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Protecting Pollinators in Your Yard



Photo courtesy of John Yushock.

Most people who are active in caring for their lawns and landscaped plants are aware of (and concerned about) the decline of insect pollinators, such as certain types of bees and butterflies, that has occurred over the

past couple of decades. Regarding the economic importance of pollinators, a recent government report stated that “honey bees enable the production of at least 90 commercially grown crops in North America . . . [and that] native wild pollinators, such as bumble bees and alfalfa leafcutter bees, also contribute substantially to the domestic economy.”

Reasons for the diminishing numbers of honey bees include combinations of habitat loss, parasites (such as mites), diseases (including bacteria and viruses), and pesticide exposure. Even sublethal exposures to pesticides can negatively impact insect pollinators in many ways, such as negatively affecting their orientation and feeding behaviors, ability to reproduce, and increase their susceptibility to diseases.

For pollinator conservation, the most important thing a homeowner can do is to not apply pesticides to plants with open flowers. Additionally, to encourage pollinator presence a homeowner should plant a variety of plants with different bloom colors and shapes that flower at different times throughout the growing season. This will provide continuous food (nectar and pollen) sources and nesting habitats for many types of insect pollinators.

When utilizing turfgrass insecticides, several practical measures for protecting pollinators and other beneficial insects should be implemented. For example:

- Mow all areas before applying insecticides. This will remove most of the weed flowers, and it will reduce bee foraging in insecticide treated areas.
- Apply insecticides in the early morning or late evening when bees are less likely to be actively foraging (or when the air temperature is below 55°F).
- Use buffer strips between treated turf areas and landscape beds.
- Consider using spot treatments rather than broadcast applications.
- Whenever possible, use insecticides that are less toxic to bees.

It should be remembered that insecticide use should be the last resort in managing insect pests. We all want to maintain the visual appeal of our yards and landscapes, but most insect species found feeding on our flowers, ornamentals and turf are not harmful to the plant,



and their presence in low densities should be tolerated. Both homeowner and commercial use of insecticides should involve careful, responsible, and prudent applications of compounds that are toxic to beneficial insects. Beginning in 2014, some pesticide labels started to feature a “pollinator protection box” (or bee icon) that will alert applicators about specific use restrictions found in the directions that apply to the product’s use in order to protect bees and other insect pollinators.

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Gardening Makes Cents

Someone once mused: "Money may not be the most important thing in life, but it's reasonably close to oxygen on the 'must-have' list." All sarcasm aside, most of us struggle to find ways to increase our disposable income and would welcome additional financial resources. One way to accomplish the latter is to garden. Saving money is just one of the many benefits of home gardening, which is the subject of this article.

1. Economic Benefits

As our nation emerges from a prolonged period of recession, saving money remains on the mind of most people. Vegetable gardening is an excellent way to save on the family food bill. The National Gardening Association estimates that a well-maintained vegetable garden yields an average return of \$500 per year. Multiplied by the number of vegetable gardens in the country (~36 million), the NGA estimates that American food gardeners are producing more than \$21.6 billion of produce a year.

A 2012 study conducted by Oregon State University investigated the cost of establishing a vegetable garden, versus yield and cost savings. The study revealed that the mean value of a home vegetable garden was \$0.74 per square foot of garden area. For a modest-sized garden of 500-700 square feet, this equates to a return of \$370 to \$518 the first year alone. These values were projected to increase in future years, since the cost of maintaining a garden is less than establishing one.

Several years ago, the director of Kitchen Gardeners International, weighed and recorded each vegetable harvested from his 1,600-square-foot garden outside Portland, Maine. At the end of the growing season he found he had saved about \$2,150 by growing produce for his family instead of buying it.

On does not have to spend \$500 on a raised bed filled with an artificial growing medium to benefit economically from gardening. A recent study by Burpee Seeds revealed that \$50 spent on gardening supplies can be multiplied into \$1,250 worth of produce annually. This twenty-fold return on investment also was documented by a national survey conducted a number of years ago. Simply put, if vegetable gardening does not reduce your food bill you are doing something wrong.

