



Spring is here, and it's always so much fun this time of year to watch the world "wake up" after a long, hard winter like the one we had this year. While it is a nice sensation to feel the "fresh start" of spring, don't forget that a wet fall/harvest season and a long winter may still be having some effects on your fields, gardens and yards! Check your soil moisture before you get too excited with planting to avoid compaction and crop damage, and don't forget to carefully manage any remaining stored grain, especially if it came out of the field wet. With the heavy snow cover we saw this past winter, you may also be seeing some weeds pop up that were "insulated" by the snow and may require some additional attention to control- so check your yards/gardens before you plant and treat if needed! As job responsibilities shift within ISU Extension, Agronomist Mark Licht has been recently assigned to cover Shelby County. His latest newsletter, with current tips and information, can be found on the front page of our website. Happy Spring!!

*-Kate Olson, Program Coordinator*

## Upcoming Events:

April 10<sup>th</sup> - Kidsfest at Vets Auditorium  
April 15<sup>th</sup> - Last Chance Private Pesticide  
Applicator Training Webcast  
*Denison- 1:30 PM*  
*Logan- 1:30 PM*  
*Atlantic- 3:00 PM*  
April 22<sup>nd</sup> - Spring 4-H Leaders Training  
April 24<sup>th</sup> - Sheep Weigh-In

**Shelby County Extension**  
906 6<sup>th</sup> St, Harlan, IA 51537  
Phone: (712) 755-3104  
Fax: (712) 755-7112  
Email: [xshelby@iastate.edu](mailto:xshelby@iastate.edu)  
Online: [www.extension.iastate.edu/Shelby](http://www.extension.iastate.edu/Shelby)

## Ask the ISU Garden Expert

Get answers to all your yard and garden questions at [www.yardandgarden.extension.iastate.edu](http://www.yardandgarden.extension.iastate.edu). For specific questions, call the Hortline at (515) 294-3108, or email [hortline@iastate.edu](mailto:hortline@iastate.edu), Monday-Friday from 10 a.m. to noon and 1:00 to 4:30 p.m.

## How do I have my garden soil tested?

Soil testing is done by private and state laboratories. Instructions for submitting soil samples to the Iowa State University Soil and Plant Analysis Laboratory can be found at [www.extension.iastate.edu/Publications/ST11.pdf](http://www.extension.iastate.edu/Publications/ST11.pdf)

## When can I plant potatoes in the garden?

Potatoes should be planted in early spring. Appropriate planting times are late March or early April in southern Iowa, early to mid-April in central Iowa, and mid to late April in northern portions of the state.

Since potatoes are susceptible to several diseases, buy certified, disease-free potatoes at garden centers or mail-order nurseries. Gardeners can purchase seed pieces (tubers that have been cut into sections) or whole potatoes. Small potato tubers may be planted whole. Large potatoes should be cut into sections or pieces. Each seed piece should have one or two "eyes" or buds and weigh approximately 1.5 to 2 ounces. After cutting the tubers into sections, place the freshly cut seed pieces in a humid, 60 to 70 F location for one or two days. A short healing period allows the cut surfaces to callus or heal over before the seed pieces are planted. Healing of the cut surfaces helps prevent the rotting of seed pieces when planted. Plant seed pieces (cut side down) and small, whole potatoes 3 to 4 inches deep and 1 foot apart within the row. Rows should be spaced 2 1/2 to 3 feet apart.

### **Should I apply lime to my garden?**

In Iowa, gardeners should apply lime to gardens and lawns only when recommended by a soil test. A soil test will indicate the current soil pH and, if necessary, the amount of lime to apply to the area. Liming materials include ground limestone, which is mainly calcium carbonate (CaCO<sub>3</sub>), and dolomitic limestone, which contains calcium carbonate and magnesium carbonate (MgCO<sub>3</sub>).

