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# Acreage Living

IOWA STATE UNIVERSITY  
Cooperative Extension

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## Control of Muskrat Damage in Ponds

Adapted with permission from the Missouri Department of Conservation  
<http://www.conservation.state.mo.us/manag/muskrat/index.shtml>

Any permanent pond in the midwest is apt to have muskrats in it sooner or later. The question of whether to leave them as a crop or get rid of them has two sides. On one hand, the pelts are valuable and the animals easily trapped. On the other hand, muskrats can be destructive. The important thing is that the muskrat is not necessarily a pest -- it is a valuable fur animal that, like other valuable animals (including livestock), can be a pest under certain circumstances.

In the midwest, most muskrats live in streams. In spring or fall, some of the muskrats move. In their spring travels, they are hunting food and safe places to rear young; in fall, they are hunting food and safe winter quarters. These traveling muskrats usually stay in their summer locations until fall and in their winter homes until spring. They may stay in either location permanently if the food and denning facilities are good enough. When they travel they may go several miles, even across dry uplands, in their search for better places to live.

It is on these travels that muskrats find farm ponds and it is usually during spring that they locate in them. If the pond is large and contains abundant food, they may stay. But ponds seldom contain enough aquatic vegetation to hold muskrats past the fall season,

especially if they can find better homes.

Pond muskrats dig burrows, and may also build homes of mud and vegetation in shallow water. It is the digging that most pond owners object to, especially when holes are dug into the dam. In digging and working around the shallows, muskrats stir up mud that may keep these areas or the whole pond cloudy. This is objectionable in a pond where clear water is wanted for swimming, livestock use, and fish production.

Good pond construction is the best insurance against actual damage by muskrats. In all cases of muskrat damage that have come to our attention, there has never been a case of dam destruction where the following minimum standard specifications were met: dam with water face slope 3 to 1, outer face 2 to 1, width at top 8-12 feet, and freeboard 3 feet after settling, dam sodded and livestock kept off; spillway wide enough to carry off surplus water so it never rises more than 6 inches on the dam. These specifications are likely to agree with those of agricultural agencies. Check with your local Natural Resources Conservation Service office to be sure.

When muskrats dig into dams, it is to make homes. The burrows start under water, then rise to a cham-

ber hollowed out above water level, with from one to two feet of solid earth and sod above. The muskrats don't tunnel through the dam unless the water rises high enough to make them dig a new chamber, higher up. That is one reason for specifying high freeboard and a wide spillway: these keep the water from coming up high enough to force the muskrats to dig new higher chambers dangerously close to the surface. Also, one reason for keeping livestock off a pond area is to avoid the chance of putting a hoof through the roof of the den and starting a wash.

Old or abandoned muskrat dens may cave in. Then it is usually a simple job, if done at once, to fill in the cavity and reseed to prevent washing.

Since muskrats are especially attracted to ponds containing large amounts of muskrat food plants, eliminating these plants is good muskrat control. Plants most favored by muskrats are the starchy ones - cattail, burr reed, three square rush, arrow-head, and the like. These plants should never be planted in fish ponds anyway, because they interfere with fish production. The spike rush, leafy bulrush, and water willow recommended for ponds have little

attraction for muskrats. Plant control is also good muskrat control.

If muskrats can't find a better place, they will sometimes live in ponds even when food supply is limited. The only sure way to keep them out is by fencing the entire pond and spillway with fur-farm fence. This ordinarily is too expensive, and the only other recourse, if the animals are definitely a nuisance, is to remove them.

Trapping with pinch-type lethal traps is the most efficient way of removing muskrats. If done during the open season, the pelts can be sold for a profit. However, if damage requires immediate action, a landowner should contact the local conservation Officer about regulations for emergency out-of-season trapping.

Various chemicals have been tried to keep muskrats out of ponds, or to drive them out. Creosote or carbide dropped in the dens through holes opened (with a rod) in the roof have worked in some cases, failed in others. The same is true of other repellents. Still the most effective removal is by trapping, and the best insurance against damage is good construction and management.

## Keeping Livestock Cool

by Shawn Shouse, ISU Extension Field Specialist/Ag Engineering  
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When hot weather strikes, most of us head for shade or air conditioning. But those options often don't exist for livestock. Hogs in confinement buildings and cattle in feedlots often need relief from extreme heat to avoid loss of performance and possible death.

The ability of livestock to sweat is very limited, but the cooling effect of evaporating sweat can be duplicated with intermittent wetting. By alternately wetting the skin and allowing the water to evaporate, animals can dissipate excess body heat. The key is using a coarse enough spray to get through the hair to the skin, and providing air movement and time for the water to evaporate. A fine mist will

simply cling to the hair coat and raise the humidity of the surrounding air.

In confinement buildings, coarse spray nozzles on a manual or automatic timer set to spray one or two minutes out of every 30 minutes will do the job. For sows in crates, drip coolers over the shoulder of the sow provides relief without wetting the pigs.

For feedlot cattle, consider lawn sprinklers set to operate two or three minutes out of every 30 minutes. Adjust the operation to provide just enough water to thoroughly wet the skin and adequate time to evaporate in between.

# 10th National Small Farm Trade Show & Conference

From *Small Farm Today* Magazine

The National Small Farm Trade Show & Conference is the largest annual small farm show in the United States! Last year, over 4,300 people and over 200 exhibitors attended. **On this, their 10th anniversary, they want it to be the largest yet, with 10,000 people!** Come to the heated Exhibition Hall to see the trade show and attend 21 one-hour seminars and six three-hour short courses, plus demonstrations, exhibitions, panels, association meetings, and more.

