

MULCH

By Cass Turnbull

This article originally appeared in two parts in the Arboretum Bulletin.

This rich, multi-faced tale delves into the hearts and minds of a pantheon of engaging, and sometimes deeply flawed, characters.

Savor the thrill of romance and the terror of villainy. You will rejoice, as I did, when good triumphs over the evil spawn of generations. But forget what you think you know about mulch because nothing can prepare you for the surprise ending!

Part I

As a professional weeder, I have a lot to say about mulch. And, as always, I specialize in explaining the basics to the newly addicted gardener. Here's the scoop on mulch.

What is mulch?

Mulch is any material that you spread like a blanket over the top of the ground. It can be made of just about anything – compost, wood chips, pine needles (pine straw), even rocks or “scree” for desert or rock gardens. People often use whatever product is handy in their region of the country. In the timber-producing Pacific Northwest most of our mulches are conifer-based wood products. Originally it was bark. Then we move to sawdust-based composts like Steerco™. More recently, as the city started recycling green waste (leaves, grass, weeds), we now have the yummy “clean green” or Cedar Grove products.

Why mulch?

Mulch keeps moisture in the ground and moderates temperature extremes (so the roots don't freeze in the winter). Mulch protects and sometimes improves the soil, and it suppresses weeds. Incidentally, it makes the landscape look fresh and clean like a new coat of paint. But the look of fresh mulch should never be its primary purpose.

To me, bare ground is an anathema. It is unthinkable to weed a yard and not follow it up with mulch. What a waste of time! I remember consulting at an elderly lady's home where she showed me a flowerbed thick with chickweed and about four inches below the level of the lawn. “It's just so much work. I weed it thoroughly and in just a month it's chock full of weeds again!” she exclaimed. I also noticed that the soil was “impoverished”, meaning it looked sandy and depleted of nutrients; the result of years and years of weeding off the top layer of soil and tossing it out with the annual weeds.

Keeping a two- to three-inch layer of mulch on top would have protected the soil, and it would have reduced her weeding chores by about 80%.

Unfortunately, the process of weeding and mulch for maximum success and minimum ill-effect is more complex than one would

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suspect. Dang!

Cutting corners may seem to work. But it can get you into bigger trouble later on (just like everything else). So, like following your doctor's advice, you can't just pick the parts you want to do and skip the rest. You have to follow *all* of the advice.

How it works

Mulch cuts down your weeding chores by smothering the billions of invisible weed seeds that already exist in and on your soil. But be aware that mulch will not prevent **new weed seeds** that blow into your yard from germinating. The annual weeds (fireweed, shot weed, chickweed) can grow up, set seed, germinate and turn into new weeds in just one month!

Almost all commercially sold mulches are "sterilized" by the **hot compost method**. In hot composting the pile is big enough, and turned enough, to cook itself as it decomposes. When the mulch is sterile, there are no weed seeds or disease organisms in it. When people complain that the mulch they bought had weed seeds in it and didn't work, it usually means that they spread it and abandoned it. They allowed a nearby patch of weeds (in the lawn, from under the fence or from dirt they dug up when they planted a new shrub) to go to seed on top of the mulch. In the span of one year of neglect, generations of seeds will have re-colonized the bed. The temptation is to re-weed and re-mulch everything, every year.

This is very bad. Ideally you don't re-mulch until it wears thin, in about three to five years. Simply reapplying mulch every year will submerge the shrubs and the soil,

sometimes in multiple layers of hydrophobic material. This is an all too common scenario among lazy landscapers and new homeowners, trying to escape the "hand-weeding" part. It is, I believe, why some experienced horticulturists hate Steerco™ (my personal favorite mulch). They are responding to the effects of years of mis-application of the product, not the product itself. Mulch can reduce – but not eliminate – hand weeding. Nothing can.

Okay, occasionally there are a few viable seeds in a commercial batch of compost. Generally, they are radish, tomato or pot seeds that somehow withstand the hot compost process. But they are easily hula-hoed out, which you only need to do once. A nice thing about mulch is that it is fluffy, so that any seeds that germinate are relatively easy to pull up. This is unlike the agony of weeding in clay, where no matter how diligently you dig and pry, some tiny bit of morning glory root or dandelion remains to rise again, like every movie villain since Carrie.