2. Health Benefits

It has been well documented that physical activity is important for maintaining good health, both physical and mental. The digging, hoeing, raking, etc. associated with gardening are great forms of exercise while doing something productive. The average gardener burns between 300 and 400 calories per hour while



Photo courtesy of National Garden Bureau

gardening. That same person would have to walk about four miles at a fairly brisk pace to use up the same number of calories. Someone once remarked, "gardening is a labor of love; a treadmill is just labor." Also, research has shown that gardening reduces stress which is all too much a part of our daily lives and can lead to health problems of various types.

Gardening offers nutritional health benefits as well. Eating fresh vegetables and fruits is known to be important for good health. Some suggest it may even reverse the aging process. The availability

of fresh, inexpensive produce from the family garden is conducive to maintaining good dietary habits and (at times) forces greater vegetable consumption. When shopping at the supermarket, you might purchase one zucchini. Plant zucchini in a garden and you suddenly are looking for new recipes to make good use of the bounty of your harvest.

3. Psychological Benefits

By allowing people to connect with nature and other living things, gardening tends to restore our spirits and make us feel good about ourselves. Working with plants tends to divert one's attention from other trials and tribulations of life and affords people the opportunity to achieve a level of serenity and enjoyment that often escapes us in our technologically-based society.

Simply being surrounded by growing plants and blooming flowers is a way to become immersed in another world and a diversion from the stresses and demands of life. Research conducted by the non-profit organization Gardening Matters revealed that a ten percent increase in nearby "green space" decreased research subjects' health complaints in an amount equal to reducing the person age by five years.

Humans need to feel needed and successful in life. Planting and caring for a flourishing flower or vegetable garden imparts a sense of accomplishment without unreasonable expectations often placed upon us by society. For this and other reasons Plant Therapy is a therapy modality many hospitals and health care facilities now offer. Plant Therapy recognizes the healing power of plants whether people are suffering from physical, psychological or emotional problems.

4. Environmental Benefits

Gardens benefit our planet in many ways. They reduce our "carbon footprint" by growing food locally instead of having it shipped in from distant locations. Plants take in carbon dioxide as they manufacture food thus helping to reduce the concentration of greenhouse gasses. The latter have been linked to global warming and climate change. Gardens help to reduce soil erosion by slowing rainfall runoff and allowing it to infiltrate more slowly into the ground. Additionally, gardens tend to serve as a food source and gathering place for many types of wildlife such as butterflies and birds.

5. Social Benefits

Working together strengthens the bonds between people. Gardening represents a universal language that can strengthen family relationships and is a wonderful way for generations of family members to interact. The most valuable "produce" from



Photo courtesy of National Garden Bureau

a garden just might be the joy derived from working with family and friends.

Gardening also can help bring communities closer together, ameliorating differences between socioeconomic, racial and ethnic groups. For example, research has shown that community gardens and urban forests lead to a lower level of crime and domestic violence in cities. Even corporate America is considering the advantages of surrounding people with plants as it emphasizes the importance of landscaping places of business.

6. Educational Benefits

Gardening is a learning experience; every year provides different challenges from which one can learn. Gardening can encourage children and adults alike to be more curious about their surroundings and nature. It is a great way to teach youngsters the joy that can come from work and that positive results are not always instantaneous in life. Gardens make us more aware of our senses through simulation of sight, smell and touch. They have the ability to motivate people in many different ways and serve as a creative inspiration.

In short, gardens and gardening remind us of everything that is good about life—the beauty of nature, the feeling of pride and sense of accomplishment for having done something productive, and the realization that our efforts are helping to improve ourselves, our society and our environment. For those readers who are gardeners, best wishes for the upcoming growing season—relish it while it lasts. For those of you who are not, there is no time like the present to start.