The theme in 2002 will be **“Thinking Outside the Box Sustainably,”** featuring a wide variety of talks and courses. Exhibitors will be selling value-added items for the holiday season, as well as their usual wares.

The conference will once again feature money-making farmers communicating their methods to fellow farmers.

Ideas and information on income opportunities for the family farm will be presented in seminars and short courses. Both traditional and alternative farm enterprises are covered for full- and part-time farmers, ranchers, gardeners, and landowners. It is a perfect opportunity to visit one-on-one with exhibitors and other small acreage owners. Even non-farmers enjoy the animals and Trade Show.

Speakers this year include Jo Robinson (Washington), the New York Times bestselling author, speaking on “Why Grass-fed is Best;” Fred Kirschenmann (North Dakota) director of the Leopold Center and organic farmers of 3,500 acres; and Michael Phillips (New Hampshire), author of *Organic Apples*. Returning speakers include Jim Willingham (Texas) on meat goats; Cappy Tosetti (Oregon), a marketing expert and columnist; Lynn Byczynski (Kansas), author of *The Flower Farmers* and editor of *Growing for Market*; Andy Lee (Virginia), author of *Backyard Market Gardening*, *Chicken Tractor*, and *Day Range* )Poultry; John Ikerd nationally-known sustainable

ag advocate; Patrick Byers on small fruits, and Kelly Klober, author of *A Guide to Raising Pigs*.

Other topics include beefalo, bees, oilseeds, risk management, hoop-houses, CSAs, and soils.

Featured again will be stock dog demonstrations, the 2nd AOBA-certified Alpaca Show, corn husk crafts, emu egg carving, soap making, a fiber demo, and there will again be a Stock Dog Clinic on Wednesday before the show (call for more information). There will also be a Meat Goat Show this year.

The Small Farm Trade Show & Conference is sponsored by *SMALL FARM TODAY*® magazine and brought to you by Purina Mills; Missouri Department of Agriculture; Liar’s Lake; MU College of Agriculture, Food & Natural Resources; USDA Risk Management Agency; and USDA-CSREES Sustainable Agriculture Research and Education (SARE) program.

Call Small Farm Today at 1-800-633-2535 for information or to register. This info is also available at [www.smallfarmtoday.com](http://www.smallfarmtoday.com). Come join the fun!

## WHEN:

October 31-November 2, 2002

Hours: 8 am-7 pm Thursday, October 31

8 am-7 pm Friday, November 1

8 am-6 pm Saturday, November 2

## PRICE:

\$5/day (before October 1)

or \$8/day, \$15/2 days, \$20/3 days at the door

Short Courses: \$25 each pre-reg before October 1

\$35 at the door

Note: Short course prices do not include admission fee

## WHERE:

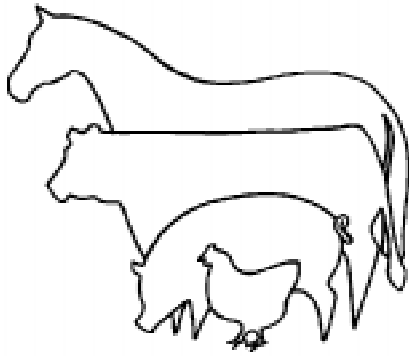
Boone County Fairgrounds

Columbia, Missouri

*Boone County Fairgrounds are on U.S. Hwy 63, 3 miles north of I-70 (exit 128A). Take the Oakland Gravel Road exit and follow fairground signs.*

# Livestock Safety Index for Heat

by Shawn Shouse, ISU Extension Field Specialist/Ag Engineering  
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Livestock suffer when summer temperatures and humidity rise together. The combined effect of high temperature and humidity limits the animal's ability to get rid of excess body heat. Severe heat stress can lead to loss of performance and even death.

The Livestock Safety Index classifies weather conditions into alert, danger, and emergency situations for livestock. The following table shows minimum relative humidity levels for each index category at different temperatures.

## Temperature

80 degrees: 55% Alert, 90% Danger

85 degrees: 30% Alert, 60% Danger, 90% Emergency

90 degrees: 15% Alert, 35% Danger, 65% Emergency

95 degrees: — , 20% Danger, 45% Emergency

100 degrees: — , 10% Danger, 30% Emergency

You can use the Livestock Safety Index, along with watching the behavior of animals, to determine when artificial cooling is necessary to protect livestock from heat stress.

Consult your veterinarian or ISU Extension livestock specialist or Ag engineer for more advice on keeping livestock cool.

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### Lingo Lexicon:

**Phosphorus Index** - The Phosphorus Index is a tool used to assess the potential for phosphorus (P) to move from agricultural fields to surface water (lakes and streams). It considers the soil and landscape features as well as soil conservation and P management practices in individual fields. Factors that enter into the calculation of the risk index include: soil test P; rate, method and timing of P application; soil erosion; field location relative to water resources; soil conservation practices; precipitation; and subsurface drainage. The end result of the index calculation is a rating of phosphorus movement risk of very low, low, medium, high, or very high. More information on the Phosphorus Index is available from the Natural Resources Conservation Service, or on their web site at <http://www.ia.nrcs.usda.gov/>

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**Acreage Living** is published monthly. For more information, contact your local county ISU Extension office.

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