The wonder of homegrown potatoes

Underneath layers of mulch, the German Butterball and Rose Gold flourish.

by Terra Brockman in the August 16, 2017 issue

Photo by Terra Brockman

There is no job that is hotter, scratchier, dustier, dirtier, or more dreaded by newcomers to my brother Henry's organic vegetable farm than mulching. One reason is that it always takes place on the hottest, muggiest days of the year. Not out of perversity, but out of necessity.

Potatoes, tomatoes, peppers, and eggplants like warm soil, so we can't mulch until the hot summer weather has settled in. In addition to the ground being warm enough, it must be moist enough. So we need to wait to begin our mulching marathon until a day or two after a good thunderstorm, when the leaves are dry (so we won't inadvertently spread plant diseases) but the soil moist.

When all those conditions are met, and the potato plants are 12 to 18 inches tall, we begin mulching. First, we load the hayrack with square bales that have been stored in the barn, stacking them five or six layers high and positioning each layer crosswise from the previous one so bales don't topple off as the truck pulls the loaded rack over rough ground. Then each person grabs a 55-pound bale in each hand, and we lug them down a 200-foot row of potatoes, dropping one in the aisle every 15 feet or so, and then returning to the rack to get two more.

We spend the rest of the day on our hands and knees: cutting the strands of twine that hold each bale together, breaking the bale apart, grabbing a section and pulling it this way and that to fluff it up, then tucking great armfuls of it firmly around each plant and covering the ground between the rows. We put the most straw up near the plants—about ten inches of it, which nearly covers the plants on mulching day but will compact down to a few inches over the coming weeks.

Although we wear long pants, long-sleeved shirts, and dust masks, the stiff stems of clover and alfalfa scratch and tear at our hands, arms, necks, and faces. As we continue to fluff the hay, clouds of dust and chaff rise up, sticking to sweaty skin and sneaking in under our masks. A chorus of grunts, coughs, and sneezes echoes across the field. The mulching goes on for many long, hot, humid hours.

But the struggle and pain of mulching are worth it—for the potato plants, for the life in the soil, and for all the people who will eat the potatoes. Of all the many benefits of mulch, one of the greatest is that it preserves precious moisture in the soil all summer long. Once the tomato, potato, pepper, eggplant, celery root, and kale plants are mulched, they can sail through months of heat and drought, as the mulch nearly eliminates evaporation from the soil and keeps it shaded and cool. Hot soil is

not only hard on plants but also deadly to the millions of bacteria, fungi, nematodes, and other creatures that call the soil home and that facilitate nutrient uptake by the plants. A sun-dried soil has as much life in it as a kiln-dried pot, so we mulch to keep the soil moist, cool, and alive.

Mulch eliminates the need for weeding, because most weeds need sunlight to germinate. They can’t push up through the thick mulch. Mulch also prevents sunlight from reaching potatoes near the surface and turning them green. It cushions our feet and knees, distributing our weight so that we don’t compact the soil as we harvest the crops twice a week all season long. Then there is the precious nitrogen stored up by the clover and alfalfa in our hay. When it rains, some of that nitrogen is dissolved into the water as it passes through the mulch, providing the plants with a drink of nutrient-rich tea. And in the fall, when Henry tills the plants and mulch back into the soil, he adds organic matter and nitrogen that will boost the growth of whatever crop is planted there next season.

Yet even with these many benefits of hay mulch, most commercial vegetable growers, even organic ones, use black plastic sheeting, which can be laid down on vast acreages with large machinery, but whose only benefit is to eliminate weeds. Instead of conserving water, it forces the farmer to irrigate using drip tape under the plastic—even in a rainy year—since very little rain reaches the plants through the small holes in the plastic. And of course the plastic does not provide the plants with any nitrogen. Most damningly, black plastic heats the soil to extreme temperatures, killing the life of the soil. On top of all these negatives are the problems inherent with any plastic—from its manufacture utilizing fossil fuels to its nearly eternal persistence in the environment after it’s discarded.

So we do the hot, dirty, sweaty, scratchy, exhausting work of mulching by hand with hay because it’s good for the plants, good for the earth, and—as Henry says—there is no better sight than a freshly mulched potato patch.

All that goodness and beauty is made manifest in the potatoes we harvest. When Henry first started growing organic vegetables for a living in the early 1990s, he figured there was no point in growing potatoes since he couldn’t charge enough to cover his time and labor—not when a five-pound bag of potatoes sold for a few dollars at the grocery store. So he grew a small amount that first year for the family, and he brought a few to the market, not expecting to be able to sell them.

It didn’t take long for our farmer’s market customers to prove him wrong. When they ate an honest-to-goodness potato from rich, healthy soil, they had a revelatory new experience (or relived an old one). An older Russian woman and her daughter started coming to the stand one year, examining everything in great detail, asking the price of each thing, and then tsk-tsk-ing at the prices. Finally they bought a couple of carefully selected potatoes. The next week they were back early in the morning. The mother pointed at the potatoes and asked a question in Russian. The daughter translated, “How much for the whole bushel?” Henry said he couldn’t sell the whole bushel because other customers would be disappointed, but he gave her a bulk discount on a half bushel.

The struggle of mulching is worth it—for the plants, for the soil, and for the people.

