



Wetland Spotlight

How do prairie plants survive the freeze?

Have you ever wondered what actually happens to your favourite shady oak tree or backyard flowers once our prairie winter sets in? From coneflowers and clover to balsam and birch trees, each year Manitoba's plants prepare for the approaching cold season much like animals and people do - by having adaptations for the changing conditions. Since summer processes of food production and plant growth use a lot of water, they must stop during the winter. When this happens, your beloved backyard plants may seem bare and lifeless, but even in their dormant winter state plants are life-giving - playing an important role in the survival of the animals, birds and insects that depend on them for food and shelter.

For plants, winter is a time of drought. The water that fell as rain and sustained them all summer is now unavailable - either frozen in the ground below or above ground as snow. Since winter's drought can last six months or more, plants have adapted to severe conditions to ensure their survival. Annuals - plants with roots that die each year - appear completely dead during winter except for seeds gathered on the tips of their stalks. Violets, wild columbine and other species produce and disperse these seeds to ensure a new crop of plants grow again next spring.



Perennials - plants with roots that remain alive during the cold season - will sprout new growth from their roots again in spring. Cattails, the perennial hotdog-like plants that grow in the shallow marshes of Oak Hammock, have stalks that die each year - drawing life-sustaining nutrients back into the root system. Next spring, new shoots will grow from these root stalks, creating a lush crop of cattails throughout the marsh.

During the fall and winter, muskrats will eat these roots and use the dense cattail stands as cover against predators. The brown heads of cattails also change as the cold weather approaches, flowering and producing up to 125,000 seeds. The packed fluff that surrounds these velvet brown seeds is an important source of insulation for the homes of mice - keeping out winter's chill.

The winter stalks of perennials like goldenrod are also useful to wildlife, offering a great place for bugs to spend the season. Round swellings, known as galls, are formed in the summertime as flies, wasps and beetles lay their eggs inside new stems. The eggs hatch and larvae use this plant growth as food, maturing and boring into the warmth of the plant tissue

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where it will stay until spring. Goldenrod also provides an important winter meal for birds like sparrows, juncos and finches that feed on its scattered seeds.

In the fall, trees also go through a big change in preparation for the cold weather - shedding their leaves and sealing over the attachment area with a cork-like layer. Since next year's leaves are already waiting underneath, neatly miniaturized in winter buds, they must be covered over with scales to conserve moisture. Trees that keep their leaves, like evergreens, also have special adaptations that conserve water - thin or small needle-like leaves with waxy coatings.

Trees serve a very important role in the survival of winter wildlife. Pine trees produce seeds, providing food for chickadees, nuthatches, siskins, grosbeaks, chipmunks and squirrels. The bark of pine trees is also a treat for deer, porcupines and mice. Junipers produce light blue cones that look like berries and last throughout the fall, becoming an important source of food for mice, grosbeaks, finches and waxwings. Its dense foliage even acts as cover for deer mice that have taken up winter homes in abandoned nests. However, no other tree provides for the needs of as many animals during winter, as the oak tree. The acorns are food for many northern animals and birds, including ruffed grouse, blue jays and wild turkeys that eat them whole - "gobbling" up to 50 in one meal! Bears, deer and raccoons also depend on acorns in the winter, as well as squirrels that hoard them in secret stashes.