Pokey
Tool

Bed Prep

First off, you need to do the proper bed preparation. The beds must be thoroughly weeded. All of the annual weeds (like shot weed, fireweed and chickweed) are easy to scratch, tickle or hula hoe loose. The dead carcasses can just be left in the beds and buried by mulch if you want to save some time. And don't miss the ones hiding inside the crowns of perennials and shrubs. They are the fifth column of new weeds that will quickly seed on top of your mulch,

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spreading like a contagious disease. On the other hand, the **perennial weeds** (grass, dandelion, buttercup) must be carefully dug up with the pokey tool and tossed out. If their roots are not removed before you mulch, they will grow back and be harder (maybe impossible) to get. They just stretch their necks to reach the sunlit surface. But now their roots are so far down you can't get to them with your pokey tool! Argggh! You can try to weed out that dandelion for the next hundred years, but it will always grow back, that last little bit of root remaining too deep to access. For this reason, I recommend that when you weed a virgin bed, you do it twice. Wait one month from your first weed session to see who escaped! It is usually the dandelions. Dig, dig, dig. If you skipped the re-weed, you might resort to a tiny spritz of glyphosphate (no longer the same as Roundup) to stop that eternal, infernal dandelion.



Half-moon edger

Another overlooked detail regarding bed preparation is the addition of a "reveal". This is a one- to two-inch trench dug with a half-moon edger or spade all around the edges of the bed. Its purpose is to keep the mulch in place, not spilling out unattractively onto the lawn or walkway. Edging all of your beds at least once a year in this manner will also help stop the march of weeds and grass into the beds, AND it really makes things look great!

The first time my boyfriend (now my husband) edged all my beds like this, I squealed in delight. He said, "All the old ladies like how it looks." (Yes he was

quick to add that he didn't mean to imply that I was an old lady.)

It is especially important to dig a fairly deep "reveal" at the bottom of a mulched slope where it adjoins a pathway or lawn. This really works to keep the mulch from sliding or floating in the rain run-off onto your path. The steeper the grade, the deeper the reveal should be. Heavier mulches are less likely to migrate on a slope.

Ordering mulch

Personally, I like to have three cubic yards of mulch (one cubic yard is 3 X 3 feet) delivered to the job site around noon when I mulch. That gives me time to re-weed section A, and weed section B for the first time (to be re-weeded and mulched next time). I like to get three yards because that is a comfortable amount to spread in a day. Of course, the smaller your load, the more expensive it is per yard. If you choose to get a large pile delivered and chip away at it a little every week, be sure to keep it covered by a tarp or plastic because it will remain lighter in weight (less rain water). A tarp will also prevent a weed seed infestation.

I've been gardening so long that I can just look at a landscape and know how much it will take to cover the beds. Beginners will need to use math. First make a rough estimate of how much square footage you will need to cover.

Just blur your eyes and sort of squish your shrub beds into rectangles. Pace them off (my pace is roughly 3 feet long). Multiply the length times the width in feet of each for your bed's square footage. Add together and divide the total number of square feet by 108, and you will have the number of yards of material you'll need to cover your beds 3 inches thick.

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Hauling mulch

When the mulch is delivered, I have it dropped as close as possible to the beds to save time and energy. Sometimes this means driving on the lawn. (Really, it's okay) And don't forget to take gravity into account. If you are using a wheelbarrow, you may want to use a longer but level route to your bed, rather than a shorter one that goes uphill. When mulching a large area, or two widely separated ones, say the front and the back, I use all my powers of persuasion to get the truck driver to do a "split load". That also saves my back and my budget. You will need to help him/her by hollering when the first half just starts to slide out of the uplifted bed. This is so the driver can immediately begin lowering the bed, as it will take only three short seconds for it to hit the ground. Wait a second later and it **all** goes! So be appreciative; successfully splitting a load takes skill. It also helps to have cleared the area for the truck ahead of time – no tools, garbage cans, etc. And check for overhead branches that the dump bed might hit when it lifts up.

When the mulch will be dropped on concrete or lawn, I lay out a big tarp as a target for the truck driver. It makes cleanup easier too.

