

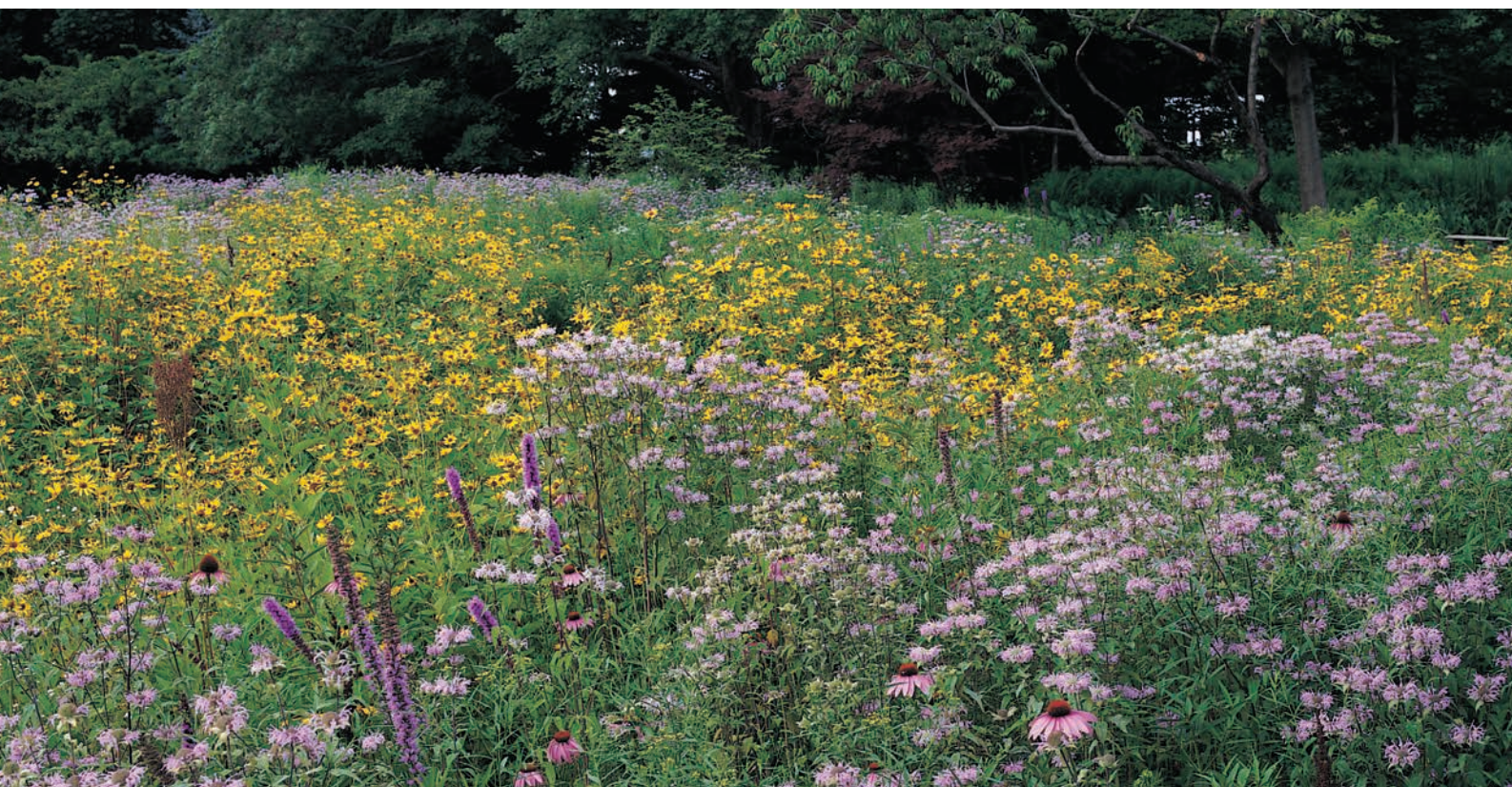
the allure of the
Meadow Garden

Creating a meadow garden takes patience and determination,
but the results can be incredibly rewarding.

