



Growing Bareroot Strawberries in Canadian Hardiness \– Zones 1 to 3

Tam Andersen – Horticulturalist and Strawberry Farmer

Strawberries are the quickest win for fruit-in-your hand from your garden! Make sure to plan for a berry patch in your backyard orchard. Located north of the 56th parallel, in Canadian Hardiness Zone 3, we have been growing strawberries at our farm north of Edmonton as a u-pick operation since 1984. We have planted close to 400,000 plants for our berry patch over the years.

We always plant strawberry plants as a bare root plant, as soon as we can get out on the land to prepare the soil. Some years – it is as early as the last week of April. With climate change, oddly – springs have beginning later with ground thaw the first week of May. We are more likely now to be out in the field planting after the first or even second week of May, when we can still expect -5C nights often, and -10C nights occasionally.

We have an old 1918 cabbage transplanter, and a mechanical bare root strawberry planter that get strawberry plants in the ground fast! The cabbage transplanter works better on wet years. And the strawberry planter works best on dry years – it gets the roots down a little deeper.

We can plant about 3000 plants a day, get them heel-checked and watered in. What is heel-checking? We walk the rows after they have been set by the planter, to double check the plants are all planted deep enough that the roots can't be seen, but not so deep that the crown and stalks of the leaves from last year have disappeared. Strawberries are picky like that. They don't want to be buried, and will certainly die if you can see the roots.

They are spaced from 12" (Dayneutrals) to 18" (Junebearers) apart. We carefully walk down the row, and step heel to toe on the roots of each plant to make sure the roots have good soil contact. If the roots are showing, we will gently cover them over with some soil, or pull them out and dig them down deeper. Watering as soon as they have been planted is the critical requirement. Dry roots into dry ground - with no water is a recipe for disaster. In other words – don't wait until tomorrow! Water them the day you plant them.

At home – you will plant your strawberries the old fashioned way – with a shovel or a trowel, one at a time. Strawberries come as bare root plants, or as started plants in a small 3" pots, or an established plants, in 1 gallon pots. The largest plants produce the most strawberries the quickest. Started plants give you a month's jump on bare root plants.

If you are considering having the plants shipped to you, the most economical method is as a bare root plant, shipped in a package through the mail. The question now is what to do with them when they arrive!

Bare Root Strawberries

Bare root strawberry plants are dormant plants that are literally not planted in soil. Instead, they are bundled up, with their roots wrapped in peatmoss or straw, or shredded paper to protect them from drying out in transit. Their roots are bare when you gently shake them out of the packing materials. They are not planted in soil. The foliage will be clipped off, so will look like short stalks just above the

crown, and they are dormant. There may be a shriveled brown leaf from last fall still attached and lingering. It isn't always easy to tell if the plant is alive or dead, but there are some hints that can clue you into the welfare of the plants. Planting bare root strawberries quickly and properly is the key to ensuring that they wake from their dormant state and begin berry production as soon as possible.

Bareroot plants are usually stored in coolers just below freezing. They start to grow once the temperature is above freezing. The new growth comes from the crown on the plant. If it has been in transit for too long, in the warmth – and in the dark, in a package, new shoots may have appeared - pale yellow or white. This means their roots need to be planted in soil, ideally in the ground - immediately, and the shoots need light! (More details below).

If the ground in your garden is still frozen, the plants can be planted into containers. The roots should not be dry and crunchy, or if they look like they are moldy or smell like compost, this is not ideal. If you tug on a root (if it moldy) and the outside skin or covering comes off, leaving a thread behind - the root is likely no longer alive.

Planting Bare Root Strawberries

Plan on planting the dormant bare root berry plants outside as soon as you can work the soil. They enjoy the cool weather – and prefer to establish while temperatures are lower. The dormant plants are used to being below zero, and will not be harmed once their roots are settled into their new location. We have had frosts of below -7C, and the plants are fine. However, strawberry flowers are damaged below freezing, and their entire fruit tress buds are harmed at -12C, so keep an eye on the forecast. If you are planting Dayneutrals, you will not want to lose the first wave of fruit!

We cover our strawberries up with 3" deep of straw, or you can use a quilt or blanket if they are planted in pots above ground, if concerned about falling temperatures. June bearing varieties should be planted in early spring once the soil has thawed. Prepare your ground in a sunny spot, well-draining garden soil with 3 inches (8 cm.) of compost dug into a 12 inch (31 cm.) depth. We grow our strawberries in the same spot for 4 years. Then we plow them under and move the patch to a new location, with new virus indexed plants. Strawberries will inevitably pick up viruses, which will reduce yields and berry size, so it is not wise to snip of the runners for your new spot. We actually plant a new field every year, succession planting so to speak. Every year we plow down a field with a new one growing from last year to replace the production cycle.

