



J&L's Gardening Handouts

Tips and Suggestions for Year Round Gardening

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Planting Time for Annual Flowers and Vegetables

Many factors will influence how cold of temperatures a particular plant will tolerate. Some of these factors are: **1.** Type of Plant **2.** Age of Plant **3.** Whether the plant is just taken out of a warm greenhouse. **4.** If the plant has been *'hardened off'* for a few weeks. Before you risk planting flowers and vegetables too early in the spring, consider the following information.

The average last-frost date for the Davis county area is between May 5 and May 15. Planting before then is always risky. Perennials, hardy vegetables, and hardy annuals will survive a light frost; tender perennials, annuals and vegetables will not.



When the first few days of warm weather occurs, the impulse to get out in the garden and plant can become very strong. However, it is usually best to wait until the weather is consistently warm to really get started planting.



Knowing when to plant can be confusing. To make things even more complicated, not everything can be planted at the same time. However, there are simple guidelines and rules of thumb that you can use to know when to plant.

Micro-climates make a big difference whether the plant can survive. One garden can be two to five degrees colder than another garden even within the same yard - these two degrees can be the difference between the plant freezing or surviving the cold. You may have noticed plants under a tree canopy do not freeze as readily as plants out in the open because of this temperature difference.

Soil temperature, air temperature, and wind chill are very important factors for your planting decision.

If the air temperature is going to drop below minimum temperatures you can sometimes help protect your plants from the frost. Be sure to include the wind chill in your decisions.

1. Bring them inside at night.

2. Cover them with frost blankets, burlap, old sheets, cardboard boxes, milk jugs, or old pots. The cover will retain any soil heat that may be present. (The air temp may drop to 25°F but the soil may still remain at 42°F).



Avoid Plastic - Unless you prevent the plastic from touching your plants, the plastic will transfer the cold air temperature directly to your plants and will not retain soil heat. Build a frame, or provide supports, to keep the plastic from touching the leaves.



3. Water plants before covering them. The water will help transfer soil heat to the plants better than dry soil can.

You may not be able to avoid frost damage to tender plants if the temperature drops below 20°F to 25°F, no matter what you try!

Flowers and vegetables planted outdoors by seeds have similar frost requirements, but they are much more forgiving than trying to put tender plants outside too early.

Corn and beans are two vegetables that many gardeners try to plant outside earlier than they should. Sometimes it works, but sometimes they freeze.

Many tender annuals only thrive in warm soils and with warm air temperatures. Planting them outside too early only stresses these plants and stunts them, causing them to grow slower than those planted outside at the right time.

Before planting any tender plants outside, make sure they have been *Hardened Off*, even if you buy them from a nursery.

'Hardening Off' means that you give tender plants a chance to get acclimated to the conditions they will be exposed to when you put them in your yard; direct sunlight, dry air, and cold nights. **To harden plants off you can:**



1. Put them outside in a shady location during the day and bring them back inside at night.

2. Let them dry out a little before watering them; let them wilt slightly before watering.



3. Do not over-fertilize plants when they are young.

4. Allow at least 10 to 14 days of these procedures to completely *harden off* your new plants; it takes time.

A few low temperature tolerances are:

Perennials	low temp 25s	Alyssum	low temp 32s
Ageratum	low temp 40s	Aster	low temp 40s
Begonias	low temp 40s	Dahlia	low temp 40s
Dusty Miller	low temp 32s	Geranium	low temp 35s
Impatiens	low temp 45s	Marigold	low temp 40s
Petunias	low temp 32s	Salvia	low temp 40s
Snapdragon	low temp 30s	Stock	low temp 35s
Verbena	low temp 35s	Vinca	low temp 45s
Violas/pansies	low temp 15s	Zinnia	low temp 40s
Cold Veggies	low temp 25s --- covered at night		16s

Inside a Wall of water 10s

Hot Veggies low temp 39s --- covered at night 30s

Inside a Wall of water 25s

Don't even attempt planting corn, beans, squash, pumpkins, melons, cucumbers, impatiens, vincas, and Ipomoea outside too early. These plants hate the cold!



