Photoperiodism is a plant response to night length, usually resulting in the initiation of flowers. There are several categories of plant response to photoperiod. Some plants absolutely must have a specific night length to bloom (obligate photoperiodic). For others, specific night length is more likely to lead to flowering (facultative photoperiodic plants). Some plants are day-neutral, their flowering unrelated to night length.

“Short-day” plants bloom in the fall as nights become increasingly longer. The classic familiar example of a short-day ornamental plant is the poinsettia. Plant enthusiasts everywhere shutter poinsettias into darkened rooms at night in fall, attempting to recreate the long-night conditions that precipitate bloom initiation and bract coloring in their plants. It takes dedication—eight to twelve weeks of long, uninterrupted nights for poinsettias to “color up” well.

Currently, days are getting longer by several minutes per day, and will continue to do so for the next few months. This initiates flowering in long-day photoperiodic plants. Following are common long-day plants familiar to our gardens and homes.

**Carnations and Sweet Williams (Dianthus spp.)** Both annual and perennial members of the genus *Dianthus* are common garden dwellers. “Pinks”, a common name for the smaller-flowered members, refers both to the flower color (white to pink to red) and the zig-zagged edges of the petals— as if they had been cut with pinking shears. There are both tall and short *Dianthus*, appropriate for mass planting and ground covers. *Dianthus* is generally quite cold hardy, and many of the flowers are long lasting in a cut flower vase.

**Snapdragon (Antirrhinum spp.)** Another cold hardy garden staple, Snapdragons come in a huge range of sizes and colors, from ground cover, “carpet” style 6-inch blooms to huge 3-ft stalks. Original snapdragons are obligate long-day plants. Some varieties, though, will have a second round of bloom in the fall, and are possibly facultative (a subject of debate amongst plant nerds). A second round of fall bloom is most common in areas with cool nights, so these plants may do particularly well for Klamath Basin gardeners.

**Sunflower (Helianthus annuus).** Annual sunflowers, another long day plant, power through their life cycle very quickly. The large blooms of the sunflower take longer to develop, so bloom may occur when days are growing shorter though initiated earlier. Recent breeding has led to day neutral sunflowers, as well: information that appears to conflict may refer to different cultivars, or species, of Sunflowers. The genus *Helianthus* includes both native and exotic, annual and perennial members. “Sunflower” is a common name applied to many different plants. All of them are of particular benefit to a wide range of pollinators and beneficial insects.

**Petunia (Petunia x hybrida).** Petunias, those tireless bloomers of the summer color hanging basket, are members of the Solanaceae family. Solanaceae contains several familiar vegetable garden members, all of which depend on long days to initiate bloom: potato, tomato, peppers, eggplant, tomatillos. As days become shorter and shorter in the fall, color from petunia baskets will naturally diminish and is no reflection on the gardener’s skill.
Dill (*Anethum graveolens*). Besides being a useful culinary herb, Dill is an attractive plant with light, ferny foliage and bright, umbel shaped flowers. Dill and its relatives, parsley, fennel, and cilantro, all have long- lasting flowers that are attractive to pollinators and as cut flowers. This group illustrates how day- length dependence can be unrelated to temperature. Dill and fennel are warm- season plants that need frost free, warm soil to thrive. Parsley and cilantro can withstand much cooler temperatures. Mature parsley can withstand freezing, while dill and fennel are killed by a hard frost.

A surprising detail regarding photoperiodism is that it’s night length, not day length, most crucial to flower initiation (we already called them “short day” and “long day” plants when science established this). Commercial poinsettia growers draw black-plastic curtains around their plants at night to block out accidental light sources. Conversely, interrupting the night with a few minutes of light to break up the cycle is used by greenhouse ornamental growers to control bloom time and deliver plants in peak bloom when consumers demand them.

Longer days have Basin gardeners taking advantage of the extra light time to freshen up yards for spring, get soil tested in preparation for the growing season, and make plans for this year’s garden. Local Master Gardeners are planning two opportunities for gardeners to access locally grown, carefully selected plant material for our area: May 10-11 (Mothers Day weekend) at the Extension facility at 6923 Washburn Way, and June 1 to coincide with the opening of the Farmers’ Market downtown. All the plants mentioned above, and more insights into the fascinating world of plants, will be available!