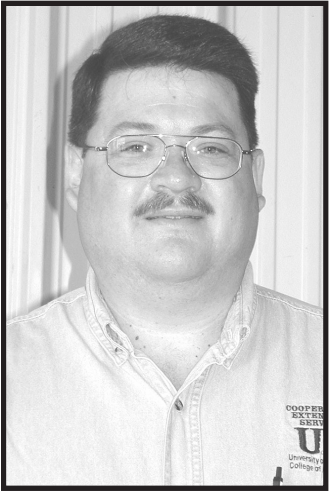


# Algal Blooms Pose Danger To Livestock



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

Recent news reports of unsafe drinking water in the Great Lakes area has drawn national attention to toxic algal blooms. In Kentucky, cyanobacteria, also known as blue-green algae, recently were reported in Green River Lake, Taylorsville Lake, Barren River Lake, Nolichucky Reservoir, and Rough River Lake at levels that prompted a recreational advisory.

Algal blooms are accumulated populations of algae in freshwater and marine water environments. They can reduce water quality, so animals might not drink as much as they need to get them through the hot, dry summer. Of the more than 2,000 species of blue-green algae identified, at least 80 are known to produce cyanotoxins (poisons) that can seriously affect animal and human health.

"Although algal blooms can occur at any time of the year, they happen most often in the warmer months of June through September," said Michelle Arnold, ruminant veterinarian for the University of Kentucky College of Agriculture, Food and Environment. "In freshwater, the majority of harmful algal

blooms are caused by cyanobacteria."

Blue-green algae naturally exist in wet places. They thrive in warm, stagnant, nutrient rich water and are found often in ponds, lakes and slow moving rivers. While not all algae are harmful, farm ponds contaminated with fertilizer runoff or direct manure and urine are the perfect environment for harmful blue-green algae. When the weather is hot and dry, rapid growth of the algae can result in a "bloom," or a build-up of algae that creates a green, blue-green, white or brown coloring on the surface of the water. It may look like a floating layer of paint. If it's windy, the algal blooms may concentrate along the water's edge, which increases the risk for livestock to ingest the algae when they come down to the pond for a drink.

"Environmental factors such as water temperature, sunlight, water pH and nutrient concentration all affect when toxins will be produced," Arnold said. "Cyanotoxins can affect the liver and nervous system and have been implicated in illness and human and livestock death in at least 35 states and in more than 50 countries worldwide."

Animals that consume affected water may die suddenly or suffer from weakness, staggering or photosensitization depending on the toxin and how much they ingested.

A few simple steps can keep livestock, pets and humans safe from algae poisoning. Always assume that a blue-green algal bloom is toxic. Provide clean, fresh water to animals and fence off their access to stagnant, scum-covered ponds. "Fencing off natural water sources and providing

alternative water sources really is your best option," said Amanda Gumbert, UKA extension water quality liaison. "Don't allow your animals to contaminate the water with feces and urine. Prevent fertilizer or manure runoff from entering water sources. Phosphorus is particularly important in fueling cyanobacteria growth."

If the water source is treated with an algicide such as copper sulfate, prevent animal access for at least a week to allow degradation of any released toxins in the water. It is best to wait until ponds are no longer stagnant before allowing animals to drink from it.

"Creating and maintaining natural buffers, such as trees and shrubs between farmland, housing developments and waterways can help filter out excess nitrogen and phosphorus before they reach the water," said Steve Higgins, director of environmental compliance for the UK Agricultural Experiment Station.

To protect humans, don't swim in water with scum layers or blooms and avoid jet skiing, windsurfing, tubing or water skiing over scum or blooms. Don't use untreated water for drinking, cleaning food or washing camping gear. Boiling water will not remove algal toxins. Thoroughly wash any skin that comes into contact with a bloom. Don't eat shellfish caught or harvested from a bloom area.

Farmers who notice algal blooms in ponds intended for

livestock use should get the water tested. Not all algal blooms produce toxins.