Lime is applied to acidic soils to raise the soil pH. The soil pH is important because it affects the availability of essential nutrients. The pH scale runs from 0 to 14. Any pH below 7 is acidic and any pH above 7 is alkaline. A pH of 7 indicates a neutral soil. The optimum pH range for most flowers, vegetables and other horticultural crops is between 6 and 7. Lime is applied to acidic soils with a pH below 6 to raise the pH into the optimum range. However, an application of lime to an alkaline soil can raise the soil pH to excessively high levels, reducing the availability of plant nutrients and leading to poor plant growth.

### **As the snow melted over the last few weeks, several narrow, meandering pathways appeared in my lawn. What produced them? Will the grass recover?**

The runways in the lawn were likely caused by the meadow vole. The meadow vole is a small, brown, mouse-like animal. Though common in Iowa, the meadow vole is secretive and seldom seen by most individuals. Voles are herbivores. They feed on grasses and other herbaceous plants. They also eat seeds, berries, tubers and bulbs. In winter, meadow voles may eat the bark of small trees and shrubs. Meadow voles usually don't cause serious harm to lawns. Damaged areas usually recover on their own within a few weeks. Reseeding may be necessary when damage is severe.

In lawns, vole populations can be kept to a minimum with regular mowing. Mow Kentucky bluegrass lawns at a height of 2 and one-half to 3

and one-half inches. Continue to mow the lawn until the grass stops growing in fall (typically early November in Iowa). Cut or destroy tall weeds adjacent to lawns and gardens to reduce food resources and cover. Damage to young trees and shrubs can be prevented by placing one-fourth inch hardware cloth cylinders around plants. Bury the bottom two to three inches of the hardware cloth in the soil to prevent voles from burrowing under the cylinders. When mulching, keep wood mulches at least six inches from the trunks of small trees.

### **How deep should I plant onion sets?**

Before planting onion sets, separate the bulbs into two size groups, those smaller than a nickel in diameter and those larger than a nickel. The larger sets often bolt (produce a flower stalk) and don't produce good-sized bulbs. Use the larger sets for green onions. The smaller sets can be allowed to develop into mature onions.

Plant onion sets in early spring as soon as the ground can be worked. Sets should be planted at a depth of 1 to 1 ½ inches. For dry onions, plant sets two to three inches apart. Sets grown for green onions can be planted closer together. Space rows 12 to 18 inches apart.

### **Is spring a good time to fertilize my June-bearing strawberries?**

Established plantings of June-bearing strawberries should not be fertilized in spring. Spring fertilization stimulates foliar growth, increases disease problems and produces softer berries. Lush, vegetative growth makes harvesting more difficult. Also, soft fruit are more likely to be attacked by fruit rots. As a result, a spring fertilizer application may actually reduce the fruit yield. June-bearing strawberries should be fertilized during the renovation process immediately after the last harvest of the season. Apply approximately five pounds of 10-10-10 or a similar analysis fertilizer per 100 feet of row during renovation.

## Evaluating Hay and Pasture Stands for Winter Injury

By Stephen K. Barnhart, Department of Agronomy

A grower has little control over climatic factors that influence winter injury, but understanding some management practices and winter weather characteristics may help to determine where winter injury risks are more likely:

Injury is more likely to occur on species and varieties with low inherent cold hardiness, such as alfalfa, birdsfoot trefoil, orchardgrass and the ryegrasses. Winter hardy species and varieties are less frequently injured.

Old alfalfa stands and plants weakened by disease are often more susceptible to winter injury. Young stands are less susceptible to winter injury.

Winter-Injury of alfalfa is less severe where a grass is present in the mixture.

Injury occurs more frequently where four summer-cuts were made or where a late fall cutting or grazing was practiced. Fall cutting or grazing may not allow accumulation of adequate carbohydrate reserves for the winter or leave stubble to catch snow.

Injury may be more severe where a good soil fertility program is not being followed.

Plants in areas with heavy ice cover, ponded and re-frozen ice, and where snow was absent during periods of extreme cold air temperatures are more vulnerable to winter injury.

### **Stand Evaluation**

When evaluating winter injury, consider both the number of plants per square foot and the age of the stand. Crown and root diseases also have a major effect on stand reduction of legumes, so plants should be checked for dead, dying, or diseased tissue. Winter-injured plants are often slow to recover in spring, so a quick decision to destroy a winter injured stand is not recommended.

