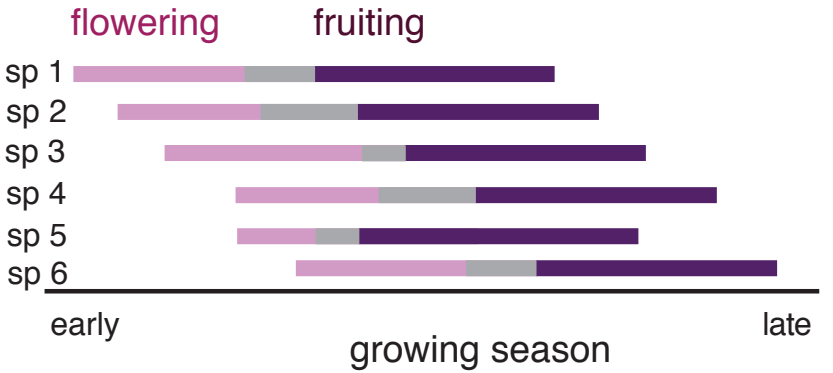
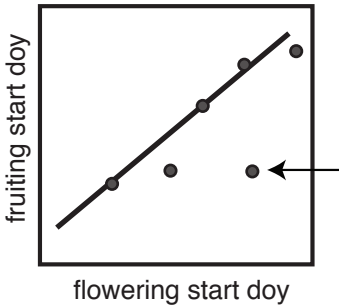
Hypotheses

H1. Across species, previous phenological events constrain later events; e.g., late-fruiting species fruit late in the season because they flower later in the growing season compared to other species. If so, then the previous phenophase is the primary constraint on the later phenophase and the slope of this relationship should be one. (Gray bars represent fruit developing time, after flowers have senesced and before fruit is ripe).

Observed phenology:

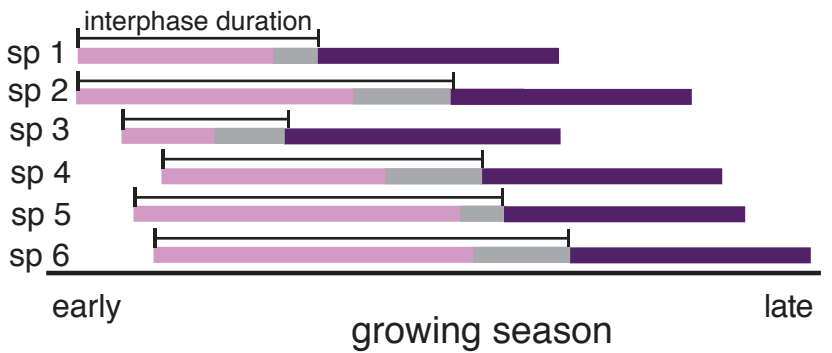


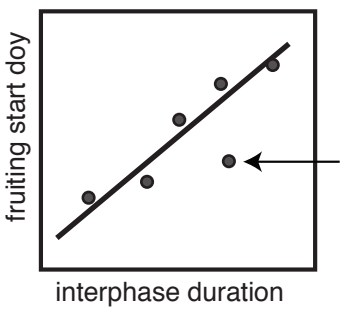
Expected results:



Points far below the fitted line (with a forced slope of 1) represent a species that sets fruit earlier than expected, given the flowering date (e.g., sp 5). (Similarly, if points fall far above the line, the species sets fruit later than predicted by flowering date alone.)

H2. Across species, interphase duration constrains phenology; e.g., late-fruiting species set fruit late in the season because they require longer interphase duration (time between the start of flowering and the start of fruiting). If so, then interphase duration should be a strong predictor of later phenophases, independent of the timing of the earlier event.





Points far below the fitted line represent a species that sets fruit earlier than expected, given interphase duration (e.g., sp 2). (Similarly, if points fall far above the line, the species sets fruit later than predicted by interphase time alone.)