

# What kind of mulch is best?

**DEFINITION:** mulch is a protective layer of organic or inorganic material spread over the soil.







## PROPERTIES OF IDEAL MULCH

- protects the soil from compaction and/or erosion
- improves soil moisture retention
- moderates soil temperature (cooler in summer/warmer in winter)
- suppresses weeds
- increases soil nutrient and organic matter through decomposition
- allows air and water movement at the soil surface

## Options

## Pros

## Cons

<p><b>Arborist wood chips</b> wood, leaves, bark</p> 	<ul style="list-style-type: none"> <li>• most closely mimics what happens in nature</li> <li>• properties of ideal mulch</li> <li>• lasts 4-6 years (conditions dependent)</li> </ul>	<ul style="list-style-type: none"> <li>• sourcing can be difficult</li> <li>• aesthetically neat, but non-traditional colour</li> <li>• may be costly</li> <li>• dry arborist wood chips are not FireSmart</li> </ul>
<p><b>Wood chips</b> mix of bark, wood</p> 	<ul style="list-style-type: none"> <li>• transitional properties between arborist wood chips &amp; bark chips</li> <li>• size and composition varied</li> <li>• lasts 2-3 years (conditions dependent)</li> <li>• not hydrophobic</li> </ul>	<ul style="list-style-type: none"> <li>• varied suppliers &amp; availability</li> <li>• aesthetically neat</li> <li>• does not include fresh wood/leaves/needles so fewer nutrients than arborist wood chips</li> <li>• dry wood chips are not FireSmart</li> </ul>
<p><b>Bark chips</b> tree bark</p> 	<ul style="list-style-type: none"> <li>• aesthetically neat</li> <li>• traditional in size &amp; color</li> <li>• reduces evaporation to maintain soil moisture</li> <li>• moderates soil temperature</li> <li>• suppresses weeds</li> <li>• lasts 3-5 years (depending on conditions)</li> </ul>	<ul style="list-style-type: none"> <li>• poor source of nutrients</li> <li>• naturally hydrophobic, repelling water particularly if allowed to dry out</li> <li>• can be contaminated with salt or weed seeds</li> <li>• may be costly</li> <li>• not FireSmart</li> </ul>
<p><b>Deciduous leaves</b> leaves</p> 	<ul style="list-style-type: none"> <li>• attributes of ideal mulch</li> <li>• free</li> </ul>	<ul style="list-style-type: none"> <li>• seasonal availability (collect &amp; store)</li> <li>• leaves decompose rapidly during the growing season</li> <li>• need to top up often</li> <li>• aesthetically messy and non-traditional shape/colour</li> <li>• moderately FireSmart</li> </ul>
<p><b>Sawdust</b> fine wood</p> 	<ul style="list-style-type: none"> <li>• protects the soil surface from compaction</li> <li>• adds to the soil organic matter over time</li> </ul>	<ul style="list-style-type: none"> <li>• high carbon/low nutrient content</li> <li>• compacts overtime creating a barrier that impedes water and gas movement</li> <li>• aesthetically neat, but non-traditional colour/shape</li> <li>• may be costly</li> <li>• not FireSmart</li> </ul>
<p><b>Straw (seed-free)</b> dry stalks of cereal plants</p> 	<ul style="list-style-type: none"> <li>• all the attributes of ideal mulch provided 10-15 cm layer and is maintained</li> </ul>	<ul style="list-style-type: none"> <li>• decomposes quickly/ top up often</li> <li>• may contain weed seeds unless seed-free straw</li> <li>• aesthetically neat, but non-traditional colour/shape</li> <li>• may be costly</li> <li>• dried straw is not FireSmart</li> </ul>

## Options cont.

## Pros

## Cons

### Grass clippings



- excellent source of nitrogen and other nutrients
- promotes water retention and air exchange
- free

- layers deeper than 5 cm will pack down, inhibiting air and water flow to the soil. They will also build up heat which can damage tender plants.
- layers less than 5 cm will not suppress weeds or moderate soil temperatures
- decomposes quickly/ needs to be topped up often
- aesthetically neat, but non-traditional colour/shape
- cured, dried grass is not FireSmart

### Rocks

ideal for paths, borders & decoration



- reduces evaporation from soil surface
- allows some air/water infiltration
- does not need to be replaced
- FireSmart

- large areas covered in rocks absorb and retain heat during summer months increasing the local air temperature (radiant heat) and surface soil temperature
- decreases the natural cycling of soil nutrients and organic matter over the long-term which impacts the health of the soil biome
- difficult to keep weed-free (even with landscape fabric)
- aesthetically neat
- costly

### Cardboard/newspaper



- free and readily available
- moderately suppresses weeds

- when too wet or dry, water and air movement is impeded which negatively impacts the soil microbiome and plant growth
- becomes hydrophobic when dried out, resulting in water runoff
- during decomposition, PFAs (forever chemicals) leach into the soil and groundwater
- readily blows away when not covered with soil, rock, or mulch
- potential pest havens, e.g., voles, termites
- aesthetically unusual when exposed

### Landscape fabric



- temporarily prevents weeds
- air and water pass through initially

- non-permanent: degrades into microplastics over time more quickly in sunlight & needs replacement every 4-5 years depending on conditions
- difficult to replace when covered by mulch
- over time weeds grow through fabric
- fabric pores clog over time, restricting air and water movement
- can heat up quickly if exposed, increasing soil temperature
- some cost
- aesthetics depends on mulch applied to the fabric
- FireSmart-depends on material covering the fabric

## Resources



The earliest written record of mulch as an agricultural technique is from China, around 500 BC.

1. Gilkeson, L. (2018). *Backyard Bounty* (2nd ed). Gabriola Island, B.C.: New Society Publishers. ISBN: 9780865718418
2. Chalker-Scott, L. *Horticultural Myths*. Washington State University Extension: <https://puyallup.wsu.edu/lcs/>
3. Talerico, D. (2020). *Pros & Cons of 8 Types of Garden Mulches*. Homestead & Chill: <https://homesteadandchill.com/garden-mulch-types-pros-cons/#:~:text=Some%20straw%20may%20also%20contain,to%20be%20replenished%20every%20season>
4. BC FireSmart. (2024). *Landscaping Best Practices... On this page 05 Mulches*. FireSmart BC Landscaping Hub. <https://firesmartbc.ca/landscaping-hub/landscaping-best-practices/>

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