

CARING FOR CARROTS

By Gavin Dandy

We love it when people say that our carrots are the sweetest they have ever tasted. We work hard to grow carrots well and, of course, we can take some credit for their flavour. But most of the credit goes to the land itself. It seems that our farm *wants* to grow great carrots.

Since 1997, we've been growing a wide range of vegetables at Everdale Farm, located one hour northwest of Toronto near the village of Hillsburgh. Like all of our farmer friends, we've had successes and failures over the years. We have had good and bad tomato years.

Broccoli was so disastrous we stopped growing it. (Now we leave the broccoli growing to our friends at Pfenning's Organic Farm.) Most years, lettuce and spinach have been great, but there have been a few bad harvests now and then. However, through the years, the carrots have consistently come through for us.

Since the land seems to like growing carrots, we keep growing them. And we spend more and more time figuring out better ways to plant, weed, irrigate, harvest, store, sell and eat them. Weed control is one of the biggest challenges with carrots. Here are a few tips on how to control the weeds and get a good carrot harvest.

Soil preparation

All crops need proper soil preparation but carrots need more careful preparation than most. Carrots

are late bloomers. They germinate slowly and, since the seeds are small, they don't come leaping out of the ground like beans, squash, peas and other large-seeded crops. Therefore, two things are crucial for bed preparation.

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First, the soil must be tilled or otherwise prepared so that *all* perennial weeds are eliminated. Carrots simply can't compete with perennials like thistle,

twitchgrass (quackgrass) and dandelions. If you try to pull those weeds out by hand after you've planted, you are bound to dislodge the tiny carrot seedlings. At times, it can take several passes with a cultivator to exhaust and kill the perennial weeds. If you aren't sure that all the perennial weeds have been killed, wait a few days and cultivate again. I know that too much cultivation degrades the soil structure and harms soil life but I've seen more carrot plantings fail due to insufficient soil preparation than excessive soil preparation.

Second, try to plant carrots in a section of field or garden where the pressure from newly germinating annual weeds is as low as possible.

Carrots take about a week or more to germinate; by that time, the weed seeds will have germinated and have a head start.

Weeding

Our weeding efforts fall into four categories:

- 1) Pre-emergent: weeding after seeding but before the carrots have germinated;
- 2) Row weeding: keeping the lanes between the rows free of weeds;
- 3) In-row: hand weeding in the rows;
- 4) Mowing.

Pre-emergent weeding

We use a simple hand-held flame weeder to give our carrots a leg up on the weeds. Flame weeding may sound extreme; I thought so before we tried it. One of my objections was the use of fossil fuel (propane). But then I remembered that weeding using a tractor also burns fossil fuel. It's a tough call. We are trying to move towards less fossil-fuel-dependent modes of farming. Farming with draft horses is an option we're exploring (kudos to our draft horse farmer friends Ken and Martha Laing, and Tony and Fran McQuail).

Right now, the flame weeder is a compromise we are willing to make because it does such a good job. Here's how it works. A small propane cylinder is mounted on a simple backpack frame. The flame wand is attached to the cylinder. The torch on the end of wand is lit and held close to the ground where it burns the young weed seedlings that have emerged a few

days after the carrots were planted. One person walking at a slow pace can flame weed about a quarter-acre of carrots in four hours. For the flame weeding to control the weeds effectively, the weeds must be small (a couple of centimetres or less), and the day must be dry and fairly wind-free.

The trick is to flame weed just before the carrots pop through the surface. To get the right timing, we lay a wooden board over a few feet of the carrot row after we plant. A few days later, we start peeking under the board every twelve hours or so. As soon as we see signs of carrot seedlings emerging under the board, we

know that the rest of the planting is not far behind. That's when we flame weed. When it's done properly, you have the satisfaction of seeing thousands of fresh carrot seedlings pop out of the ground the day after you have flame weeded. Those seedlings will have several days of weed-free growing before the next flush of weeds comes on.

Row weeding

It is critical to keep the lanes between the rows of carrots free of weeds. Our tool of choice is the wheel hoe. Wheel hoes are first rate technology—versatile and suitable for large backyard



An assortment of heirloom carrots grown at Vicki's Veggies in Prince Edward County, Ontario.

gardens and market farms alike. And they are people-powered, so they don't need any fossil fuel. You can find them at different market garden stores. We got both of ours from Johnny's Selected Seeds. Wheel hoes have many different attachments. We prefer the stirrup hoe attachment for in-row weeding. It slices just under the soil surface and dislodges the tiny weeds.

Hand hoeing can also work. And I don't mean those clunky hoes with the wide steel plate on the bottom. I mean sleek hoes that slice easily through the soil (for examples, see www.johnnyseeds.com). Done properly, hoeing is like sweeping your kitchen floor. All it takes is a light scuffling of the soil surface to kill the weeds. The important thing is to get the weeds when they are tiny. If you wait too long, you'll be in for some hand weeding. When the carrot plants are larger and/or

if we let the weeds get too big, we'll make a couple of passes with our Farmall 140 tractor with various steel cultivators attached to its belly mounts.

In-row weeding

If the flame weeding has been done properly, we don't bother hand weeding in amongst the carrot rows. However, sometimes the weed pressure is heavy and we have to do some hand weeding. But even in those cases, we try to do only a light weeding of the larger weeds and not get bogged down trying to get every last weed. Using this method, one person can weed a 350-foot row in about two hours.

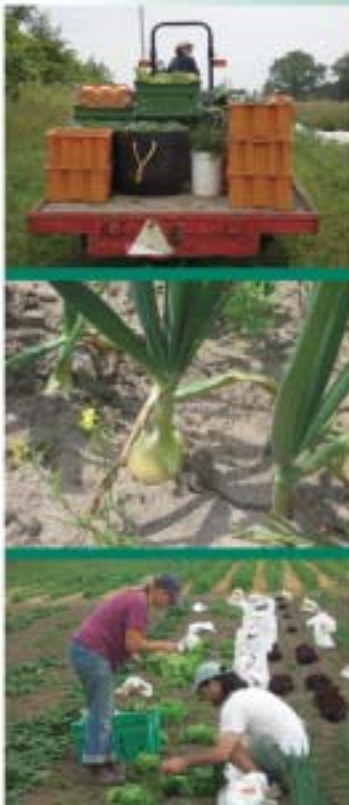
Mowing

Mowing is one of the most underrated forms of weed control. You can turn annual weeds, such as ragweed, lamb's quarters, pigweed

and wild mustard, into a handy green manure if you mow them before they set seed. When we have a neglected carrot bed where the weeds are thick, we'll attach the mower to the back of our tractor. With the tractor tires straddling the bed, we'll set the mower at about 25-cm (10-in.) off the ground and 'top mow' the bed. The taller weeds are decapitated while the shorter carrots remain unscathed.

Happy carrot growing. And if you're in the neighbourhood, drop by for our annual Carrot Fest celebration next September.

Gavin Dandy is a co-founder of the Everdale Environmental Learning Centre (www.everdale.org) and a COG board member. He works full time as an organic farmer and a teacher of new farmers. He lives at Everdale with his wife Karen and their three daughters.



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