Dayneutrals produce a couple of sets of blossoms, so are the best type to plant in containers on the patio or above ground planters. They likely won't survive a winter above ground – so come fall, either dig them out and plant them in the garden, or consider them an annual – like a tomato and start again next spring!

We like to work in 1/2 pound of granular 18-18-18 fertilizer for each 100 square feet (9.29 sq. m.) of the bed. You can use organic fertilizer products too. If your fertilizer says 3-4-5 (for example), use six times the amount. If it says 1-2-3 use 18 times the amount.

Soak the bare root strawberry plants for 20 minutes in a bucket of water. Just soak the roots, there's no need to submerge the entire plant. This allows the roots to rehydrate and break their dormant cycle. Dig planting holes to the length of the roots and two times as wide. Gently spread out the roots in the

hole and fill in with soil, keeping the crown of the plant at soil level. Space the plants 18 inches (46 cm.) apart in rows that are 3 feet (1 m.) apart.

Water in well and lay a 2 inch (5 cm.) layer of mulch around each plant to conserve water. Thereafter, irrigate the bed each week with 1 to 2 inches (2.5-5 cm.) of water. Bare root strawberry plants should begin leafing out by early summer.

Storing Bare Root Strawberries

Storing bare root strawberries is not recommended, but sometimes it just can't be avoided. Of primary concern when storing bare root berries is protection from drying out and being too hot. Ideally, you would store your bare root strawberries in a refrigerator until you can plant them.

If you store them in your garage or outside, be aware that if temps warm up, the plants may emerge from their dormancy prematurely. If a frost follows, the tender new shoots may die. Protecting the roots is also of primary concern, which is why it is so important to keep them covered. Either place the plants in potting soil, sand, or wood chips, and sawdust; anything to shield the roots and hold in moisture. Additionally, when storing bare root berries, never let the roots dry out. Keep the roots moist, not waterlogged. While bare roots are prone to drying out, overwatering will likely rot them. By the way, strawberries have zero tolerance for being waterlogged.

When should bare root strawberries be planted?

In our Edmonton area farm – we start planting the June bearers at the end of April or the first week of May. As soon as the ground is thawed and we can work it up.

Will bare root strawberries produce the first year?

Depending on the type of strawberry!

- Dayneutrals will produce about 1lb per plant the first year. The runners can be clipped off, or let to also set fruit. Good varieties for Alberta are Albion (best flavor), Seascape (prettiest berry and are excellent in Alaska Zone 1 gardens). Hecker is a softer earlier variety. Cabrillio, Salma and Florida Beauty, and BC10-12-1 (I wonder what they will name it!) are new, up and coming new introduction. All of these types will grow well in containers, or in greenhouses or covered tunnels. Strawberries don't like it when it gets too hot, and will stop blooming if it gets up over +30C. Greenhouses should be well ventilated, and equipped with fans and misting systems to cool them down.
- June bearers are different. You should clip off the flower buds the first year – and let them grow runners wildly! We set the runners about 3" apart to make a matted row about 18" wide. The next season, both the mothers and daughters will produce about 1lb of strawberries per plant. The best varieties for the cold zone 2 Alberta garden are Kent, Honeyoe, Glooscap, and zone 3 garden are Cabot and Valley Sunset. Some of these varieties are becoming hard to find, but there are several new introductions on the way.

Can I plant bare root strawberries in the spring?

Yes – this is the best time. Fall planting is not recommended in the prairies.

Putting Strawberries to Bed in the Fall.

Strawberries got their name from straw. Yep that's right – straw! At our farm, the last week of October or the first week of November, we put them to bed by covering them with a blanket of straw. Wheat straw is the best – as it has lovely airspaces so will insulate them well. We cover with 3" to 6" of straw to protect their flower buds, which they set up in the short days of fall. Without mulch, you will lose more than 50% of your flower buds when the temperatures drop below -12C. If you don't want the weeds and wheat seed of straw – a wood shaving mulch will work instead.

The Day Neutral strawberries will set up their buds in the spring and again in the summer – so are not dependents on short days to set up their flower buds for next spring. The plants are not as hardy as the Junebearers, though – and so will also do better with a winter mulch.

Good luck and happy strawberry growing. Prairie Gardens is located 25 km north of Edmonton near Bon Accord.

PrairieGardens.org 780-921-2272.