

# Portland Dahlia Society

May 2015

## Layout, Staking and Tying

### Layout Basics

*Allow space for plants and space for access. Avoid stepping on and compacting the soil where the roots are growing – designate paths & stepping stones.*

*Allow about 4 square feet per average full size plant. For most layouts, this means 18-24 inches apart in all directions for smaller varieties and 24-36 inches for larger varieties. Dwarf and patio varieties can go in at 12-18 inches apart, and small bedders can be as close as 10-12 inches.*

- The farther apart you space your plants, the bigger the plants will be. Access to more sun, water, air, nutrients.
- The more sun and air circulation you have, the closer you can space your plants.
- the farther apart your rows are, the closer the spacing can be in the rows.
- Consider how easy it will be (or not) to dig up the tuber clumps in the fall without chopping/breaking adjacent clumps.
- Consider the direction the sun is coming from. If your rows run East-West, or if there is shade to one side, be sure to allow enough room between plants for the sun to reach the ones in the back.
- Consider how the plants will be watered. Make sure you can drag a hose to where you need it without bashing up the plants.

### Layout Options

**Single stake** with 1, 2, 3, or 4 plants around it, each about a foot from the stake. The more plants around a single stake, the farther apart the stakes need to be. The plants are tied to the stakes as they grow.

Many growers opt for pairs of tubers (usually the same variety) per stake, in rows, with paths between the rows. This gives the effect of one large bush and can be very impressive.

**Rows** – Growing in rows makes it easier to support large numbers of plants with fewer stakes.

Single rows are one option, with posts placed at the ends of the rows and every few plants in between. Twine is tied between the posts to hold up the plants, with the first row usually about a foot off the ground. Additional rows of twine are added as the plants grow. Drip irrigation hoses can be run along the row.

The most common layout in larger operations is double staggered rows with about 12 inches between the double rows and about 18 inches between the plants in the rows. Posts are placed two at the ends of the rows and two every 10-12 feet along the rows. Twine is run around the outside of the rows and tied to the stakes to form a box around the plants. Cross ties are placed every few feet to keep the plants from flopping in the rows. Usually drip irrigation hoses are laid down the middle of the double rows.

The paths between the double rows are 3-5 feet wide. The more closely the plants are spaced within the rows, the more they will spill out into the paths, and so the wider the paths will need to be. Wider spacing within the rows means you can get by with narrower paths, but 3 feet really is a minimum. Some growers with tractors need paths up to 7 feet wide, but pack their plants in 12 inches apart in double rows only 6-10 inches apart.

**Blocks** – often used by gardeners with raised beds, but in flat ground works too. A post is placed at each corner of the block and intermediate posts as needed around the sides. Twine is run around the whole block, and then criss-crossed between the posts to form a sort of a grid. The block can be rectangular, but this method can also work with more irregularly shaped beds.

**Netting and Mesh** – blocks and rows can also be held up using netting made for beans/peas/ tomatoes. Some commercial growers are using construction fencing (the bright orange stuff) to hold up their dahlias, at least for the first level about a foot off the ground. The netting or mesh is attached to the posts around the bed and held horizontally so the plants grow through it and are supported.

### Special Cases

**Seedlings** are often planted as close as 6 inches apart, as it is assumed that the majority of them will be culled, leaving space for the remaining plants.

**Pot Roots** aka Pot Tubers are plants grown from cuttings or small tubers which are kept and grown for the entire season in 4-6 inch pots. They are “grown hard”, with just enough fertilizer and water to keep them growing. This makes for small knots of hardier tubers that winter over more successfully than tubers from garden or field-grown plants. Pot tubers are most often grown just set on the ground crowded together, so they send a few roots into the soil through the drainage holes in the pots, which anchor them so they don't fall over. They can be buried partly or completely in the soil, in which case they can send roots over the pots and develop into full-size plants. Or they can be grown packed into trays on benches, not in the soil at all. At the end of the season they are pulled up, the stems and any extra roots trimmed off, and left whole, in or out of their pots, to store over the winter. Then in the spring they can be planted, or more often, used to grow shoots for cuttings.

**Hilling** is a way to support dahlias without staking. Soil taken from the paths and between the plants is mounded around the bases of the plants to hold them and give the roots extra space to grow. Swan Island uses an extreme version of this process so they can grow acres of dahlias without staking them. They start by planting the tubers shallowly in furrows a few inches deep. Then every month or so as the plants grow, they run their special tractor through and move some of the soil over the plants. The first pass covers the growing shoots with dirt, filling in the furrows and effectively making the ground level. The next time the plants are buried deeper and the spaces between the rows of plants become the furrows. By the time the plants bloom, the tubers and roots are mounded under a foot or more of dirt.

Another reason that Swan Island can get by without staking is that they cut the tops back (just once) when the plants are about 18 inches high. This makes the plants grow shorter and bushier. They do it with a big mower; we can do it with more finesse by just pinching out the top bud when the plant has grown 6-8 sets of leaves or gets 18 inches high.

## Materials

### **Posts**

**Steel T-Posts** / fence posts – the heavy cast ones are the strongest option out there, and will last just about forever. Most commonly the 6 foot ones are used. Pound them in where you want them to stay, or prepare for some heavy work to get them out at the end of the season. There is a tool called a post driver that is much easier to use than a sledge hammer to pound the posts into the ground.

The lighter formed-sheet-metal T-posts can be useful in a pinch, but don't expect them to hold up for many years like the others.

**Rebar and steel conduit** hold up well and are cheap. They come in long lengths, and if you are lucky the store where you buy them will cut them into manageable pieces for you. These and the T-posts can be painted to look less industrial.

**Wood & bamboo** are okay if they are big enough, but don't last long in our climate. The little ones that come in bundles won't hold up anything bigger than a dwarf dahlia.

The green **plastic-covered metal stakes** are my current favorite. The 6 and 8 foot ones come in weights sturdy enough to hold up a dahlia or two. They are light weight and easy to pound in and pull out, and I can store a lot of them in the small space under my shed for the winter. They look unobtrusive as stakes go. Disadvantages are that they are expensive, the plastic does start to break down after 5-6 years in the sun, and they will bend if you step on them or try to use them to pole vault.

**Tomato cages** – turn upside down, cut off legs and bend into hooks to pin the cage to the ground.

**Avoiding the Stake Farm look:** Use a small bamboo stake for each tuber at planting time, and replace with the bigger stake later when the plant has gotten big enough to need it. Then you will know where it is safe to put the bigger stake. Or embrace the Stake Farm look – paint your stakes in bright cheerful colors!

### **Twine**

**Baling twine** is the standard because it does not stretch, and when you tie a knot it stays tied. It is made of polypropylene, (though not all polypropylene twine is good). Baling twine is the stuff that you want for long runs. It is usually burnt orange in color, and we wish it came in a nice green. Beware of plastic twine that is too slippery to hold a knot.

**Jute, sisal** and other plant fibers will stretch, and will break down, though usually they will make it to the end of the season. They can look more natural than the plastic.