

# Plant Wise

IOWA STATE UNIVERSITY  
University Extension

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Prepared by Denise Fikes, Mills County Horticulture Assistant

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## When Should I Spray for Bagworms?

By Donald R. Lewis  
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There has been considerable interest and worry in the southern half of Iowa this spring as homeowners and property managers start thinking ahead to whether the bagworm caterpillars will defoliate their spruce, cedar or arborvitae trees again this summer as badly as they did last. It's a logical concern, but please; wait a little while longer. Bagworm insecticides such as *Bacillus thuringiensis*, spinosad, Sevin, permethrin or bifenthrin will be ineffective and a waste of time if they are applied too early (just like they were a complete waste of effort when they were applied too late last summer!). Insecticide control becomes less effective as the season progresses and the larvae increase in size. So we want to spray just at the time the eggs are hatching and the small larvae appear.

According to various references, the bagworm eggs that spent the winter inside the silk pods hanging on the trees from last year's infestation should start to hatch in late May or early to mid-June. That's quite a range in time that gives us plenty of room for error (too early or too late).

One method for finding the best time to treat is to frequently and thoroughly inspect trees that were infested last year. This will take time and diligence as the

newly emerged caterpillars and their bags are quite small. Also, bags are made of silk and bits of plant foliage. Newly-constructed bags with fresh plant bits are effectively camouflaged in among the needles and are hard to find.

A second method for predicting when new caterpillars will be on the trees is to use phenology. Phenology is the study of recurring biological events, especially natural plant and animal rhythms that occur earlier or later in the year in response to seasonal and climatic changes in the environment. Phenology has been closely studied by many keen observers over the years. One outcome of their records is the emergence of patterns of coincidence in the landscape. Researchers watching bagworm eggs hatch and the caterpillars appear on infested trees noticed that the catalpa trees and Japanese tree lilacs in the area happened to be in bloom at that same time. These showy, common landscape plants became known as phenological indicator plants and by watching the indicator plants we can accurately predict specific insect activities. Note that the indicator plants are not infested with the pest in question. They are merely an indicator of what might be happening elsewhere in the landscape.

Bottom line: **don't spray too early**. Wait for catalpa trees and Japanese tree lilacs to bloom in your area, and then go inspect conifer trees for the presence of caterpillars and tiny bags. If they are present, **then** is the time to spray.

# Strategies to Maximize Your Landscape Dollar

By Ann Marie VanDerZanden  
Horticulturist  
Iowa State University



Landscaping your home can be an expensive proposition. You should expect to spend between 10 percent and 20 percent of your home's value on landscaping. For example, if you live in a home valued at \$200,000 that calculates to between \$20,000 and \$40,000. Not exactly spare change.

With a little ingenuity and patience you can create a beautiful home landscape for less. Here are some tips for both new landscapes and renovations of existing landscapes.

## New Landscapes

**Consider working with a professional:** When doing a large project, working with a landscape professional can be helpful. Money spent early in the project for the services of a landscape designer, landscape architect or certified nursery professional can pay off in the end. Having a clear plan of the overall design and a strategy to phase portions of the project as your budget permits will ensure the design will look good when completed. Also check out nurseries that offer landscaping services. Many will offer discounts on plant material if you purchase both their landscaping services and plants.

## Existing Landscapes

**Work with what you have:** Capitalizing on your property's assets such as existing plants, natural slopes and flat areas can save a significant amount of money. Preserving existing plants, particularly if they are large, can reduce the expense of new plant materials. Leaving natural slopes in place rather than grading them level can also save a lot. If the slope is too steep to mow, plant it with a ground cover to prevent erosion. At the same time locating a patio on an already flat area further reduces the costs of excavating and hardscape materials.

**Hire a horticulture consultant.** Hiring a professional to draw a comprehensive landscape plan can cost between \$500 and \$1,500. If you have an idea of what you want and are able to create a rough sketch, you can hire a horticulture design consultant to look at it and provide feedback.

## New and Existing Landscapes

**Start with good soil.** Make sure the soil can sustain landscape plants. Consider adding necessary amendments (compost, manure, organic matter) if necessary to provide the right growing environment.

**Choose plants wisely.** Choose the right plants for your location. Consider hardiness, mature size, light requirements and moisture requirements. Selecting the right plant for the right location, and planting it correctly, can save a lot of money in the future when improperly located plants die or need to be replaced.

