

Resource notes to accompany “A Tale of Time and Woodchips”
Presented by Kathy Connolly for the CIPWG 2020 Virtual Symposium
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Wood chips: The chips that come from tree removals are excellent smothering material. They are rough cut and include all parts of the tree.

Advantages:

1. Slow to decompose
2. Stays on surface, slow to enter soil.
3. Decomposition creates only minor nitrogen deficit in soil
4. Foils fresh weed seedlings
5. Blocks vines and existing woody plants
6. Permit passage of air and water
7. Retain soil moisture
8. Encourage microbial populations
9. Locally generated, locally disposed
10. Can be used safely with new or existing trees/shrubs

Disadvantages:

1. “Heavy lifting” (or power lift required)
2. Wheelbarrowing and spreading
3. Site access and topography?
4. Some woody vines continue to emerge. (Bittersweet)
5. Requires up to one year
6. Possible concerns about insects

Methods:

Pile them 12” deep or more over a “scalped” area of weeds or old lawn. (Mow or cut as low as possible.) Chips smother seedlings and woody regrowth very effectively, partly by robbing them of light and air. They also create a small nitrogen deficit in the top two to three inches of soil—another antidote to weed germination.

If the planting is shrubs or trees, clear a circle around the stem or trunk of each plant (3x to 5x the stem diameter). Don’t allow chips to pile up around the stem. Also note that herbaceous plants, particularly seedlings, do not fare as well in a deep woodchip smother.

Remove undecomposed chips from the area before seeding with desirable plants.

- Note 1: Wood chips are not bark mulch! Bark mulch decays quickly and uniformly. Also, bark mulch tends to repel moisture. If bark mulch is piled 12" deep, it is likely to create dry zones under the smother surface. Wood chips, on the other hand, decompose more slowly. Most of the chips in a typical pile are wood, not bark. Wood is "hydrophilic," attracting and holding moisture for longer times. As a result, underlying roots of desirable trees and shrubs are not starved of water and gas exchange.
- Note 2: You can sign up online for free chip delivery with <https://getchiptrop.com/login/>. Supplies are not guaranteed, but it is worth listing your request.
- Note 3: Word of caution about invasive jumping worms and other hitchhikers: These destructive worms may nest near trees, and it is possible for eggs to travel with chips that lay on the ground. According to Annise Dobson, PhD, Yale School of Forestry, try to use chips that go directly from a take-down into a truck. (The chips have not been stored on the ground.) If the chips were stockpiled, and there is a jumping worm infestation, the chips may contain eggs. Therefore, the chips should be hot-composted for three days at 105 degrees or more. The pile must be turned and allowed to reach that temperature again to kill eggs and other pathogens.

Smothering with cardboard: Another effective technique uses brown cardboard (no glossy paper, no tape). After spreading the cardboard layer, cover with 6"-8" layer of raw woodchips. (Or use a 12" – 18" layer of leaves, mown or unmown. It is a less effective than chips, but still offers some weed suppression.)

- Note 1: Cardboard smothering can begin any time of year. The cardboard should be left in place for at least one growing season, and preferably for 10 – 12 months. After removal, expect additional weed removal—the job will not be finished! Allow the area to sprout remaining weed seeds for up to two months. Fortunately, the remaining upstarts will be small seedlings, easily scuffled with a hoe. Remove undecomposed materials, if any, before seeding.
- Note 2: If the cardboard has tape, remove it. Leave in the rain to loosen the tape.
- Note 3: Some academic studies site undesirable side effects from cardboard smothering. It can reduce air exchange in soil or deplete microbial populations temporarily. Cardboard may encourage shallow root development in desirable trees and shrubs. More importantly, cardboard products are not alike. Some are treated with chemicals; some include non-paper materials.

- Note 4: Termites eat cardboard. For that reason, cardboard may not be desirable near buildings.

As with all weed removal techniques, there are tradeoffs.

WeedGuard or other weed-suppression papers: (<https://www.weedguardplus.com/landscape>)

Weed-suppressing cellulose fiber paper is a replacement for transfer station cardboard, in that it is used by organic farmers and quality-controlled for soil safety. It is easy to apply. (I use it in double layers.) *WeedGuard Red* has lower pH and, according to the supplier, slower decay times. WeedGuard can be used under straw, wood chips or leaves. It decomposes in one year.

Another option is **Ramboard**, sold at building and paint supply stores. Ramboard is recycled cardboard and is much heavier than WeedGuard. It decomposes completely within two years. It is easy to transport and roll out. Depending on funds and the availability of labor, Ramboard or WeedGuard may be sensible choices.

References:

Linda Chalker-Scott, Ph.D., Washington State University, writes frequently about the use of wood chips at <http://gardenprofessors.com/> and at <https://www.facebook.com/groups/GardenProfessors>.

“Impact of mulches on landscape plants and the environment - A review” Linda Chalker-Scott, Washington State University, *Journal of Environmental Horticulture*, 25 (4):239-249. December 2007

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