Now she’s a regular customer. Henry says she has a keen eye, snatching up a half bushel of sweet peppers when they are best for pickling, a bushel of carrots when they are sweetest for storage. She is a rather severe old woman, perhaps having seen more to frown than to smile about. But when she is ordering her grown daughter to “yes, keep filling” the basket with plum tomatoes from our mulched tomato rows, and Henry tells her daughter, “She knows they are perfect right now for sauce,” her daughter translates and the mother smiles and reaches up to touch his face and kiss his cheek.

Even though I grew up on homegrown potatoes, it wasn’t until Henry started raising heirloom varieties that I realized they have as many subtle flavors as wine. The Carola is creamy and rich, the Butte is light and silky, the Elba is fluffy and aromatic, the Peruvian Purple is dense and earthy with a hint of mineral salts. Henry grows more than 20 varieties, including productive old favorites like Kennebec and Irish Cobbler and newer heirloom varieties (which are in fact older varieties) such as Ozette, LaRatte, All Blue, Huckleberry, German Butterball, Caribe, Rose Gold, Yellow Finn, and Yukon Gold.

While most growers constantly seek and plant only “the best” variety, generally meaning the most productive, Henry plants as many different varieties as he can, mainly on the basis of superior taste. Henry’s customers get different colors, textures, and tastes to choose from, and Henry gets an insurance policy. When you look at the world through potato eyes, you quickly learn the lesson of the Irish potato famine: never put all your eggs (or potatoes) in one basket. Today, with over 50 percent of the Idaho potato crop being the Russet Burbank, and the remainder

slight variations on it, those potatoes are at high risk of succumbing to one pest or another, especially given our changed climate.

Instead of following nature's example and diversifying, the industrial growers use tons of fungicides, among the most toxic agrochemicals in use. They not only kill fungi but also every living thing in the soil, and so have given potatoes the dubious honor of being one of the Environmental Working Group's "Dirty Dozen," an annual listing of the most pesticide-laden fruits and vegetables. It turns out that the fungicides are used mainly so that the potato industry has blemish-free potatoes that can be turned into cosmetically perfect potato chips and French fries. Because of this pursuit of surface perfection, the living soil is turned into a dead substrate, and the potatoes have toxic residues.

Henry's potatoes, while often a bit scabby and misshapen, are perfectly delicious. We know when to start harvesting them because the above-ground blossoms signal that tubers have formed below. As with the mulching, we harvest by hand, using the good old-fashioned four-tined potato fork. One foot on the fork, driven by most of your body weight, will put the broad tines completely underground. Your back then comes into play as you pop the nest of potatoes to the surface. The LaRatte variety does indeed look like a nest of baby rats or mice, with one end of the small tubers rounded like a head, and the other narrowing into a tail.

But before that harvest begins, Henry gauges the readiness of the potatoes by "stealing" them. If you've never stolen potatoes, here's how it's done. Sidle up to an unsuspecting potato plant. Fall to your knees and scrabble away at the earth with your fingers, taking whatever potatoes you find near the surface. Carefully replace the soil, firm it up, then walk nonchalantly from the scene. The beauty of stealing is that the plants are not harmed and so continue to grow and produce more and larger potatoes.

Even when I'm not stealing them, I've always felt that unearthing potatoes is like finding buried treasure. And children seem to feel the same. When school groups come out to the farm, my sister Teresa tells them about the basics of organic food production and has them guess the names of a number of different vegetables as they circumnavigate the field. Then she gives each child a small bag and has them all line up near the potato fork, which is always left upright to mark where last week's digging ended and this week's will begin. The potato plants are usually dead by this time, and indistinguishable from the decaying mulch layer that she scrapes

away. She then positions the fork close enough to where the plant was to pop up most of the potatoes, but not so close that she'll stab any in the process. When the potatoes pop up, there are exclamations of wonder as the children kneel down to grab a red, white, russet, blue, or purple potato. They know little of the countless labors that brought them this potato, but they seem to feel a sense of awe when they see the food emerge from the earth.

This reverence for the soil and the food reminds me of Jean-François Millet's painting, *The Angelus*, which was originally titled *Prayer for the Potato Crop*. A man and a woman, peasant farmers, stand in a flat open field under a sky suffused with orange and rose. Their tools are at rest nearby: a three-tined potato fork to their left and gunnysacks of potatoes in the wheelbarrow to their right. While they are not at work, neither are they at rest. There is a seriousness in their faces, which are in shadow, and in their postures, as they bow slightly toward the basket of potatoes between them, the man with his hat in his hands and the woman with her hands clasped in prayer.

The basket of potatoes looks at first glance like a baby's cradle, and in fact there has been speculation by Salvador Dali and others that Millet initially painted the couple mourning over their child's coffin. Millet painted the piece in 1857, a few years after the devastating potato blight and resulting famine, and so a coffin and a prayer for the potato harvest would have made sense. It would also make sense that Millet might have painted a basket of potatoes over the coffin to make the work more salable.

While we can't know what Millet originally painted or why, it does provide food for thought. The basket of potatoes is like the earth itself, both a coffin and a cradle. Those potatoes, like all food, require death in order to sustain another life. In the same way, the mulch we laid down required the death of living grasses, clover, and alfalfa. Millet's painting, and our day-to-day work in the fields, remind us that the wheel of life keeps turning.

A version of this article appears in the August 16 print edition under the title "Much ado about mulching."