Toward the end of the job, lift up the corners to make a pile in the center. Finally, you just sort of "burrito" what's left in the tarp directly into the bed.

Getting mulch to the beds can be done in several ways. From most cost-effective to least, they are: drive and dump it into the bed; fling from a pile using a wide "square point" shovel; wheelbarrow it in a plastic contractor's wheelbarrow (5cu. ft., not the dopey little homeowner models); or slide it

down the steep grass hill on a tarp. If there is no wheelbarrow access, you can carry two 5-gallon plastic buckets, one in each hand. Anyone who has bucketed fifteen yards of any material into a backyard has a profound appreciation for what it means to design a garden with maintenance in mind.

On average, it will take you one man-hour to spread one yard of mulch. Less if access is easy, more if it is difficult.

Before you start, take some time to clear the way. I have removed gates, taken down parts of fences, moved bird baths, had the neighbors move their cars, wheel-barrowed through the garage, tied back plants. put down wood ramps on stairs – or filled stairs with soil – temporarily filled in reveals and done any number of other activities to ease the way. Then put it all back when you are done. Most people prefer to adjust to the difficulties rather than take the trouble to get rid of them. No, no, no! You should learn from the professionals. Don't work hard, work smart. Your back will thank you.

I have good news for those of you whose gardens are hidden in the way-back, where you'd have to bucket down the side of the house, then up an uneven staircase, or up a slippery clay hillside.

There is now the option of having your mulch "blown-in". Locally, Pacific Topsoils or Sawdust Supply will show up with a giant truck equipped with up to 200 feet of plastic tubing, through which two guys will blow 20 yards of material into place in two hours or less! The only additional work is just a half hour to remove any mulch from the crowns of shrubs and trees, and then to blow down or wash off any overspray on the sides of the house or walkways. It will not, however, save you any money. They have it priced at almost the amount it

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would take to hire someone to hand-spread it. Around here, we figure a total of about \$50 per yard of mulch, (which is the cost of the mulch, the delivery and spreading of it combined). But I assure you that the cost of mulching, no matter how it is done, is recouped in the first year of reduced hours of weeding. And the garden stays looking great!

Remember, if you are doing it right, you only need to “spot mulch” in small areas, and the bed edges where it has worn thin, over the next several years.

Part II

I once espoused the philosophy that most of any problem in life was due to “too much, too little or the wrong kind” – be it food, boyfriends, pruning – you name it. The same is true for mulch. The single most common mistake new gardeners make is to **spread their mulch too thin**. Generally speaking, your mulch needs to be between 2” and 4” deep. On rare occasions, say mulching around your impatiens, or over the crowns of sensitive perennials, you go thinner. But for use in shrub beds it should be at least 2” thick or it won’t work to keep the weed seeds from germinating. Spread **too thick** and you are wasting mulch and money. Mulch can protect or even improve soil as it decomposes, but **mulch is not a substitute for soil**. Plants need the inorganic components of real soil to grow and be healthy.

Often people keep spreading out the mulch to cover the maximum area. Wrong! If you do that, you are down to one-inch thick. Remember mulch is not for looks. It serves a utilitarian purpose, so force yourself to keep it thick enough. Usually three people

are working on this job, two wheelbarrowers and the spreader. The spreader is constantly checking to see that the mulch is not too thick or too thin. This is done (by me anyway) by pushing my fingers straight down into it. The mulch should cover my fingers but not any of my palm. My husband uses a “story stick”, which is just a stick with a mark on it at the correct length pushed into the mulch.

Sometimes I get on my hands and knees to push mulch around plants and into awkward areas. When you are a professional it becomes sort of a race between the spreader and two wheelbarrowers – time being money and all.

Professional gardeners all have a visceral memory of hot days with mulch dust drying in our nostrils, and rainy days with mulch clods in the corners of our eyes. We are, as they say, at one with the earth.

The other job of the spreader is to make sure that the mulch **is not accumulating inside the base or “crown” of the shrubs** or up against the trunks of trees. It can slowly smother and kill shrubs and even big trees. Really. So, the spreader and the wheelers spend the rest of the time crawling around using gloved hands to clear around the stems of woody plants. It’s okay to put a thin cover over most perennials in the winter if one is using light-weight compost like Steerco™. But heavier manure and organic-rich composts can slow down perennials (good to know) and even suppress them. We are warned that bearded irises rot if their corms are covered up by mulch

– though this is debated in chat rooms. No doubt a lot of the conflicting advice has to do with what kind and how much mulch is being

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used.

