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Acreage Living is published monthly. Please share it with your acreage neighbors. Call your local ISU Extension Office for more information or contact an ISU Extension staff member listed below to suggest topics for future articles.

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Spring Flood Preparedness

By Charles Schwab, ISU Professor, Agriculture and Biosystems Engineering

No matter where you live in Iowa, you can have a potential water problem with your home or property during a wet spring. The severity of water problems vary from minor inconveniences to major flooding problems that have long term impacts and a much larger cost.

New property owners have unique challenges preparing for water emergencies because they lack history or understanding about potential flooding conditions on their property. Is your home near a river, stream or intermittent water channel? Close proximity to these waterways increases the likelihood of flooding. If your home is in a floodplain or near these waterways, you should have a comprehensive plan for water emergencies.

No matter where your home is located, your basement could flood during heavy rainfall if drainage is poor. To avoid flood problems, take steps to improve drainage around your home. Grade your property so surface water drains away from the home. Often the fill used around a home settles. This low spot needs to be filled so water runs away from the home. The soil directly around the home should be of slow permeability so water does not penetrate. Rock and gravel should not be used on the surface since they serve as a conduit for water into the ground. In the first 10 feet away from the home, the soil should drop a minimum of six inches. A minimum grade of one foot in 1000 feet generally is adequate after the first 10 feet. Many properties are poorly graded and large amounts of earth may need to be moved. Seek professional advice before starting a major grading project.

Install roof gutters and downspouts to carry water away from the home. Thousands of gallons of water will fall on the roof during a heavy rain and

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must be removed quickly from the area around the home. Downspouts can empty into a subsurface drain or be discharged over a grassy area. It is important not to use the same subsurface drain for perimeter tile around the foundation and for the downspout. If the drain capacity is insufficient, excess water will be dumped around the basement footings. Water from downspouts that empty onto the lawn must be dumped and spread far enough

from the home so the water does not enter the basement. On steeply sloping, well-drained lawns with no basement water problems, a simple splash block usually will be sufficient. For homes with basement water problems, the water should be dumped at least five to 10 feet from the home.

Build small diversions or ditches to channel water away from your property. Various regulations concerning water flow will apply

and you must not change the flow in a way that adversely affects your neighbor. Before beginning a water diversion project, check with local officials.

Next time it rains, consider putting on your boots and grabbing your umbrella so you can take a walk around your property. Nothing is more educational than watching how the water is coming off your roof, moving away from your home and traveling through your property.

Online resources

Proper Drainage Around Your Home PM1560 <http://www.extension.iastate.edu/Publications/PM1560.pdf>

Building Basements in Wet Locations PM1561 <http://www.extension.iastate.edu/Publications/PM1561.pdf>

Controlling Moisture on Concrete Floors PM1562 <http://www.extension.iastate.edu/Publications/PM1562.pdf>

Grazing Management for Improved Pasture Production (part 3 of 3)

By Stephen K. Barnhart, ISU Professor and Extension Forage Agronomist

Improved grazing management can give practical gains in forage and livestock productivity. Some benefits from improved grazing are evident within a few months, but most gains realistically take two to three years to be fully reached.

Plants need 'rest' and time to recover from leaf removal! Some kind of rotational grazing should be practiced to maintain plant vigor and productivity. General pasture rotation guidelines suggest moving animals to a new paddock within six to seven days. This gives grazed pastures about 30 days of 'rest' for recovery, and

leaves an average of two to three inches of residual grass cover following grazing. Division of a pasture into four to six smaller paddocks is a good start for accomplishing these guidelines.

If you can't go to four paddocks, start with two paddocks. If your pasture area is so small that you can't rotate at all, use proper stocking rates on continuously grazed pastures. Consider deferring grazing and providing hay and feed for a week or so to stretch the pasture 'rest' period during the summer months.

Grazing management may include: using temporary fence to split off smaller paddock areas; grazing regrowth on hayfield areas to provide some 'rest' for the main pasture; and penning animals or providing a small 'sacrifice' paddock area for feeding to protect the main pasture or paddocks from hoof damage during muddy conditions.

Quick points

Improve grazing management to maintain desirable species and forage plant vigor.

Online resources

PM 1713 Pasture Management Guide – \$10.00; Order online from ISU Extension at

<https://www.extension.iastate.edu/store/OrderingInformation.aspx> or at your local county Extension office

Aquatic Vegetation Control

By Rich Clayton, ISU Extension Program Specialist, Natural Resource Ecology and Management

Spring is the time to consider your aquatic vegetation management plan for your pond. The excessive vegetation that was in your pond last year is easier to control when the water temperature is cool and the plant mass is small, thus reducing chances of causing oxygen depletion and fish kill.

Moderate plant growth is essential to water bodies because plants produce oxygen, food and cover for fish and other aquatic organisms. Nutrients and fish feeds introduced into the water (often from the surrounding watershed) can create an ideal habitat for aquatic weed growth. Aquatic vegetation is considered excessive when more than 20 to 30 percent of the pond surface is covered. Excessive vegetation may hinder fishing and cause water quality problems.