BY CAROLE OTTESEN

THERE'S ROMANCE IN A MEADOW. A field of pliant, swaying grasses and bright summer flowers evokes a time when the world was a younger, simpler, safer place. Global warming wasn't happening, fish were jumping out of pristine lakes and streams, and genetically modified corn and soybeans were pure science fiction.

Along with a meadow's aesthetic charms, the yearning for simpler times was and remains a force behind a meadow movement that came to life in the iconoclastic Sixties. Around that time, packets of mixed wildflower seeds began appearing on the market. The idea was that one had only to scatter the seeds on the waiting ground and, presto, a meadow would spring up.



We all know that is not what happened. Typically, the results were disappointing, if not disastrous. But the allure of meadows remained. With trial, error, and energy, gardeners learned how to make them. And they now know that while meadows *appear* to come about as gracious, spontaneous gifts of nature, appearances deceive.

More than 20 years ago, a meadow was started at River Farm, home of the American Horticultural Society in Alexandria, Virginia. Two acres that had once been a field and had subsequently become a lawn, were disc-harrowed and seeded with a suitable wildflower mix. In record time, the entire two acres produced a bumper crop of pokeweed (*Phy-*

tolacca americana). Steve Davis, then horticulturist, theorized that the disc-harrowing brought to the surface pokeweed seeds that had lain dormant for 100 years. They had germinated swiftly and easily outgrew the slower-developing wildflowers. Davis learned the hard way that one of the toughest places to start a meadow is in what was once a field.

Above: Broad drifts of soft purple *Monarda fistulosa* and golden yellow *Heliopsis helianthoides* flowers are punctuated with *Liatrix pycnostachya*, *Echinacea purpurea*, and various grasses in this Connecticut meadow designed by landscape architect Richard Bergmann. Previous page: A variety of colors, heights, and contrasting textures provide a long season of interest in Stephanie Cohen's meadow garden outside Philadelphia.

FROM THE GROUND UP

“It is vital that competing weeds be eliminated to allow the young seedlings to grow,” says Neil Diboll, president of Prairie Nursery, a Westfield, Wisconsin, firm that has installed meadows and prairies around the country. (For more about prairies, see “The Prairie Difference,” right.) The way to do that is to prepare the site with a regimen tailored specifically to existing conditions.

When old fields are prepared for planting by cultivation alone, “every cultivation cycle brings up new weed seeds to the soil surface where they can germinate,” explains Diboll. It may take cultivation every two to three weeks for a year or more until the weeds are gone.

Using an herbicide such as glyphosate to kill existing vegetation is tempting because the soil need not be turned, so seeds remain buried, although several applications may be needed during the season to kill weeds that arise at different times.

When a more recent attempt to start a meadow at River Farm began in 2003, glyphosate was employed to prepare the site (for more details on River Farm’s meadow and its establishment, see “How to Make a Meadow,” page 34).

While the large size of the River Farm meadow made using glyphosate a practical choice for clearing the soil, horticulturist and author Stephanie Cohen opted for an organic method to prepare her roughly half-acre meadow site alongside her house on the outskirts of Philadelphia. She eliminated existing growth by first removing the sod and then “putting newspaper down in the fall to smother everything that might come up.”

For those uncomfortable with using chemicals to prepare the ground for meadow plants, the smother-method is simple and effective, particularly for small-scale plantings.

To keep the newspaper in place, cover it with a layer of any organic product that will decompose—chopped leaves, grass clippings, etc. To be effective, however, this method takes months.

Cohen began her meadow preparation in fall. Over the winter and early spring, she says, “the layers of newspaper kept unwanted plants from germinating. And we didn’t plant until the beginning of May.”

Solarization, another organic tech-

THE PRAIRIE DIFFERENCE

Although similar in appearance, naturally occurring meadows and prairies are distinctly different types of plant communities. A meadow is a transitional stage while a prairie is a comparatively stable community.

