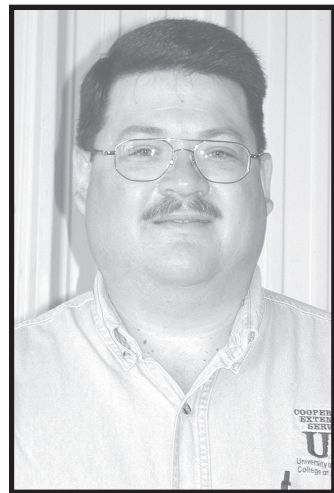


# Algal Blooms Pose Danger To Livestock



**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.*

## Wishing Well®

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

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.

© 2014 King Features Synd., Inc. All rights reserved

## 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.

NZMMDUC NUK LZRU  
HUSSUM LZQRUE, HIS  
HZVLUQFME LZRU HUSSUM  
BIZMSUME.  
— EFIMVU FHEVIMU

© 2014 King Features Synd., Inc.

## 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: P equals D

NBY IHQQJYP EAZVWY PJPD'N  
OYWJYRY JD NBYJQ SYPPJDT  
RASf, FA J FZVVAFY JN SHF  
IZEB "J PA" HOAZN DANBJDT.

© 2014 King Features Synd., Inc.

## FARM SERVICE AGENCY AGRICULTURE NEWS

Richmond FSA Service Center  
1024 Ival James Blvd., Ste A-2  
Call 888-758-6909

### USDA Extends Deadline for The Emergency Assistance for Livestock, Honeybees and Farm-Raised Fish Program

The United States Department of Agriculture (USDA) Farm Service Agency (FSA) Administrator Juan M. Garcia has announced that the enrollment deadline for the 2012 and 2013 Emergency Assistance for Livestock, Honeybees and Farm-Raised Fish Program (ELAP) has been extended to this Friday, August 15, 2014. Originally, program sign-up was scheduled to end Aug. 1.

The new deadline gives livestock, honeybee, and farm-raised fish producers who experienced losses because of disease, adverse weather, wildfires or colony collapse disorder between Oct. 1, 2011 and Sept. 30, 2013, an additional two weeks to enroll in ELAP.

"Because ELAP is an important safety net for key sectors of American agriculture, we've provided this two week extension so that producers can submit required documentation and apply for program benefits," said Garcia.

Producers are encouraged to contact their local FSA service center or visit FSA's website at [www.fsa.usda.gov](http://www.fsa.usda.gov) for additional information regarding ELAP.

USDA is an equal opportunity provider, employer and lender.

## Stickeler's Puzzle

STICKELERS [sic]

by Terry Stickels

A driver drove from Alton to Bixley at 28 mph to cover 80 miles. On her return journey, she drove at 35 mph. What was her average speed for the whole trip?

© 2014 King Features Syndicate

### Stickeler's Answer on Page 11

**If you think it's expensive to hire a professional; wait until you hire an amateur**

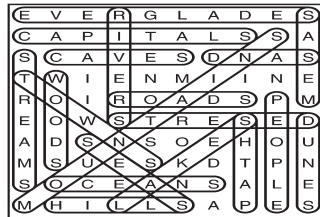
**CONRAD'S**  
**Tree Service & Lawn Care**

Proudly serving Estill and surrounding counties, 16 yrs of experience; cutting, pruning, and removing trees and stumps... building custom fountains and garden ponds, pressure washing, cleaning and repairing gutters, roofing, building decks, demolition and more...

Free Estimates  
Contact David Conrad @ (606) 717-0184 or (606) 975-5601  
Licensed and Insured

## Puzzle Answers August 13, 2014

### Puzzles4Kids Answer

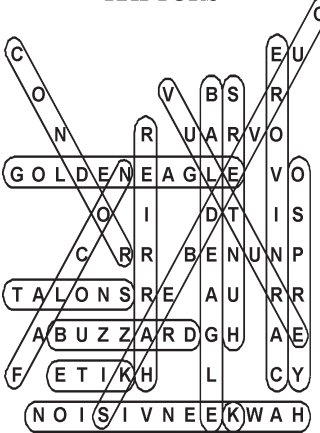


Riddle Answer:  
In mini-soda.

### Letter Box Solution

R	Y	T	L	P	S	U	E	M
M	U	S	T	R	E	P	L	Y
L	P	E	M	U	Y	T	R	S
U	R	L	S	M	T	E	Y	P
Y	T	M	E	L	P	S	U	R
S	E	P	R	Y	U	L	M	T
P	L	Y	U	T	M	R	S	E
T	S	R	Y	E	L	M	P	U
E	M	U	P	S	R	Y	T	L

RAPTORS



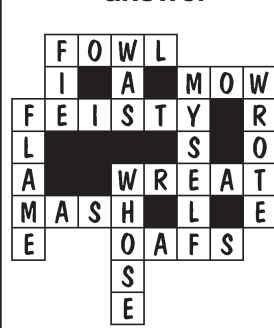
### CryptoQuip answer

The married couple didn't believe in their wedding vows, so I suppose it was much "I do" about nothing.

### CryptoQuote answer

Married men have better halves, but bachelors have better quarters.  
— Source Obscure

### FEAR & KNOT answer



### Even Exchange answers

- Jingle, Jungle
- Wafer, Wager
- Formal, Format
- Singe, Since
- Bigger, Bagger
- Right, Tight
- Perch, Perth
- Cashew, Cashes
- Repent, Relent
- Tiegs, Tiers

### Weekly SUDOKU Answer

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

### King Crossword Answers

Solution time: 24 mins.

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

**JOYCE MARCUM REALTY**

Call (606) 723-0080  
Or (859) 624-0088  
Email [jmarcum@aol.com](mailto:jmarcum@aol.com)  
or Visit us at [www.joycemarcum.com](http://www.joycemarcum.com)

Advertising Globally, But Locally Owned And Operated

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

ANSWERS: (1) Neither; (2) Stone; (3) Harpist; (4) Sling; (5) Mustard; (6) Dinah