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June Gardening Calendar

| Category | Week | | | | Activity |
|-------------|------|---|---|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 1 | 2 | 3 | 4 | |
| Ornamentals | x | | | | Deadhead bulbs and spring flowering perennials as blossoms fade. |
| | x | | | | Watch for bagworms feeding on many garden plants, but especially juniper and arborvitae. |
| | x | | | | Thin seedlings to proper spacings before plants crowd each other. |
| | | x | x | x | Plant tropical water lilies when water temperatures rise above 70 degrees. |
| | | x | x | | When night temperatures stay above 50 degrees, bring houseplants outdoors for the summer. |
| | | x | x | | Apply a balanced rose fertilizer after the first show of blooms is past. |
| | | x | x | | Rhizomatous begonias are not just for shade. Many varieties, especially those with bronze foliage, do well in full sun if given plenty of water and a well-drained site. |
| | | x | x | | Most houseplants brought outside prefer a bright spot shaded from afternoon sun. Check soil moisture daily during hot weather. |
| | | x | x | | Apply organic mulches as the soil warms. These will conserve moisture, discourage weeds, and enrich the soil as they decay. |
| | | x | x | | Apply a second spray for borer control on hardwood trees. |
| | | | x | x | Softwood cuttings can be taken from trees and shrubs as the spring flush of growth is beginning to mature. |
| | | | x | x | Continue spraying roses with a fungicide to prevent black spot disease. |
| | | | x | x | Tired of the same old foundation plantings? Find fresh ideas among the evergreens planted in the Dwarf Conifer collection. |
| | | | x | x | Trees and shrubs may still be fertilized before July 4th. |
| | | x | x | Pruning of spring flowering trees and shrubs should be completed before the month's end. | |
| Lawns | x | x | x | x | Water turf as needed to prevent drought stress. |
| | x | x | x | x | Mow lawns frequently enough to remove no more than one-third the total height per mowing. There is no need to remove clippings unless excessive. |
| | x | x | x | x | Gradually increase the mowing height of zoysia lawns throughout the summer. By September, the mowing height should be 2 to 2.5 inches. |
| | x | x | x | x | Mow bluegrass at 2 to 3.5 inch height. Turfgrasses growing in shaded conditions should be mowed at the higher recommendations. |
| | x | x | | | Zoysia can be fertilized now while actively growing. Do not exceed 2-3 pounds of actual nitrogen fertilizer per 1000 sq. ft. per year. |
| Vegetables | x | x | | | Repeat plantings of corn and beans to extend the harvest season. |
| | x | x | | | Plant pumpkins now to have Jack-o-lanterns for Halloween. |

June Gardening Calendar

| Category | Week | | | | Activity |
|---------------|------|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 1 | 2 | 3 | 4 | |
| | x | x | | | As soon as cucumber and squash vines start to 'run,' begin spray treatments to control cucumber beetles and squash vine borers. |
| | | x | x | x | Set out transplants of Brussels sprouts started last month. These will mature for a fall harvest. |
| | | x | x | x | Soaker hoses and drip irrigation systems make the most efficient use of water during dry times. |
| Vegetables | | x | x | x | To minimize diseases, water with overhead irrigation early enough in the day to allow the foliage to dry before nightfall. |
| | | x | x | | Start seedlings of broccoli, cabbage and cauliflower. These will provide transplants for the fall garden. |
| | | x | | | Stop harvesting asparagus when the spears become thin. |
| | | | x | x | Control corn earworms. Apply several drops of mineral oil every 3 to 7 days once silks appear. Sprays of Bt are also effective. |
| | | | x | | To maximize top growth on asparagus, apply 2 pounds of 12-12-12 fertilizer per 100 sq. ft., water well and renew mulches to conserve moisture. |
| Fruits | x | | | | Oriental fruit moths emerge. They are most serious on peaches where the first generation attacks growing tips. Wilting shoots should be pruned out. |
| | x | | | | Thinning overloaded fruit trees will result in larger and healthier fruits at harvest time. Thinned fruits should be a hands-width apart. |
| | x | | | | Enjoy the strawberry harvest. |
| | | x | x | | Renovate strawberries after harvest. Mow the rows; thin out excess plants; remove weeds; fertilize and apply a mulch for weed control. |
| | | x | x | | Summer fruiting raspberries are ripening now. |
| | | x | x | | Begin control for apple maggot flies. Red painted balls that have been coated with tanglefoot may be hung in apple trees to trap egg-laying females. |
| | | x | x | | Spray trunks of peach trees and other stone fruits for peach tree borers. |
| | | | x | x | Prune and train young fruit trees to eliminate poorly positioned branches and to establish proper crotch angles. |
| Miscellaneous | | | x | x | When using any gas powered equipment, be sure to allow the engine a few minutes to cool before refilling empty fuel tanks. |
| | | | x | x | A mailbox mounted on a nearby post makes a handy place to store and keep dry any small tools, seeds, labels, etc. frequently used in the garden. |

*Gardening Calendar supplied by the staff of the William T. Kemper Center for Home Gardening located at the Missouri Botanical Garden in St. Louis, Missouri.
(www.GardeningHelp.org)*