**Hire yourself.** Doing a majority of the landscape installation yourself can save a lot of money. You may want to hire a professional for jobs that take more muscle or skill than you have (patios, decks, retaining walls), but if you plant the small trees, shrubs, perennials and annuals, you'll save a lot.

**Acquiring plants.** Nurseries, garden centers and mail-order nurseries are obvious places to purchase plants, but there are some cheaper alternatives to consider. Look for plant sales at local arboretums or botanical gardens, or those organized by local Master Gardeners. Talk to neighbors or fellow gardeners to see if they have perennials that need to be divided. Offer to help them divide the plants if you can take home a few for your garden. There are also a number of resources on the Internet that offer free or discounted plants. One caution though: Buyer Beware of plants purchased sight unseen.

Purchase larger sizes of specimen trees or shrubs or those that have a slow growth rate. Purchase 4 inch or 1 gallon sized perennials since they tend to grow quickly. Many times 4" plants are half the price of 1 gallon plants and the 4" plant will reach the same size as the 1 gallon by the end of the growing season.

If you can wait until fall, buy plants and other gardening supplies when retailers want to clear out their merchandise and products are marked down. In the Midwest, fall is a great time for planting because it gives plants time to get established before the summer heat arrives.

A home landscape is a long term investment. Working with professionals, starting with a good growing environment and choosing plants wisely will pay off in the end. But most importantly is the need to be patient. The old adage about landscapes is true: The first year it sleeps, the second year it creeps, and the third year it leaps. Just think what you have to look forward to!

The ISU/Mills County  
Master Gardeners & Co-Horts  
wish to thank everyone who supported their  
plant/bake sale in early May. It was a great  
success! The dollars raised will be used to  
support horticulture education and programs  
in Mills County.

# Frequently Asked Questions About Fertilizers

By Cindy Haynes  
Horticulturist  
Iowa State University Extension



As the growing season gears up, it is also a great time to start fertilizing plants for a healthy garden. But figuring out how and when to use fertilizers can be confusing, and improper fertilization can be harmful to plants. Here are a few commonly asked questions about fertilizers.

## What do the numbers on a fertilizer bag represent?

The numbers indicate the amounts or percentages of nitrogen, phosphate and potash in the fertilizer. These three nutrients are needed in relatively large quantities by most plants. The first number refers to the amount of nitrogen, the second refers to the amount of phosphate, and the third refers to the amount of potash. For example, a 10-6-4 contains 10 percent nitrogen, 6 percent phosphate and 4 percent potash.

## There are so many fertilizers out there, which one is best for my plants?

Deciding what type of fertilizer to use can be a bit confusing. Let the numbers and the labels on the bag be your guide. Fertilizer labels often tell you the type of plant it is best for. For example, lawn fertilizers generally contain high levels of nitrogen (first number) to promote vegetative or leafy growth. Lawn fertilizers are great for your grass, but lousy for annual flowers (too much nitrogen promotes excessive vegetative growth and inhibits flowering). General purpose fertilizers are often complete (contain nitrogen, phosphate and potash) and are good for a wide range of plants in the garden, landscape or containers.

## What form of fertilizer should I use?

Home gardeners commonly use granular or liquid forms of fertilizer. Granular fertilizers can be water soluble (fast) or slow-release materials. Slow release fertilizers are formulated to release nutrients over several months so one application in spring may be all that is necessary. Liquid fertilizers are fast-acting and can be applied when you water.

## How much and how often should I fertilize my plants?

The rate and frequency of application depends on the nutrient analysis of the fertilizer, plant species, soil type, and other factors. For outdoor or garden plants always start with a soil test to determine the amounts of fertilizer needed. There are some general guidelines on how often to fertilize plants.

A granular fertilizer is often applied to vegetable gardens at the beginning of the growing season, usually at planting or prior to planting. Annual flowers may require frequent fertilization throughout the growing season,

especially if they are growing in containers. Houseplants need regular fertilization in spring, summer, and fall. Many houseplants do not need fertilizer in the winter. Established perennials may need fertilizer once in the spring every other year. Established trees and shrubs rarely need fertilizer. But these are general recommendations and could vary, so watch your plants. Poor or slow growth and overall yellowing are signs that a plant may be lacking essential plant nutrients and would benefit from an application of fertilizer.