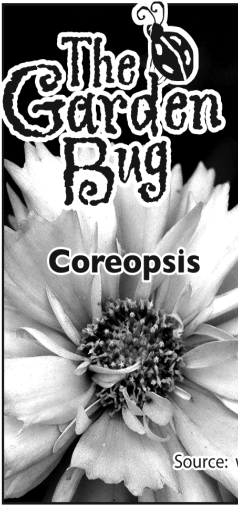
"Many algal blooms in Kentucky are composed of harmless green algae that may look like underwater moss, stringy mats or floating scum," Gumbert said. "It is impossible to tell just by looking at the pond if it contains blue-green algae."

The UK Veterinary Diagnostic Lab can accept water samples and forward them to referral labs to identify blue-green algae and test for toxins. Visit <http://vdl.uky.edu/TestInformation.aspx> and search under "Toxicology" for further information regarding sampling and pricing.

"Unfortunately, testing water for an actual toxin is problematic, because toxins are not uniformly distributed in the water source," Arnold said. "Testing can be quite expensive and there are many blue-green algae toxins for which no diagnostic tests exist. To be safe, always assume that a blue-green algal bloom has the potential to be toxic."

For more information, visit the Environmental Protection Agency website <http://www2.epa.gov/nutrient-policy-data/cyanotoxins> or contact the Estill County Extension Service at 723-4557.

*Educational programs of the Cooperative Extension Service serve all people regardless of race, color, sex, religion, disability or national origin.*



Coreopsis

Also known as "tickseed" or "tickweed," this perennial herb is native to almost all of North America. It does very well against drought and diseases, and fertilizing is not needed. It grows to about 12 inches tall, with bright yellow flowers that attract bees and butterflies all summer long. After the first hard frost, cut the plants down to soil level and cover with a 1-inch layer of mulch to protect the plant over the winter.

- Brenda Weaver

Source: [www.gardenguides.com](http://www.gardenguides.com), [www.gardeningknowhow.com](http://www.gardeningknowhow.com)

© 2015 by King Features Syndicate, Inc. World rights reserved.

## Stickeler's Puzzle



by Terry Stickels

Kelsey and Sandy are Jackie's only sister's mother-in-law's son's daughters. Jackie is Kelsey's:

1. mother
2. aunt
3. grandmother
4. niece

© 2015 King Features Syndicate

Stickeler's Answer on Page 11

**NEAL'S AUTO CENTER**  
**(606) 975-3796**  
**Mechanics On Duty!**

**TWIN CITY CAR WASH**  
**Hand Wash**  
**River Dr. & Main, Ravenna**  
**Detailing Available!**  
**Call 606-975-3796**

## Wishing Well®

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

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.

© 2015 King Features Syndicate, Inc. All rights reserved.

## 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: W equals Y

PT WTI UETR ROW GOJ VXGTK  
VXGIVZZW AKTUJ OCN TRE VKL?  
CG NJJLN OJ RVEGJP GT AJ CE  
GOJ XVNG.

© 2015 King Features Synd., Inc.

## 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.

GSV TIVZG XLMHFOGRMT  
ILLN LU Z DRHV NZM RH Z  
ORYIZIB. - T. WZDHLM

© 2015 King Features Synd., Inc.

## Puzzle Answers

August 19, 2015

### Puzzles4Kids

Answer

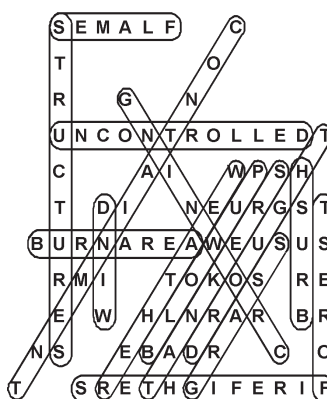
Z	E	L	D	A	G	I	L	L	I	A	N	O	R	M
A	C	H	A	R	A	R	Y	J	I	B	A	R	A	A
T	A	M	A	R	A	R	A	R	A	R	A	A	A	A
Y	L	E	E	R	I	C	K	P	H	A	E	D	R	A

### Letter Box

Solution

V	B	O	W	N	I	E	Y	F
F	N	I	E	O	Y	W	B	V
E	Y	W	F	B	V	N	I	O
B	E	V	I	W	N	F	O	Y
Y	I	F	V	E	O	B	W	N
W	O	N	B	Y	F	I	V	E
O	F	Y	N	I	W	V	E	B
I	V	B	Y	F	E	O	N	W
N	W	E	O	V	B	Y	F	I

WILDFIRES



### CryptoQuip

answer

Do you know why the actor actually broke his own arm? It seems he wanted to be in the cast.

