University of California
Agriculture and Natural Resources
Inyo and Mono Counties Cooperative Extension

# Bridgeport Season Extension Workshop

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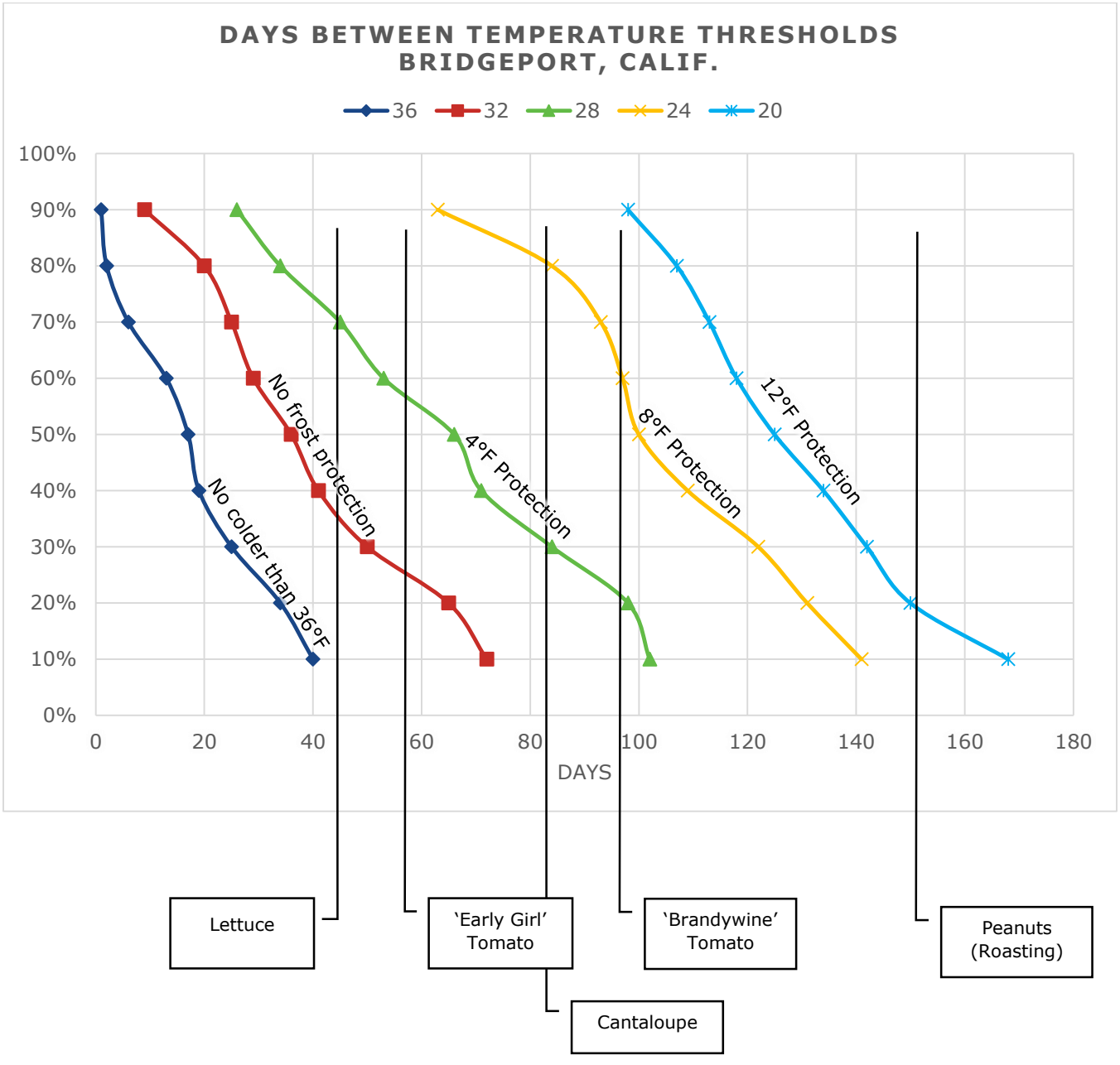
## The Growing Season

In Bridgeport there is a chance of frost any day of the year. For plants that require frost-free conditions (like peppers) it will not be possible to raise them reliably without some sort of season extension.



Because there is a frost risk all year, your growing season is determined by 2 factors:

1. What is the minimum temperature my crop can take?
2. How much risk do I want to take of a crop failure occurring?

## Using the Chart

The chart above consists of 5 lines, each representing a temperature threshold, 4°F apart. The horizontal axis is the number of days above each temperature between events. It's your "growing season" at each temperature.

Most warm-season crops should not go below 36°F ideally and 32°F will be fatal.

The vertical axis shows the percent probability that the growing season will be at least this long. For example at 32°F (the 2nd line) there is a 70% probability that the growing season will be 25 days. That is too short for most crops. As you accept more risk, your season grows. As the chart shows, there is only a 20% probability that your growing season will be 65 days.

Some crops tolerate frosts and much lower temperatures are needed to kill them. Use the appropriate line for these.

Gardening in Bridgeport is a high-risk endeavor, but you should not accept less than 70% risk of a shorter growing season for high-value plants like tomatoes and peppers.

**Without protection there is only a 70% probability that you will have at least 25 frost-free days in Bridgeport.**

As you add frost protection you greatly expand your growing season. Each 4°F of protection allows you to move to the line to right. You can use this chart to plan how much protection you require. Longer season crops.

**Example 1:** 'Early Girl' Tomato. 'Early Girl' takes about 58 days from transplanting to bear its crop. Draw a vertical line at 58 days. Without frost protection, there is only a 25% probability it will make it without a frost (2nd line). Add 4°F protection (3rd line) and now you have increased your chances to 56%. Add 8°F protection and now you are almost certain of success.

**Example 2:** 'Brandywine' Tomato. 'Brandywine' usually takes 95 days to start bearing. With 8°F protection you still only have a 60% success rate. It takes 12° to provide enough protection to reliably grow 'Brandywine.' This is complicated as temperatures below 36° can interfere with ripening. It would take 16° protection to assure fruit production! (Start with far left line.)

## Microclimate

These data are derived from air temperatures. In gardens, plants will be much lower and usually near a building or structure. The heat of the soil provides some protection as well on still nights. These estimates will, therefore, be slightly conservative. Every site will be a little different. Even so: Bridgeport is a hard place to garden!