A meadow, often a small opening in woodland, may be a naturally occurring community of forbs and grasses where erratic rainfall or drought discourages the establishment of trees. Or it may be an abandoned field in transition to woodland. To prevent the natural succession of a meadow to woodland—and to maintain a meadow garden—opportunistic woody plants must be removed and the meadow mowed periodically.

Before European settlement in North America, prairie was the dominant flora of vast areas of the continent, covering over a million square miles. A prairie is a climax community, predominantly grassland, typically treeless, with only about 30 percent forbs and less than five percent shrubs. Prairies can be tall grass, short grass, or mixed, depending upon rainfall and site conditions. In nature, prairies often regenerate by fire; after the above-ground vegetation burns off, the fire-resistant roots re-grow.

—Rita Pelczar, Contributing Editor



Prairies, like this one in Missouri, are typically grasslands.

nique for meadow preparation, involves spreading and anchoring clear plastic sheeting over the area to be planted in order to trap the sun’s heat. In full sun, this raises soil temperatures to as much as 140 degrees Fahrenheit on the surface and as much as 100 degrees a foot or more down



Spreading layers of newspapers over bare soil to smother weeds is one effective technique for meadow site preparation.

into the soil. If undertaken for three to six weeks in sunny weather during the hot summer months, the plants and seeds under the plastic covering will be killed. After the plastic sheeting is removed, the area can be seeded or plugged with young plants. (For more information about soil solarization, see “SMARTGARDEN: Harnessing Solar Power” in *The American Gardener*, July/August, 2003.)

LET IT BE

It is also possible simply to let a field grow. The late, great Pennsylvania gardener Joanna Reed created her meadow successfully this way, and it has also worked beautifully in the meadow in Fern Valley, home of the native plant collection at the U.S. National Arboretum in Washington, D.C. Reed augmented her meadow by plugging in desirable forbs. She also monitored the meadow closely, cutting out plants she didn’t want.

HOW TO MAKE A MEADOW

The André Bluemel Meadow at River Farm, which will eventually encompass five acres, was initiated in 2003. Although the scale of this meadow is larger than most people would plan for a home garden, the steps involved in its establishment are the same.

Step 1: ELIMINATE WEEDS

Weeds can be eradicated by a variety of methods, including repeated tilling, smothering with newspaper, solarization, and herbicides (see page 33). The method you choose depends on factors such as the size of the planned meadow and your energy level or access to “helpers”. Because of the scope of the AHS meadow project, AHS Horticulturist Peggy Bowers used several applications of glyphosate herbicide to kill the existing vegetation.

Step 2: SOW SEEDS AND/OR PLANT PLUGS

Once the meadow site is cleared of weeds, it's time to sow seeds or plant the meadow with the mixture of grasses and forbs you have chosen. Mid-spring or early fall are the best times to plant. If you are sowing seeds, use a rake to loosen the top layer of soil and scatter your seeds. Cover the area with a fine layer of weed-free straw.

If you are putting in plants, plugs are the most economical choice. Plant individual herbaceous perennials and grasses in broad swaths for best effect, setting plants about a foot apart so they have a little room to spread but will overlap to crowd out weeds.



The first quarter of River Farm's meadow project was initiated in 2003. By August 2005, (above) a variety of forbs and grasses had taken root and spread.

For the first phase of the River Farm meadow, Bowers seeded in 100 pounds of little bluestem (*Schizachyrium scoparium*). With the help of many volunteers and AHS staff members, she also planted over 35,000 plugs—with a ratio of three grasses to one forb—donated by former AHS Board Chair Kurt

Bluemel of Kurt Bluemel Nursery, Inc., in Baldwin, Maryland.

Step 3. WATER AND WEED

After seeding or planting a meadow, it must be watered immediately. Regular irrigation is needed for the first growing season to help plants get established.

Initial maintenance of a meadow is intensive. Watering with sprinklers and an average of 20 hours of weeding weekly has been required during the first season of each phase of River Farm's meadow.

Step 4. MOW PERIODICALLY

Mowing the meadow once or twice a year cuts back the previous year's dead vegetation and helps prevent opportunistic woody plants from developing. The meadow at River Farm is mowed once a year, in February. Pathways are mowed more frequently to ensure visitors have an inviting entryway into the meadow.