### CryptoQuote

answer

The great consulting room of a wise man is a library. — G. Dawson

### Bible Trivia Answers

Casey's trivia book "Know It? ... or Not?" is available from BearManorMedia.com

### FEAR & KNIGHT

answer

P	E	C	A	N										
R														
E	O	N			C	L	E	A	R					
Y			O		A									
			P	R	Y									
			Y		M				A	M	P			
									M	A	P	L	E	
									N					A
														N

### Even Exchange

answers

1. Twirl, Twill
2. Weaver, Weaker
3. Island, Inland
4. Chick, Check
5. Shrew, Strew
6. Brooks, Brooke
7. Grand, Grant
8. Irate, Orate
9. Gadget, Gidget
10. Tonic, Topic

### Weekly SUDOKU

Answer

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

### King Crossword

Answers

Solution time: 27 mins.

J	I	M	Y	O	K	E	F	O	R	E
A	D	A	A	V	E	R	I	B	T	S
W	A	T	C	H	I	N	G	B	O	B
C	L	O	D	O	B	E	S	E		
W	A	H	O	O	K	A	N	E		
A	L	I	T	P	O	W	E	R	F	U
R	O	N	M	O	R	E	S	E	N	E
D	E	G	R	A	D	E	D	O	T	S
E	L	S	A	P	A	C	T	S		
A	P	R	I	L	S	E	T	H		
R	O	A	N	P	I	T	C	H	I	N
I	S	L	E	A	P	R	E	A	C	H
D	E	E	D	A	M	N	G	U	M	

ANSWERS (1) New; (2) Deborah; (3) Keeper of sheep; (4) Psalm; (5) Peter; (6) Daniel

**PAINTED ROOFING METAL**  
We offer 16 colors of our #1 grade metal roofing tin cut to the inch. Now with a 40-year warranty, this ensures a roof that will last for years. We also have 29 gauge Galvalume. We carry all metal roofing accessories! Phone in or Fax orders welcome Call 606-593-7080 • Fax 606-593-7071 We now accept Credit & Debit Cards! **Wolf Creek Metal** Open five days for your convenience Mon. -Fri. 8am-5pm **LOCATED** 1.5 miles south of Booneville, KY on Hwy. 11 in the Lone Oak Industrial Park

**BROWN FARM MEATS** Is Now Accepting EBT, debit, Mastercard, and Visa Located inside Discount Tobacco 389 Richmond Road in Irvine, KY M-F, 9-6, Saturday, 9-Noon (606) 643-5107 or (606) 643-5758 Kentucky Proud Certified • Home-Grown • Corn-Fed • USDA-Inspected Call for pickup or delivery! We sell any size quantities! **Products** Boston Butt Pork Roast . \$3<sup>50</sup>/Lb. (Great for Pulled Pork) Sausage . \$3<sup>50</sup>/Lb. (Hot, Medium or Mild) Whole Cured Ham . . . . . \$3<sup>50</sup>/Lb. (Sliced is \$4.00 per Lb.) Ham Steak . . . . . \$3<sup>50</sup>/Lb. Ham Cutlets . . . . . \$3<sup>50</sup>/Lb. (Similar to cube steak, only ham) Bacon . . . . . \$4<sup>25</sup>/Lb. Jowl Bacon . . . . . \$3<sup>50</sup>/Lb. Pork Tenderloin . . . . . \$4<sup>50</sup>/Lb. Pork Chops . . . . . \$4<sup>00</sup>/Lb. Spare Ribs . . . . . \$3<sup>50</sup>/Lb. Country Style Ribs . . . . . \$3<sup>50</sup>/Lb. Baby Back Pork Ribs . . . . . \$3<sup>50</sup>/Lb. Pork Burgers . . . . . \$4<sup>00</sup>/Lb. (Ground, pattied pork with no seasoning) Bratwursts . . . . . \$4<sup>00</sup>/Lb. **Bundle Packages** 1/4 Processed Hog . . . . . \$115<sup>00</sup> 1/2 Processed Hog . . . . . \$210<sup>00</sup> Whole Processed Hog . . . . . \$440<sup>00</sup>