## Can you fertilize too much?

Yes, over-fertilization can burn plant leaves or stunt growth. More is rarely better when using fertilizers. Always read and follow label recommendations for fertilizer rates, dilutions, and application guidelines. If you are ever in doubt, always err on the conservative side or use less fertilizer.

## My plant looks sick. Should I fertilize it?

First you must figure out why the plant is not doing well. Ask yourself the following questions before pulling out the fertilizer bag: "Has it been over-watered or under-watered? Is it receiving enough light or too little light? Are there signs of disease or other pests?" Fertilizer doesn't fix all problems, and in some situations it can make the problem worse.

## Why are some fertilizers blue or pink?

Dyes (usually blue) are added to some fertilizers to identify them as a fertilizer and so that you can loosely determine how much you are applying. As you would expect, a dark blue solution contains higher amounts of nutrients than a light blue solution.

## Are fertilizers harmful to pets or kids?

Fertilizers, like many other household chemicals, should be kept out of the reach of children and pets.

Hopefully these questions and answers will help you make good decisions on using fertilizers in your garden or landscape this year.

## Sidebar - Some general tips on fertilizers.

Always read and follow label directions before applying any fertilizer.

Avoid applying fertilizers when the soil is dry. This increases the chances for burning the foliage.

Newly planted trees, shrubs and perennials rarely need fertilizer during the first growing season. Regular applications of water, to aid in root establishment, are more important.

For container plants in soilless media:

- Regular fertilizer is important when the plant is growing.
- If you use water soluble fertilizers, avoid fertilizing every time you water.

Occasionally use water without the addition of fertilizers to help prevent salt buildup.

## Upcoming Horticulture Events of Interest:

### **Glenwood Lake Park Farmers Market**

Wednesdays throughout the summer beginning on June 3 4:00pm – 7:30pm

Vendors offering locally-grown garden and orchard produce, baked goods, eggs, & crafts.

ISU Mills County Master Gardeners will again have a question/answer table to help you solve your garden problems.

### **Silver City Farmers Market**

Saturdays throughout the summer beginning on June 6 8:00am – 11:30am

ISU Mills County Master Gardeners on hand to answer all your gardening questions!

### **Mills County Fair**

Saturday, July 18

Open Class Floriculture & Agriculture

Entries received at the Mills County Fairgrounds 8:00AM – 12:00 Noon

#### **Enter your Flowers and Vegetables!**

Open Class fair books are available at area banks, libraries and the Extension Office. Call 624-8616 for more information.

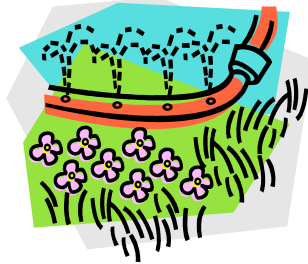
watered deeply every 7 to 10 days during dry weather. Small trees and shrubs may require watering for only one growing season. It may be necessary to water large trees for 2 to 3 years.

When watering gardens and landscape plantings, soil characteristics and weather conditions actually determine the amount and frequency of watering. For example, sandy soils require more frequent watering than loam soils.

2. Water uniformly. Uniform application of water prevents waste and produces even growth.
3. Water efficiently. When irrigating with a sprinkler, early morning is the best time to water. A morning application allows the water to soak deeply into the ground with little water lost to evaporation. When watering is completed, the plant foliage dries quickly. Watering at midday is less efficient because evaporation is rapid and strong winds may cause uneven water distribution. Strong midday winds may also carry water onto driveways, patios or streets, wasting considerable amounts of water. Watering lawns and gardens with a sprinkler in the evening or during the night may increase disease problems.

## Proper Watering Procedures

By Richard Jauron  
Department of Horticulture  
Iowa State University  
Extension



Important points for gardeners to remember when watering include:

1. Water deeply and infrequently. Deep watering promotes the development of a deep, extensive root system. Frequent, light watering promotes shallow rooting. Deep-rooted plants will be able to survive hot, dry weather much better than shallow-rooted plants because they will be able to reach the moisture deep in the soil.  
  
A deep watering once a week should be adequate for fruit, vegetable, and flower gardens. Apply approximately 1 inch of water per week. Once a week is also adequate for turfgrass. Newly planted trees and shrubs should be

In the fruit and vegetable garden, drip irrigation systems and soaker hoses are generally more efficient and cause fewer disease problems than sprinklers. Mornings and evenings are excellent times to water gardens when using a drip irrigation system or soaker hose.