Groundcovers generally thrive in mulch, though perhaps a litter thinner is the correct amount for them as well. The worst abuse of mulch is what is known in the landscape industry as the dreaded “**mulch volcano**” seen in various parts of the nation. For some inexplicable reason landscapers actually mound the mulch up around the base of trees on purpose! It is not simply bad pruning that afflicts our trees and shrubs. The indignities and atrocities are almost infinite.

“God has cared for these trees, saved them from drought, disease, avalanches and a thousand straining, leveling tempests and floods; but he cannot save them from fools...” – John Muir

Now to the final rakeout. Be sure that there is no mulch resting against a wooden fence, and make a level line (with your gloved hand) where it rests against walls or other hardscape. This will make it look sharp! And for the ultimate in mulch perfection, we rake it out “smooth as a baby’s butt”. The fan (spring) rake and the hard (garden) rake are used right-side-up to move material. But we use the rakes upside-down to smooth it all out. Lightly pushing the rakes back and forth over the surface, we work backwards out of the bed, covering our own footprints.

Kinds of mulch

One of PlantAmnesty’s more popular meetings was called Mulch Wars. We had a panel of expert gardeners talk on the subject. They had widely differing opinions on what constituted a good mulch. As always, the seeming contradictory advice

can be explained by context. It all depends on what you want your mulch to do and where you are using it.

Bark – that is to say the reddish “**beauty bark**” made from the bark of conifers – was the first mulch in wide use by landscapers and homeowners. It worked really well to suppress weeds. Unfortunately, it suppressed the shrubs too. There was a rumor that it tied up the nitrogen as it decomposed, but that turned out not to be a big problem. What it does do, however, is lock up water in its fibers making it unavailable for the shrubs. We all have a firm image in our heads of the commercial landscapes that are sparsely populated with over-Carasoned, under-watered, baked, yellow-leaved, sheared shrubs surrounded by seas of red beauty bark. These are things that go together. And bark also gives you tiny painful slivers in your hands when you weed in it. Those slivers also get into your gloves to torture you later, in some other garden. And who needs any more negative reinforcement for weeding? I say that bark is “the wrong kind”. On a recent visit to a conference in Boston I overheard the landscapers exclaiming their love of the new mulch in town – that beautiful red bark! I felt I should do something.

Bark is not to be confused with “**wood chips**” which are made from the wood, not the bark, of trees. Wood chips are very good for plants, especially trees. Wood chips can come in several forms. An arborist can leave you chips from the pruned-off branches that were sent through the chipper. And you can also buy things variously called hog fuel or play chips for use in kids’ playgrounds. What they all share in common is that they are coarse (big pieces) and pretty neutral, nutrient-

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wise. They closely mimic the natural forest floor.

The good news about large-particle mulches is that they are really good for air and water penetration, they don't compact, and they last a long time. And you can often get arborist chips free. The bad news is that the large-particle mulches aren't as attractive as fine-particle mulches.

I was ecstatic when the sawdust-based mulches come on the scene 25 years ago. I was, and still am, a proponent of Steerco™. **Steerco™** is just one brand name for a sterile mulch made of hot-composted sawdust and manure. Similar products are made of composted sawdust and urea. Many gardeners eschew Steerco and similar products because, contrary to what the name might indicate, the product has little nutrient value. They prefer those mulches made out of composted "green" stuff and those with higher manure contents. But I like Steerco™ because it's lightweight, beautiful, effective at suppressing weeds, can be used in and around delicate plants, and because it **doesn't** fertilize the plants. I mostly work in mature landscapes where things are already "too big" and established perennial beds are running rampant. I would prefer that the plants slow down, not increase in vigor! Steerco™ is dark-colored and fine-particled. It looks like good garden soil. But as you will recall, neither it, nor the other mulches, are soil.