Aquatic vegetation may be in four forms:

- (1) Algae – primitive plants without true leaves or flowers. Many are free, in strings or clumped together, resulting in pea green soup coloration.
- (2) Free floating plants – not attached to the bottom. Duck weed is one example.
- (3) Submerged plants – attached to the bottom and growing below the surface. These plants may be called “seaweed,” “moss” or “water grass.”



(4) Emergent plants – rooted to the bottom and extending beyond the surface. Common emergent plants are cattails, bulrushes, water lilies, smartweed and willows.

There are three methods of vegetation control: mechanical, biological, and chemical. Most mechanical methods are costly and yield poor results.

Biological control can be achieved by stocking grass carp, an exotic fish native to southeastern Asia, or by restricting nutrient input into the pond. Please note - grass carp are not allowed in all states (they can be used in Iowa) and they control rooted plants much more than algae. They are stocked at three to four 8-inch fish per surface acre of water. Because these fish do not reproduce in ponds and have low natural mortality, you may not need to restock for eight to ten

years. Several private fish hatcheries in Iowa sell grass carp.

Chemicals may be used to control aquatic vegetation. Best results are obtained with proper identification of the vegetation that needs to

be controlled, proper application time and using a suitable herbicide. In Iowa, chemical applications are best done in the spring before water temperatures increase. Before using any chemical, determine all possible uses for the pond. Many herbicides will make the water undrinkable for livestock and humans. Use only chemicals designed and approved for aquatic use. Chemicals are available from local agri-chemical distributors. **Read and carefully follow all label instructions.**

A great resource for aquatic plant management is <http://aquaplant.tamu.edu/>. Albeit based at Texas A&M University, they have many of the same plants and control practices that we have and use in Iowa. Their Web site has many pictures to help with proper identification and management recommendations.

Additional information can also be found at www.nrem.iastate.edu/extension/fisheries/index.html

Squinnies, Grinnies, and Gophers—Oh, My!

By Jim Pease, ISU Professor and Extension Wildlife Specialist

If they are small, brown, furry and crawl on the ground, most people tend to lump these mammal species under “gopher” or some other all-encompassing name. Different species have different requirements for food and shelter. Understanding those differences can help you manage their populations.

The 13-lined ground squirrels are those 6-inch long (plus about 3-4 inches of tail) critters of open grassland areas. Once uncommon in Iowa, they are now abundant across the state as we have created “short-grass prairie” areas in the form of mowed lawns, pastures, golf courses, and cemeteries. They like the changes we’ve brought to the landscape. They hibernate for about five winter months, emerging in March to early April. They burrow in the ground in open, short-grass areas, leaving little visible dirt and holes the size of 50 cent pieces.



The eastern chipmunk is the same size as the ground squirrel, but is found in more woodland or woodland edge habitat and has only two light stripes. Absent only from the northwest corner of

Iowa, they inhabit neighborhoods with mature trees and shrubs, rock and wood piles and retaining walls. While they may live in holes dug in the ground, they are more likely to live in the retaining walls, beneath decks or even in holes in trees. They do not hibernate in the winter and, though they sleep for days at a time, can be seen raiding bird feeders on warm winter days.



The ground hog (a.k.a. woodchuck or whistle pig) is really a large ground squirrel. Like the 13-lined, it hibernates through the winter, living off its fat reserves in torpor (with body temperatures below 40 degrees F) below the frost line. Adults can range from 24-30 inches long plus a 3-4 inch furry tail and weigh from 9-14 pounds. They inhabit a wide range of habitat, from woodland (yes, they can climb trees) to grassland. Most typically, they live in holes in the ground, often below decks and outbuildings. Their holes are round and vary from 7-10 inches in diameter. Mounds of dirt outside the main entrance are often large and obvious. Like ground squirrel and chipmunk dens, however, there are usually other, more hidden entrances.

All three of these species have diets of plants (grasses, leaves, seeds, nuts, berries, fruits, bulbs) though they are known to occasionally supplement their diet with animal protein (ground nesting birds, eggs). All are ecologically important and interesting to watch, but can be nuisances depending on location. Reduce summer bird feeding of large seeds (sunflower, safflower, peanuts) to reduce attracting these mammals.

Live traps baited with peanuts (or fresh-cut apples for ground hogs) and subsequent release at least five miles distant can be successful. Rat-sized snap traps baited with peanut butter (can be covered with boxes with the ends cut out to be sure birds don’t get caught) and placed outside main entrance holes can quickly reduce a local population. Poisons that contain zinc phosphide as the active ingredient are available, but must be very carefully used to avoid non-target species. Poisonous gas cartridges may be appropriate for some limited circumstances, but kill everything in the burrow, including toads, turtles and other species that may be co-habiting with the digging mammal. For this reason, trapping is preferred over poisoning.

For information on pocket gophers, another Iowa small mammal, see publication PM1302a, *Managing Iowa Wildlife: Pocket gophers* <http://www.extension.iastate.edu/Publications/PM1302a.pdf>