4. Mulch landscape plantings and garden areas to conserve soil moisture. Mulching reduces the rate of evaporation from the soil surface and also limits weed competition. Organic materials, such as grass clippings, straw, and shredded leaves are excellent mulches for the vegetable garden. Wood chips, bark, and ground corncobs are good choices for perennial beds and trees and shrubs.

Proper watering practices can insure good fruit and vegetable yields, a lush green lawn, and the survival of recently planted trees and shrubs. They can also save time and money.

# Ask the ISU Extension Gardening Expert

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## Should I stake a newly planted tree?

Staking is not required for most newly planted trees. However, top-heavy trees and those planted in windy, exposed sites may require staking. If staking is necessary, allow the trunk to move or sway to encourage proper trunk and root development. To prevent damage to the trunk, use strong, wide strips of canvas, rubber or other materials to support the tree. Remove the stakes as soon as possible. In most cases, stakes can be safely removed after one growing season.

## What are some good drought tolerant annuals?

Many annual flowers perform best when they have a consistent supply of moisture throughout the growing season. However, some annuals tolerate dry conditions quite well. After they've been planted, drought tolerant annuals often need to be watered a few times until they're established. Once established, drought tolerant annuals require little watering. Drought tolerant annuals include periwinkle (*Catharanthus roseus*), cockscomb (*Celosia* spp.), spider flower (*Cleome hassleriana*), cosmos (*Cosmos* spp.), globe amaranth (*Gomphrena globosa*), medallion flower (*Melampodium paludosum*), rose moss (*Portulaca grandiflora*), dusty miller (*Senecio cineraria*), dahlberg daisy (*Thymophylla tenuiloba*) and zinnia (*Zinnia* spp.).

## What is the proper way to plant tomatoes?

Plant tomatoes in the garden after the danger of frost is past. In central Iowa, it's usually safe to plant tomatoes around May 10. Gardeners in southern Iowa can plant one week earlier, while those in northern counties should wait an extra week. The last practical date for planting tomatoes is approximately June 20.

Plant tomatoes in full sun. The planting site should receive at least six hours of direct sun each day. If the plants are in peat pots, tear off the top edge or make sure the top edge is well below the soil surface once planted. If the top edge of the peat pot is exposed to the air, it will act like a wick and draw water from the soil around the plant. If the tomatoes are in plastic pots or cells, carefully tap out the plants.

Set plants into the soil up to their first true leaves. Pinch off the bottom leaves of tall, lanky transplants and lay them sideways in a trench. Carefully bend the stem upward so that the upper few inches of stem are above the soil surface. Roots will develop all along the buried stem.

Spacing of plants depends on the growth habit of the variety and training system employed. Indeterminate tomatoes grown in wire cages should be spaced two to three feet apart, while a three- to four-foot spacing would be appropriate for indeterminate tomatoes allowed to sprawl over the ground.

Determinate tomatoes can be planted two to 2-1/2 feet apart. Rows should be spaced about four feet apart.

## How often should I pinch my mums?

Pinch chrysanthemums two to three times from spring to mid-summer. Remove the stem tips when the shoots are approximately 6 inches tall. New lateral shoots will develop along the stems. Pinch again when these new shoots reach a length of 6 to 8 inches. Pinching can be done with your fingers or a pair of hedge clippers. Continue pinching until early July. Pinching results in bushy, compact plants with additional flowers.

## Go Native or Go Wild!

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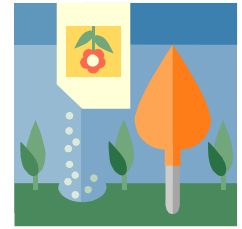
*It may take a few years, but a yard filled with wildflowers that bloom throughout the spring and summer can be a low-maintenance, no-mow beauty.*

By Linda Naeve  
Program Specialist  
Iowa State University Extension

Do you spend several hours each week mowing your lawn? Do you ever wonder what you can do to reduce the amount of time you spend on the mower without giving up your large lot or acreage? If you answered "yes" to those questions, the answer may be to go wild with wildflowers. The thought of this may bring visions of a weed patch and angry neighbors, but it doesn't have to be that way. A well planned and planted "wild" area containing native and/or wildflowers can be tidy and beautiful.