Next on the list are mulches with a very high organic content. Anybody who has ever made compost out of sod, grass clippings, leaves and/or weeds, and thus experiences the miracle of making glorious, rich, beautiful, sweet smelling earth out of "waste" becomes a convert for life. Several years ago, the City of Seattle

decided to split the dump into two parts – organic and inorganic. Mixed loads were no longer acceptable. They wanted to reduce the amount of garbage in our landfills. They contracted Cedar Grove to haul away the "clean green" yard waste, which they compost and now sell back to us. The guys at the dump thought the gardeners would be upset at the new regulations. Instead we were relieved of the guilt of having to waste all that great stuff.

The **mulches with high organic content** (composted leaves, grass, weeds, perennials that have been cut back) and those with more manure have a lot more nutrient value. As they continue to decompose, they release more "fertilizer", if you will, into the soil. They also feed the whole microcosm of bacteria, fungi and what-not that make a soil healthy. And as they are pulled down into the soil profile by worms, they condition the soil too. So, if you have a poor soil; a new garden where you want to encourage quicker growth; or a vegetable patch, high organic compost-mulches are the way to go. If you have ever weeded in the yard of a garden once cared for by a compulsive user of compost, you will find it is a delight. The weeds just fall out in your hands. The soil is so soft, fluffy and sweet-smelling you will never want to go back indoors.

The problem with homemade compost is that the pile is usually not large enough to cook the weed seeds. When I finally get around to spreading the compost from the bins, I have squirreled away in all my customers' yards, I make sure to cover it with another layer of commercial mulch lest I spread weeds, as well as joy, around the yard.

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There are a couple drawbacks to yard-waste, compost mulches. They are heavier than others. The full import of this occurs to you about the twelfth wheelbarrow load-in. And they are even stickier than sawdust-based composts. This doesn't usually bother the veteran gardener, who associates the smell with healthy, beautiful gardens, but some homeowners can be a bit put off. Actually, the smell will subside soon enough, especially after a few good rains. Both sawdust and heavier, yard-waste composts tend to develop a crust over the top after a while. This can stop water from penetrating, exactly what we don't want. Although I should remark that once I broke the dry crust with my finger on a baking hot summer day, only to find that it had **locked in** the moisture. Still, when you find that a crust is forming you should ruffle it up with a scuffle hoe or a scratchy tool. You can do this when out there hunting weeds once a month anyway. It will not be too much work.

I should also mention that it is quite possible to go overboard with too much of a good thing. Some people become so addicted to organics that they over-apply them. This can encourage root rot in trees and actually make for more diseases and pests. *Just remember that mulch, including high-organic compost, is not soil.*

Is mulch always good?

As you may recall from your college anthropology class, there are very few cultural universals – that is, things found in all the cultures of the world: music, language, and some sort of incest taboo. I think that's about it. I suspect there are even fewer horticultural universals. I thought for sure that the use of mulch

would be one of them, until I taught in Fairbanks, Alaska. There, they warned that the mulch would keep the ground frozen long into the summer. And they have to build little cages to protect their bulbs from voles AND they have to overwinter their worms in heated garages. It makes me appreciate the ease of gardening in the Pacific Northwest.

Even here there are some plants that you can kill by using a rich, organic mulch. Many rock garden plants need exceedingly well-draining soil, and you can rot them by using heavy composts. I still grieve for the *Lewisia* that I killed. I planted it in scree, but then mulched with compost later. Sure, I had been warned. But as always, I thought it would be different for me.

Summary

**To mulch is good, almost always.
Avoid the following mulching mistakes:**

Mistake 1: you don't weed thoroughly at least twice before mulching

Mistake 2: you mulch too thin, too thick, or use the wrong kind

Mistake 3: mulch volcanoes or mulch left against crowns or base of plants

Mistake 4: mulch is reapplied too often

Mistake 5: because of no follow-up weeding, which needs to be done once a month.

Remember, mulch is not soil!

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Names of Tools



Left to Right: Round-Point Shovel, Small Square Point Shovel, Medium Square Point, Scratch Tool, Garden Hoe.

Tools of the Trade

Left to Right: Spreading Fork, Pitch Fork, Fan (Spring) Rake, Garden Rake, Contractor's Wheelbarrow, Spackle Bucket