### **Alfalfa**

Wait until the spring regrowth is about three to four inches high. Select random stand count sites. Check at least one 1-square-foot site for every five to ten acres. Dig up all of the plants in the 1-square-foot area. Pick at the crown and buds with a knife to determine if the tissue is still alive. Then count the number of live plants per square foot. Use the table below to begin your rating of the stand. Next, split the taproots and evaluate their general health. The core of healthy taproots is firm and creamy-white. Damaged or dying taproots are yellowish-brown to chocolate-brown in color and watery or dry and fibrous in texture. Only healthy plants will contribute significantly to yield, so if any of the taproots are more than 50 percent diseased, reduce your initial stand count accordingly. Plan your management this season, based on your stand evaluation.

#### **Age of stand and rating of winter survival**

	<u>Good</u>	<u>Marginal*</u>	<u>Consider Reseeding</u>
	Plants per square foot		
Year after seeding	+12	8 to 12	less than 8
2	+ 8	5 to 6	less than 5
3**	+ 6	4 to 5	less than 4
4 and older **	+ 4	3 to 4	less than 3

\* Alfalfa plants in thin stands often produce more individual stems per plant and compensate some in yield potential

\*\* If 50 percent or more of the plants have crown or root rot, consider reseeding.

**If stands are winter-injured, but will be harvested this season, allow plants to mature longer before cutting.** Allowing plants to develop to early, mid or even full bloom in a growth cycle will help the plants restore carbohydrates and vigor needed for subsequent production. It is best to allow plants in severely injured stands to go to nearly full bloom in first cut, and to early flower in subsequent cuttings. This gives weakened plants a chance to regain some vigor. Stands with less injury could be harvested somewhat earlier depending on the extent of the injury. If stands were only mildly injured allow at least one growth cycle during the season to go to 10 to 25 percent bloom. Most producers will choose second or third cutting to take advantage of the generally larger yield of the first cutting. *(Continued on next page)*

**Increase cutting height.** As the maturing stems are flowering, new shoots may be growing at the base of the plants. It is important to not remove these shoots as it will further weaken the plant to have to produce new ones.

**Maintain good fertilizer and insect management.**

It is particularly important that winter injured stands have adequate fertility. Soil test and apply needed fertilizer prior to first cutting if possible. And, be particularly vigilant in your insect scouting and management during the growing season following winter injury.

**Pastures**

Evaluate other legumes similar to alfalfa. The ability of red clover, white clover and birdsfoot trefoil to reseed may compensate for some stand loss. Sod-forming grasses, such as smooth bromegrass may spread and fill in for thin stands. But, bunch-type grasses, such as orchardgrass and timothy will not. For a legume in a legume-grass mix, consider the “marginal’ values given in Table 1 as “good’. While nitrogen fertilizer may help in the recovery of severely injured grass pastures, avoid using excessive nitrogen rates and be ready to manage weeds in these less competitive stands.

Reseeding in hayfields or pastures might be a viable option. **Reseeding more alfalfa into or immediately after a 2-year old or older stand is not recommended.** Overseeding or drilling grasses or red clover into thin or winter damaged stands should be done from now through April. Delaying seeding until later in the spring increases the risk of plant competition and seedling loss to increasingly dry and hot soil surface conditions of early summer.

**Iowa State University Extension has a number of publications you can reference for further information on this topic:**

- [Evaluation for winter injury](#), PM 1365
- [Selecting forage species](#), PM 1792
- [Establishing new forage stands](#), PM 1008
- [Interseeding and no-till renovation](#), PM 1097

**Spring Mulching Reminder**

*By Jennifer Bousset, Department of Horticulture*

As every gardener knows, it is difficult to wait for the frost-free date to begin the gardening season. That is why it’s good to find things that can be done any time of year. Mulching is one activity that does not depend on the weather and it provides many benefits to the gardener throughout the year. Depending on the type of garden, weed control is the most beneficial outcome of mulching. Mulch will also act as insulation to maintain temperature and moisture content of the soil. Additionally, many gardeners view mulch as the element that adds the finishing touch to the landscape.

