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Overwintering Winter Habitat for Bees

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With the importance of protecting pollinators, a fall recommendation is to leave gardens messy over winter. We might hear leave the leaves or wait until spring to cut the tops of herbaceous plants back. How does this help pollinators?

When the subject of pollinators comes up, honeybees may come to mind. Honeybees, who are from Europe, are important pollinators but there are over 4000 species of native bees in North America who play an important role in pollination.

Native bees include different types of bumble bees, sweat bees, leafcutter bees, carder bees, carpenter bees, mason bees and digger bees. Like many other insects, they undergo complete metamorphosis from egg to larvae to pupae to adult.

Many overwinter in these stages in nests in soil or inside pithy or hollow stems. Bees use a variety of materials to build their nests. Some line their nest with a waxy material they produce themselves. Others use pieces of leaves or mud to form cells to lay eggs in.

Leaving gardens a little messy over winter provides added protection for bees overwintering in soil and it leaves plant stems in place that bees may already be nesting inside of for winter.

A deep layer of leaves left on lawns is not recommended. They can mat down and suffocate turfgrass. Leaving leaves in flower or shrub beds is fine. Bees are more likely to nest in these areas compared to a lawn.

On waiting until spring to cut herbaceous plants back, this adds winter interest to gardens and helps trap snow for increased soil moisture along with protecting pollinator nests. If a plant is unsightly during winter, opt to cut it back to 8 to 24 inches tall. This will still protect nesting bees found in lower stems.

If plants are cut back to 8 to 12 inches tall, new growth next spring will hide these stems and they won't need to be removed at that time. This allows later emerging pollinators to complete their life cycle from pupae to adult.

A common question asked is, won't leaving plants over winter protect harmful insects as well as pollinators? This is true however the majority of insects are not harmful and many are beneficial. If a plant had a damaging insect during the growing season, cut those plants back after a fall freeze.

If you plant a garden as a pollinator habitat, having plants blooming all season is important. It's equally important to provide a water source like a shallow bowl filled with marbles and water, plants for pollinator larvae like milkweeds for Monarch caterpillars, and nesting or overwintering sites.

When it comes to bees, these include some bare soil areas along with plant stems left over winter. Avoid too deep of a mulch layer and avoid using landscape fabrics with rock mulch in shrub or garden beds.

While there are many types of pollinators, bees are the most important. The reasons are they spend much of their life collecting pollen as a protein source to feed their young. This protein is collected with specialized brushes or pockets on their legs or body.

Bees also have electrostatic hairs that attract a lot of pollen grains. And they tend to focus on one type of flower when they feed and are more likely to transfer pollen between the same flower types. Plants need pollen grains from their own type for pollination to be successful.

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To protect pollinators, a recommendation is to leave gardens messy over winter. We might hear “leave the leaves” or wait until spring to cut back herbaceous plants. There are 4000 species of native bees in North America who are important pollinators. Most overwinter in soil or plant stems. Letting gardens be a bit messy provides protection for bees overwintering in soil, and leaves plant stems in place for nesting. A deep layer of leaves left on lawns is not recommended. They can mat down and suffocate turfgrass. Leaving leaves in flower or shrub beds is fine. If it’s preferred not to wait until spring to cut plants back, at least leave 8 to 24 inches of stems for bee nesting. One might wonder if leaving plants over winter also protects harmful insects. This is true. However, the majority of insects are not harmful. If plants had a damaging insect pest during the growing season, cut those plants back but try to leave other plant stems.

Leaving the tops of herbaceous plants over winter does help provide nesting sites for pollinators. But there are other reasons for leaving plant tops until spring. They catch snow to increase soil moisture as snow melts. After a dry year or drought, this can be especially important. Plant stems catch and trap plant debris, like leaves, which act as mulch to protect plant crowns and roots from winter extremes; and reduce loss of soil moisture through evaporation. Some flowers, like coneflower, provide seeds and protection for overwintering birds. Leaving tops can intercept moisture to avoid it reaching plant crowns through hollow cut stems which can lead to crown rots or freeze/thaw damage. This is a known problem for Chrysanthemum, butterfly bush, and Caryopteris. And last but not least, the tops of some herbaceous perennials provide winter interest in the landscape, such as the tops of ornamental grasses.

While we hear to leave the tops of herbaceous plants over winter, there are times when it is wise to remove the tops of some plants after a hard freeze in the fall. Doing so can help reduce overwintering disease pathogens and some insects. Plants that have common disease issues, like peonies, are best cut back each fall. The tops of other plants can be left most years and only cut back if they had a pest issue that season. Removing tops may improve a garden’s appearance, depending on the plant. This is often in the eyes of the beholder. If you prefer a cleaner winter garden, opt to cut plants back to 8 to 24 inches tall so stems will still trap snow and leaf debris; and to minimize removal of pollinator nesting sites. Another reason to remove the tops of plants in the fall is to lower the fire risk during an open, dry winter. For example, this would be a good reason to cut back ornamental grasses planted right next to a building.

By now, we should know how important it is to water evergreens and young trees during fall. Checking the soil moisture of fruit trees, and watering when needed, is also very important during fall. The first 100 days of the spring growing season is critical for branch and bud development for new and established trees. If fruit trees do not have good stores of moisture during this time, overall growth is affected and fruit yields will likely be lowered. Check for soil moisture levels by inserting a long Phillips head screwdriver or a rod with a sharpened point into the ground in at least 12 places beneath the trees canopy and beyond the drip line. Measure how deep each test location goes into moist soil. If there is little or no moist soil, irrigate on warm days in late fall to alleviate the lack of moisture in the first 12 inches of soil where water conducting roots pull and store moisture from. As always, use caution not to over water.

If you feed birds, but have to battle squirrels that make a nuisance of themselves eating bird seed from feeders, here are a few tips that might help. Some people add cayenne pepper to bird seed. However, Dennis Ferraro, UNL wildlife professor, said adding pepper to bird seed, but not having an alternative food source for the squirrels, does not help. He said squirrels just get used to eating spicy food! It’s better to have a feeding site away from bird feeders just for squirrels. This does add to costs since you are feeding squirrels as well as birds. And this practice is likely to attract squirrels. Another option to prevent squirrels from eating bird seed is to encompass the top of the feeder with porcupine wire. If the feeder is 8 feet above ground and 6 feet away from any tree or building, porcupine wire should help to keep squirrels away from bird seed. As you can see, the battle against squirrels is not an easy task.