The best rule of thumb: *'It is better to plant annual flowers and vegetables a week too late than a day too early!'*

Example: *Corn takes 20 days to emerge in 50° Soil, only 5 days in 70° Soil.*

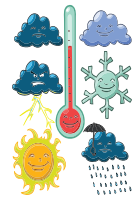
Many gardeners consider the bragging rights of growing the 'first tomato on the block' enough of an incentive to plant early and cover when needed. Plus, waiting can be hard - especially when it's unseasonably warm in the early spring, when we all get planting fever!

Vegetable Planting Chart For Spring

	<i>Plant Early - As soon as soil can be worked</i>	<i>Plant One Month Later as soil begins to warm</i>	<i>Plant at the Time of Last Average Frost</i>	<i>Plant Two Weeks after Last Average Frost Date</i>
Broccoli, Brussel Sprouts, Cabbage, Cauliflower	Start Indoors	Transplant Outdoors	Transplant Outdoors	O.K. but Late
Eggplant, Pepper, Tomato	Start Indoors	Start Indoors	Wait - Harden them off	Transplant Outdoors
Beets, Carrots, Leek, Lettuce, Parsley, Onion, Parsnip, Swiss Chard, Kohlrabi	Good Time Plant Outside	Best Time Plant Outside	O.K.	O.K.
Pea, Radish, Spinach, Turnip	Good Time Plant Outside	Best Time Plant Outside	O.K.	Too Late - Wait until August to plant for fall
Sweet Corn	Wait	Wait - But take a chance	Good Time Outside	Best Time Outside
Bean	Wait	Wait - But take a chance	Good Time Outside	Good Time Outside
Cantaloupe, Cucumber, Pumpkin, Squash, Watermelon	Wait	Wait	Wait - But take a chance - or - Start Indoors	Direct Seed Outside or Transplant Outside

Wind Chill Index

Wind Speed (mph)	Actual Air Temperature													
	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30
	Apparent Air Temperature													
5	33	27	21	16	12	7	0	-5	-10	-15	-21	-26	-31	-36
10	22	16	10	3	-3	-9	-15	-22	-27	-34	-40	-46	-52	-58
15	16	9	2	-5	-11	-18	-25	-31	-38	-45	-51	-58	-65	-72
20	12	4	-3	-10	-17	-24	-31	-39	-46	-53	-60	-67	-74	-81
25	8	-1	-7	-15	-22	-29	-36	-44	-51	-59				
30	6	-2	-10	-18	-25	-33	-41	-49	-56	-64				
35	4	-4	-12	-20	-27	-35	-43	-52	-58	-67				
40	3	-5	-13	-21	-29	-37	-45	-53	-60	-69				
45	2	-6	-14	-22	-30	-38	-46	-54	-62	-70				



Guide For Estimating Flower, Groundcover, & Shrub Quantities

Measure your area, Determine your spacing, and this chart will help you decide how many plants you need.

Spacing	10 square feet (5' x 2')	25 square feet (5' x 5')	50 square feet (5' x 10')	100 square feet (10' x 10')
6"	40	100	200	400
10"	15	37.5	75	150
12"	10	25	50	100
18"	4.5	12	23	45
24"	2.5	6.5	12.5	25
30"	1.5	4	8	16
36"	1	2.5	5.5	11
4'	1	1.5	3	6
5'	1	1	2	4



Number of Plants Needed



Example: 10' x 10' area = 100 square feet

Flowers planted 6" apart. 20 rows of 20 flowers = 400 flowers	Flowers planted 12" apart 10 rows of 10 flowers = 100 flowers	Flowers planted 24" apart 5 rows of 5 flowers = 25 flowers
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*The hardest part of planting flowers is deciding what type, which color, and How Many Flowers to plant in your garden.
Don't Forget the Bumper Crop and the Dr. Earth Root Starter*