Relationship between accumulated growing degree hours 30 days after full bloom and harvest date for "Improved French" prune

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It has been established in peaches, Japanese plums, and nectarines that the accumulated temperatures (GDH or growing degree hours) in the first 30 days after full bloom are highly correlated to the date of harvest (Ben Mimoun and DeJong, 1999). This correlation can be used as a predictor of future harvest dates. To see if a similar relationship exists in dried plums/prune, the harvest dates of French collected at UC's Wolfskill Orchard (Winters, Yolo County) and Kearney Research and Extension Center (Parlier, Fresno County) over the last eight years were correlated to the associated accumulated GDH 30 days after full bloom for each year. A relationship was found in French prune that is similar to what has been found in the other *Prunus* crops (Figure 1).

This relationship signifies that the spring temperatures in the first 30 days after full bloom govern fruit developmental rates and are a major factor in determining the harvest date in any given year. The relationship can be used as a tool, early in the season, for growers to estimate harvest date for French. This can be easily accomplished, 30 days after bloom, by going to the UC Fruit & Nut Research and Information Center web site (http://fruitsandnuts.ucdavis.edu). Once there, select 'Weather Services,' then 'Harvest Prediction Model.' Select the location of your nearest California Irrigation Management Information System (CIMIS) weather station and enter the date of full bloom. The data that will be shown are the accumulated GDH during the first 30 days after bloom. Using this number, you can extrapolate from the figure below (Figure 1) and estimate how many days there will be from full bloom to harvest for that year. As a resource, this figure will be linked to the page labelled 'About Growing Degree Hours' found under 'Weather Services'.
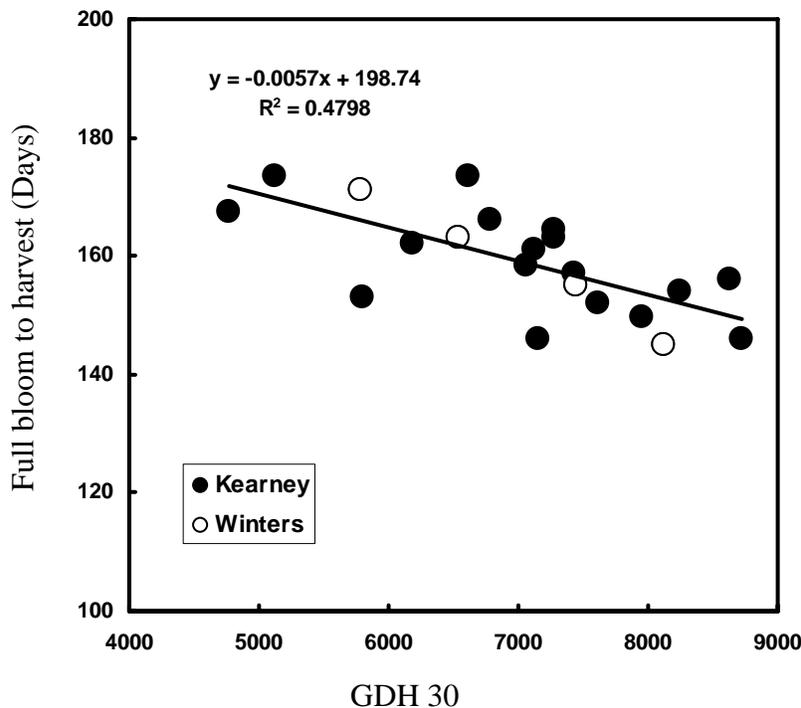

Figure 1. Relationship between growing degree hours (GDH) 30 days after full bloom and the number of days from full bloom to harvest for the cultivar 'Improved French' at Kearney and Winters.

REFERENCES

Ben Mimoun, M. and T.M. DeJong, (1999), "Using the relationship between growing degree hours and harvest date to estimate run-times for *PEACH*: a tree growth and yield simulation model". Acta Horticulturae, 499:107-114