



SNOW

A warm winter coat for plants

By Mae Smith

Mother Nature brings long, cold winters to Wyoming.

Residents know that means adding a few extra layers of clothing before heading out the door. Plants do not have the same luxury of adding another layer, yet they still come back year after year.

How?

With the help of their own winter coats – snow!

Many Plants Brush Aside Winter

Although plants may look dead in the winter, most are (hopefully) not. Perennial plants go dormant in the fall, and the roots continue activity until the ground freezes. Evergreens are the most active in the winter because they do not lose their needles and continue to photosynthesize at a reduced rate.

Winter conditions can be damaging to plants. Ice formation in cells due to cold temperatures can harm or kill plants. Plants have adapted to cold temperatures by either dying back (grasses and forbs) or producing a natural antifreeze in cells to prevent damage (trees and shrubs). Some plants produce antifreeze proteins that prevent extracellular ice formation. Other plants avoid freezing by moving water out of the cells, which



Snow can be a plant's best friend in winter.

concentrates the sugar and other compounds, lowers the freezing point, and acts as natural antifreeze.

Ground freezing can also be harmful to plants because the frost-heaving action moves soil and breaks roots. High winds can wick away precious water from the plants and the soil.

How else do plants survive harsh winter conditions? They avoid them under a nice, thick layer of snow. Snow is an excellent insulator.

Although air temperatures may be well below freezing, the temperature under a thick layer of snow at the soil surface is usually at or just above freezing. Biological activity continues at this temperature. That is why, when the snow melts, plants are often already green and growing. In addition, soil is protected from the damaging frost-heaving, there are no 30+ mile per hour winds, and the soil can stay moist. The snowmelt in spring also brings much-needed

Leftover plant material captures precious moisture.

moisture to plants as they begin another year of growing.

Wildlife Protection

Snow also provides a safe haven for wildlife. Snow provides protection from cold temperatures, harsh winds, and lurking predators. Animals that burrow under the snow include small mammals such as mice and voles. Song birds like sparrows, and

even large birds like ruffed grouse, also use the snow as an igloo for protection.

How do I Get More Snow Retention?

There are several actions that can encourage winter snow retention.

In pastures – Leave more grass/stubble from the previous year of



grazing. The leftover plant material captures snow before it blows away.

In your yard – Consider strategically planting trees/shrubs/tall forbs or grasses upwind of where you want to capture snow. Essentially, you are planting a living snow fence. Be aware of the amount of snow the snow fence may potentially capture so as not to damage plants downwind from an unexpectedly large snowdrift. For more information on planning and planting a living snow fence, go to barnyardsandbackyards.com, click the Resources link, then Buildings and Fencing, then “Use snow fences to control drifting snow.”

Oh No – No Snow

If an area always seems blown free of snow (and it’s too late to implement the above options), plants can still be protected. Mulch is another great insulator that helps hold moisture and protects soil from harsh temperature extremes. In addition, late fall watering is extremely important – moist soil is not as susceptible to frost-heaving as dry soil, thus protecting roots. If the soil thaws in the winter and the plants become active, moisture will be available. Evergreens have a constant expenditure of water, even in the winter.

HOW TO WATER IN WINTER?

Here are recommendations for winter watering by Karen Panter, extension horticulture specialist. During winter when there is:

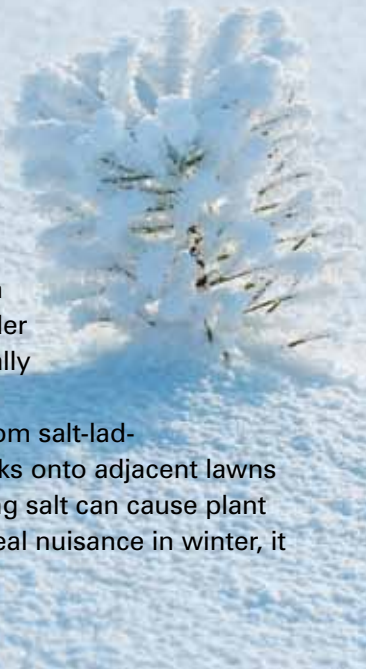
- no snow cover
- temperatures are above 40° F
- the ground is not frozen
- the wind is not blowing,

homeowners are encouraged to get out their hoses. Water enough to moisten the soil at least 6 to 8 inches down. See Winter Watering, extension bulletin B-1186, at <http://bit.ly/rvzFI3>.

Some snow OK; A lot not!

Proceed with caution when pointing the chute of your snow blower toward trees and shrubs. Excess snow can damage plants by breaking stems and branches. Most trees and shrubs are adapted to handling natural snow loads but can be damaged by too much snow tossed on them by snow blowers, being planted under a roof, a snowdrift line, or due to abnormally wet, heavy snowstorms.

Another damaging effect can come from salt-laden snow plowed from streets and sidewalks onto adjacent lawns or landscaping. Excess amounts of de-icing salt can cause plant damage. Although deep snow may be a real nuisance in winter, it is a real life-saver for plants.



***Mae Smith** makes sure to keep warm during the winter. She is a University of Wyoming Extension educator based in Carbon County and serves southeast Wyoming. She can be reached at (307) 328-2842 or at maep@uwyo.edu.*