—C.O.



Volunteers, AHS staff members, and helpers from Mount Vernon and Kurt Bluemel Nursery, Inc. undertook the daunting task of setting over 35,000 plugs into the ground.

This just-letting-it-grow method presupposes that the gardener will:

- 1) monitor the meadow regularly and be able to recognize potentially unwanted plants and woody growth while it is young enough to be yanked out, and
- 2) take the time and effort to systematically destroy them as they emerge.

PLANTING THE MEADOW

Once the existing vegetation is eliminated, it's time to sow seed or plugs—small rooted plants. For a large area, seeds are cheaper, but slower to develop. To prevent seeds from blowing away and help keep them moist, consider applying a light mulch.

“The benefit of plugs over seeds are that the meadow establishes faster,” says River Farm Horticulturist Peggy Bowers, “and you can create patterns.” Instead of random planting for the River Farm meadow, Bowers sited taller grasses farther back, while short grasses such as *Bouteloua gracilis* were planted on the front edge. She placed forbs in swaths throughout the meadow. Cohen planted her meadow using plugs and a few native bulbs.

Although most meadow species tolerate drought fairly well, it is important to water the seeds or plugs until they are well established. After planting her meadow Cohen “watered it for several weeks.” After that, says Cohen, “we did nothing.” At River Farm, the meadow was watered weekly unless there was a significant rainfall. Watering continued for a year.



AHS Horticulturist Peggy Bowers mows the meadow at River Farm once a year, in February, to remove opportunistic woody plants and allow desired plants to grow in the new season.

Resources

Meadows by Christopher Lloyd. Timber Press, 2004.

Natural Landscaping by John Diekelmann and Robert Schuster. University of Wisconsin Press, 2002.

The Wildflower Meadow Book: A Gardener's Guide by Laura C. Martin. Globe Pequot Press, 1990.

MOWING IT DOWN

“A meadow left to its own devices,” says Bowers, “will not stay a meadow.” Once it is up and growing, maintaining it involves removing invading weeds and periodic mowing to prevent woody plants from taking over. Mowing timing and frequency varies depending on the situation. At least one mowing is generally recommended between late autumn and early spring. Cohen cuts her meadow back once a year in February as does Bowers.

For aesthetic reasons, Reed usually mowed twice each year—once in late winter and again in midsummer. Summer mowing kept the meadow shorter, which made it easier to see the flowers that came up. Summer mowing should be timed to avoid disturbing nesting wildlife and emerging box turtles.

Cohen also maintains a neatly cut edge

around her meadow because it prevents the meadow from encroaching on her lawn, and it “keeps people from thinking it looks unkempt,” she explains.

The twice yearly or annual mowing is a maintenance dream that takes time, because the labor of meadow-making is heavily front-loaded. “The first year is the hardest,” says Bowers, who ticks off troublesome intruders to be eliminated: from vines like oriental bittersweet and Japanese honeysuckle to woody plants such as ailanthus and paulownia that grow back with vigor from their stumps after mowing. To rid the meadow of these nuisances Bowers paints the cut stumps with Garlon®, a weed and brush herbicide.



A monarch butterfly alights on some milkweed flowers in the River Farm meadow.

Already the River Farm meadow is showing promise: “Meadows are not low maintenance but they are low impact on the environment,” says Bowers. “As far as wildlife is concerned, the meadow is providing numerous kinds of habitats.” Bowers has observed bobwhites, eagles, robins, groundhogs, wild turkeys, and a family of foxes who have made the meadow their home. Bluebirds nest in their boxes, and a variety of butterflies abound.

Anyone who has installed a meadow will tell you it is the devil to get started, but well worth the effort. Inscribed on a piece of slate in the River Farm meadow are the words left by Emily, Annie, and Jess—AHS interns who helped Bowers plant and weed the meadow last summer: “Meadows are not made by sitting in the shade.”

Carole Ottesen is a contributing writer for The American Gardener.