V O L E  
A S A P W A R E W A N  
R E N O W N B O N N E T  
S E W A S S  
B A D E A N D R O I D S  
A G O S R O Z I P  
H A W K S H A W D E N Y  
N E D N O R  
T E T R I S B R I D A L  
E R I N A W E P I N A  
M I M E P E A P R O P  
P E E L S E T Y E N S

## Americanisms



“Never give up, for that is just the place and time that the tide will turn.”  
— Harriet Beecher Stowe

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## THE ILLUSTRATED BIBLE



Detail of "Ezechielovo videní" by Julius Schnorr von Karolsfeld (1883)

Like the appearance of a rainbow in a cloud on a rainy day, so was the appearance of the brightness all around it. This was the appearance of the likeness of the glory of the Lord.

EZEKIEL 1:28

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## Stickeler's Puzzle



What number is the smallest square that is also the sum of four consecutive cubes?

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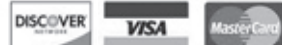
Stickeler's Answer on Page 11

## Sammy's Furniture

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  - New Living Room Suites
  - New Recliners & Lift Chairs
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## Bible Trivia Answers

Now available by Wilson Casey! 2017 Bible Trivia box calendar loaded with daily teasers.

ANSWERS (1) Neither; (2) 7; (3) Exodus; (4) 13:18; (5) Saul; (6) Nahum