There are many options for mulch selection and they can be generally categorized as organic or inorganic in origin. Some examples of organic mulches include grass clippings, bark mulch and wood chips while inorganic examples include landscaping rock or plastic. Each type has their benefits depending on the type of gardening. For example, plastic mulches are generally used in commercial vegetable production while grass clippings are more commonly used in the home vegetable garden. Bark mulch or wood chips are often used for shrub borders and perennial beds.

In general, mulch should be applied in even layers up to four inches deep. To read more about the benefits of mulch, as well as the common problems associated with it, see the Iowa State University publication [Using Mulches in Managed Landscapes](#), available at the Extension Office or online at [www.extension.iastate.edu/store/](http://www.extension.iastate.edu/store/) (#SUL12).



## **How and Why to Avoid Soil Compaction**

*Mahdi Al-Kaisi, Department of Agronomy*

This spring most Iowa soils have plenty of moisture in the profile and in some areas may exceed field capacity, causing many producers to enter fields at less-than-ideal soil conditions. High soil moisture increases soil compaction caused by field traffic and machinery. Over the past decade the size of Iowa farms has increased, leading to larger and heavier equipment. However, equipment size is only one factor among many causes of the soil compaction problem.

Rushing to the field when the soil is wet can increase chances for severe soil compaction combined with the weight of equipment and traffic pattern in the field. Conducting field operations during wet field conditions compounds the amount of compaction occurring. Maximum soil compaction occurs when soil moisture is at or near field capacity because soil moisture works as a lubricant between soil particles under heavy pressure from field equipment.

Compaction near the surface, within the top three to six inches of the soil, is generally associated with the amount of surface pressure. Compaction below that is primarily associated with axle weight. For example, if soil a foot below the surface is at field capacity and the tractor's axle load is seven to eight tons or greater, compaction can occur at this depth, despite lower surface pressures.

Indications of soil compaction during and immediately following a normal rainfall include slow water infiltration, water ponding, high surface runoff and soil erosion. Additionally, soil compaction can be diagnosed by stunted plant growth, poor-root-system development and potential nutrient deficiencies (i.e., reduced potassium uptake). These soil compaction symptoms are a result of increased bulk densities that affect the ideal proportion of air and water in the soil.

The most efficient way to verify soil compaction is to use a tile probe, spade or penetrometer to determine a relative soil density. Soil moisture conditions can have a significant effect on penetration resistance. For example, in dry soil

conditions soil penetration resistance is much higher than wet conditions because soil water acts as a lubricant for soil particles. Therefore, it is wise to determine soil compaction early in the season or compare observations and measurements from suspected areas with adjacent areas that have little chance of soil compaction due to traffic patterns.

### **Management decisions to minimize soil compaction**

First, the most effective way to minimize soil compaction is to avoid field operations when soil moisture is at or near field capacity. Soil compaction will be less severe when soil tillage, fertilizer application and planting operations occur when the field is dry. Soil moisture can be determined using a hand ball test or observing a soil ribbon test.

Second, properly adjust tire size and air pressure. Larger tires with lower air pressure allow for better flotation and reduce load on the soil surface. Additionally, by using larger tires that are properly inflated increases the "footprint" on the soil.

Third, use the same wheel tracks to minimize the amount of land traveled across. Most damage occurs with the first pass of the implement. Using controlled traffic patterns can be done effectively by using implements that are the same width for soil preparation, planting, row cultivation, spraying and harvesting.

Soil compaction can be a serious problem for Iowa farmers, but with proper farm management, compaction can be minimized. Remember to hold-off on soil tillage operations until soil conditions are drier than field capacity and look into the benefits of conservation tillage systems.

### **Top 10 Reasons to Avoid Soil Compaction**

1. Causes nutrient deficiencies
2. Reduces crop productivity
3. Restricts root development
4. Reduces soil aeration
5. Decreases soil available water
6. Reduces infiltration rate
7. Increases bulk density
8. Increases sediment and nutrient losses
9. Increases surface runoff
10. Damages soil structure