Native plants are sometimes referred to as wildflowers, but not all wildflowers are native plants. Native plants are those that were growing in a particular area before human settlement. Wildflowers are native or exotic (introduced) herbaceous plants that are capable of growing, reproducing and becoming established without actual cultivation or human intervention. Even if you decide to grow only "native" plants, do not confuse a garden of native plants with a reconstructed prairie. The process of developing a true prairie ecosystem is complex, involves specific genotypes of native plants and is difficult to accomplish with less than a quarter acre.

# JUNE GARDENING TO DO LIST



Native plants and wildflowers are attractive in small garden areas as well as larger expanses of land that are not cropped or mowed. As expected, a garden containing a variety of blooming forbs (broad-leaved plants) and grasses swaying in the breeze is a perfect match for our Iowa landscape. Besides being beautiful, there are several advantages to growing native plants. They adapt to our local conditions by tolerating harsh winters, summer heat, drought and wind. Once established, they require little or no irrigation. Native plants also grow well without additional fertilizer and are resistant or tolerant to most insect pests and diseases.

Plant species included in most wildflower mixes are selected for their ability to withstand the extremes of a specific climate and for their lasting flowers and variety of bloom times. Some common wildflower species found in mixes blended for the Midwest are: New England aster (*Aster novae-angliae*), cornflower (*Centaurea cyanus*), purple coneflower (*Echinacea purpurea*), lance-leaved coreopsis (*Coreopsis lanceolata*), corn poppy (*Papaver rhoeas*), black-eyed Susan (*Rudbeckia hirta*), bee balm (*Monarda* spp.) and Indian blanket flower (*Gaillardia pulchella*).

Wildflowers can be planted in the spring, summer or fall with advantages and disadvantages with each season. If you are interested in planting a wildflower area yet this year, the best plan would be to prepare the planting area this summer, order or purchase the seed this summer and plant the seed later in the fall.

**Site selection.** For most wildflowers, select an area that receives full sun. The area should have a somewhat natural look to begin with, such as along a wooded area at the back of your property, along the driveway or fence, or in a large expanse in the front or back yard.

**Soil Preparation.** Remove existing vegetation this summer and keep it weed free until planting time. Non-selective herbicides, such as Round-up®, will make the job easier. Wait until the vegetation is nearly brown and dead -- 10 days to 2 weeks -- before tilling the soil.

**Seeding.** Fall planting should be done after a killing frost. Plant your wildflowers the same time you plant your spring-flowering bulbs. A late planting is important so that the seeds will not sprout before winter. If your site is a slope with risk of soil erosion and washing the seed away, prepare the soil and plant in early summer.

For more information on native plants, get a copy of SUL 18, "Introduction to Iowa Native Prairie Plants" available from your local Iowa State University (ISU) Extension office.

*Extension programs are available to all without regard to race, color, national origin, religion, sex, or disability*

- Finish harvesting rhubarb and asparagus this month to allow the plants to start storing reserves for next year's crop.
- Cover broccoli, cauliflower, cabbage, and brussels sprouts to prevent cabbage worms from reaching and feeding on the plants. Use cheesecloth or a lightweight row cover to form the barrier.
- Rake and compost all immature apples that fall from the tree. This is a common phenomena called June drop. It occurs when trees produce more fruit than the plant can support. Eliminate June drop by hand thinning young fruit. After thinning, apples should be spaced 8 to 10 inches apart on the branches.
- Stake or cage indeterminate tomatoes to support vines and keep the fruit off the ground.
- Harvest herbs for drying before they flower.
- Continue deadheading plants to prolong bloom, prevent unwanted seedlings, and improve the overall appearance.
- Finish hardening off and transplanting annual vines into the garden. Anchor the trellis in place before or right after planting. Gently tie vines to the trellis to get them started climbing on their new support.

## Resources for Horticulture information

ISU's Hortline at (515) 294-3108

(Monday-Friday, 10 a.m.-noon, 1-4:30 p.m)

ISU/Mills County Extension: 712-624-8616

[www.extension.iastate.edu/mills/yardgarden.htm](http://www.extension.iastate.edu/mills/yardgarden.htm)

## Iowa State University Publications

PM 1942 Annuals (color book) \$5.00

PM 0819 Planting a Home Vegetable Garden (\$.50)

PM 534 Planting & Harvesting Times for Garden Vegetables (Free)

IAN 0302 Iowa's Summer & Fall Wildflowers (\$1.00)

## Horticulture Publications on-line

<https://www.extension.iastate.edu/store/ListCategories>